

## SIGNIFICANCE OF WORKING CAPITAL TURNOVER RATIO: A CASE STUDY OF BHEL AND CROMPTON GREAVES

Vineet Singh

Assistant Professor, Dept. of Commerce,  
Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh.

### ABSTRACT

The present study is an attempt to analyze the working capital turnover ratio of Bharat Heavy Electricals Limited (BHEL). Working Capital Turnover Ratio indicates the efficiency of working capital in making sales. In order to provide a better insight into the study a comparison is made between working capital turnover ratio of BHEL and Crompton Greaves (C.G). In addition, t-test is applied in order to find out that whether there is a significant difference between working capital turnover ratio of BHEL and C.G or not.

**Key words:** BHEL, Crompton Greaves, Working Capital Turnover Ratio.

### INTRODUCTION

Working Capital Turnover Ratio indicates the relationship between the cost of goods sold during the year and net working capital during the year. This ratio reveals how efficiently working capital has been utilised in making sales. A high working capital turnover ratio shows efficient use of working capital and quick turnover of current assets like stock and debtors.

BHEL is one of the very few companies in the world, which manufactures all major power generating equipment under one roof such as Turbines and Generator Sets, Boilers, Transformers, Switchgear and Control Gear, Electrical Furnace etc. BHEL is India largest engineering and manufacturing enterprise in the energy-related infrastructure sector which was established more than 40 years ago and has been earning profits continuously since 1971-72. BHEL manufactures over 180 products under 30 major product groups and caters to core sectors of the Indian Economy.

Crompton Greaves is India's largest private sector enterprise in the field of heavy electrical industry and is engaged in designing, manufacturing and marketing technologically sophisticated electrical products and services, which are mainly concerned with power generation, transmission and distribution. C.G was established in 1937 in India, and since then the company has retained its

leadership position in the application and management of electrical energy. Crompton Greaves has three important strategic business areas which includes Power systems, Industrial systems and Consumer products. Crompton Greaves is engaged in designing, manufacturing and marketing technologically sophisticated electrical products and services, which includes power generation, transmission and distribution, in addition executing turn-key projects to make it available ready-to-use condition.

## OBJECTIVE OF STUDY

- (i) To estimate the working capital turnover ratio of BHEL during 2002-2003 to 2011-2012.
- (ii) To estimate the working capital turnover ratio of C.G during 2002-2003 to 2011-2012.
- (iii) To compare the working capital turnover ratio of BHEL and C.G during 2002-2003 to 2011-2012.
- (iv) To test whether there is a significant difference between working capital turnover ratio of BHEL and C.G with the help of *t test* during 2002-2003 to 2011-2012.

## RESEARCH METHODOLOGY

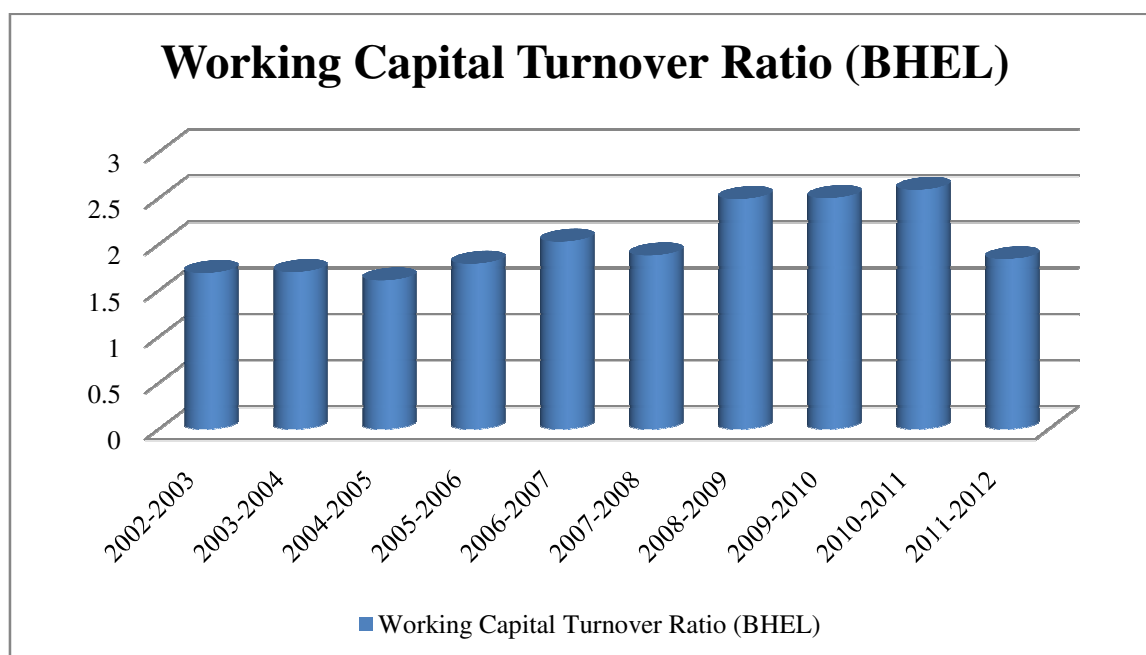
The study is primarily based on secondary data. The relevant information in this regard has been collected from various sources like annual reports of BHEL and Crompton Greaves for the research year 2002-2003 to 2011-2012 and websites. In addition reference books have been referred from libraries, materials from journal articles, textbooks, working papers are also put into consideration. Thus, various sources have been used to collect the relevant data. The analysis is mainly carried out through various statistical measures like percentage, average, *t test* etc.

### Analysis and Interpretation:

To make an analysis, working capital turnover ratio of BHEL and C.G has been calculated by following tables and graphical representation, followed by a comparative study.

**Table 1: Working Capital Turnover Ratio (BHEL)**

Year	Cost of Goods Sold (BHEL)	Net Working Capital (BHEL)	Working Capital Turnover Ratio (BHEL)
2002-2003	6073.30	3592.34	1.69
2003-2004	6945.03	4087.85	1.70
2004-2005	7864.14	4897.09	1.61
2005-2006	10751.03	6010.76	1.79
2006-2007	13458.53	6642.86	2.03
2007-2008	14838.64	7883.88	1.88
2008-2009	21332.33	8568.17	2.49
2009-2010	26237.44	10493.09	2.50
2010-2011	32506.13	12551.37	2.59
2011-2012	36874.86	19992.01	1.84
Average	17688.14	8471.94	2.01

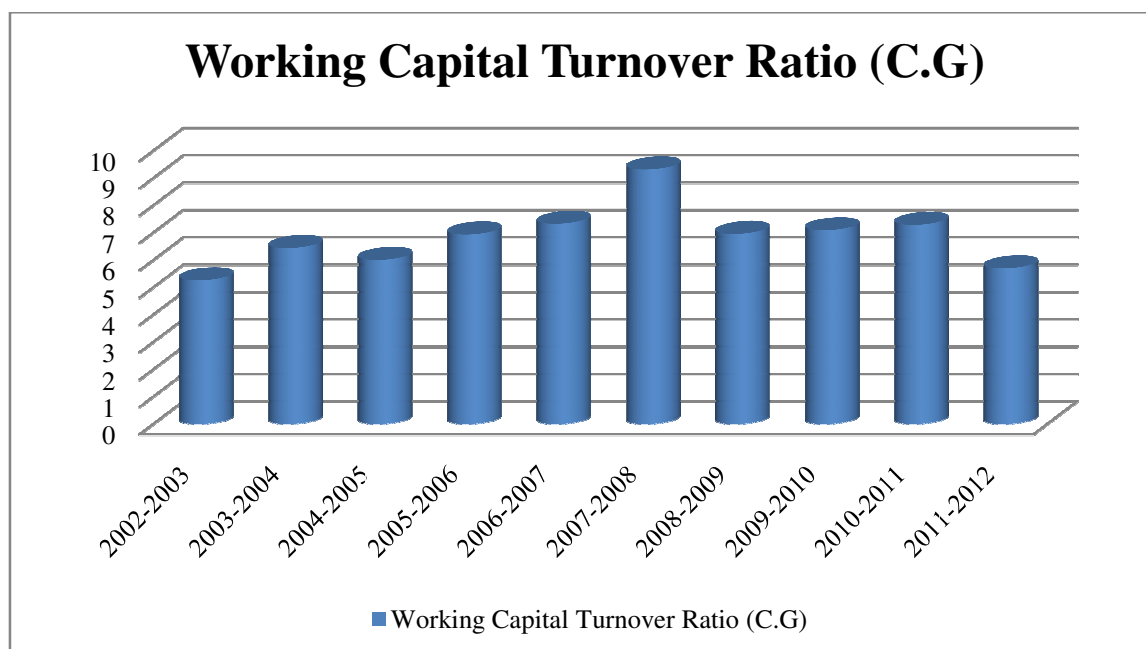


**Fig. 1: Working Capital Turnover Ratio (BHEL)**

Table 1 exhibits working capital turnover ratio of BHEL which stood at an average of 2.01:1 during the study period of 2002-2003 to 2011-2012. In the year 2002-2003 the cost of goods sold in BHEL amounted to Rs. 6073.30 crores and net working capital amounted to Rs. 3592.34 crores which has resulted in working capital turnover ratio of 1.69:1. In 2003-2004 cost of goods sold stood at Rs. 6945.03 crores and net working capital amounted to Rs. 4087.85 crores which has resulted in working capital turnover ratio of 1.70:1. In 2004-2005 the working capital turnover ratio of BHEL stood at 1.61:1. In the same year the cost of goods sold of BHEL amounted to Rs. 7864.14 crores and net working capital amounted to Rs. 4897.09 crores. In the year 2005-2006 the cost of goods sold amounted to Rs. 10751.03 crores and net working capital amounted to Rs. 6010.76 crores which has resulted in working capital turnover ratio of 1.79:1. In the year 2006-2007 the working capital turnover ratio stood at 2.03:1. Further in the year 2007-2008 the cost of goods sold in BHEL amounted to Rs. 14839.64 crores and net working capital amounted to Rs. 7883.88 crores which has resulted in working capital turnover ratio of 1.88:1. In 2008-2009 cost of goods sold stood at Rs. 21332.33 crores and net working capital amounted to Rs. 8568.17 crores which has resulted in working capital turnover ratio of 2.49:1. In 2009-2010 the working capital turnover ratio of BHEL stood at 2.50:1. The cost of goods sold of BHEL amounted to Rs. 26237.44 crores and net working capital amounted to Rs. 10493.09 crores in the year 2009-2010. In the year 2010-2011 the cost of goods sold amounted to Rs. 32506.13 crores and net working capital amounted to Rs. 12551.37 crores which has resulted in working capital turnover ratio of 2.59:1. In the year 2011-2012 the working capital turnover ratio of BHEL stood at 1.84:1. Working capital turnover ratio of BHEL has also been shown with the help of Figure 1.

**Table 2: Working Capital Turnover Ratio (C.G)**

Year	Cost of Goods Sold (C.G)	Net Working Capital (C.G)	Working Capital Turnover Ratio (C.G)
2002-2003	1485.39	282.52	5.26
2003-2004	1583.32	246.01	6.44
2004-2005	1824.62	303.60	6.01
2005-2006	2299.42	331.32	6.94
2006-2007	3030.25	413.42	7.33
2007-2008	3363.00	360.93	9.32
2008-2009	3967.84	570.30	6.96
2009-2010	4393.73	620.02	7.09
2010-2011	5003.77	686.37	7.29
2011-2012	5781.02	1014.19	5.70
Average	3273.24	482.87	6.83



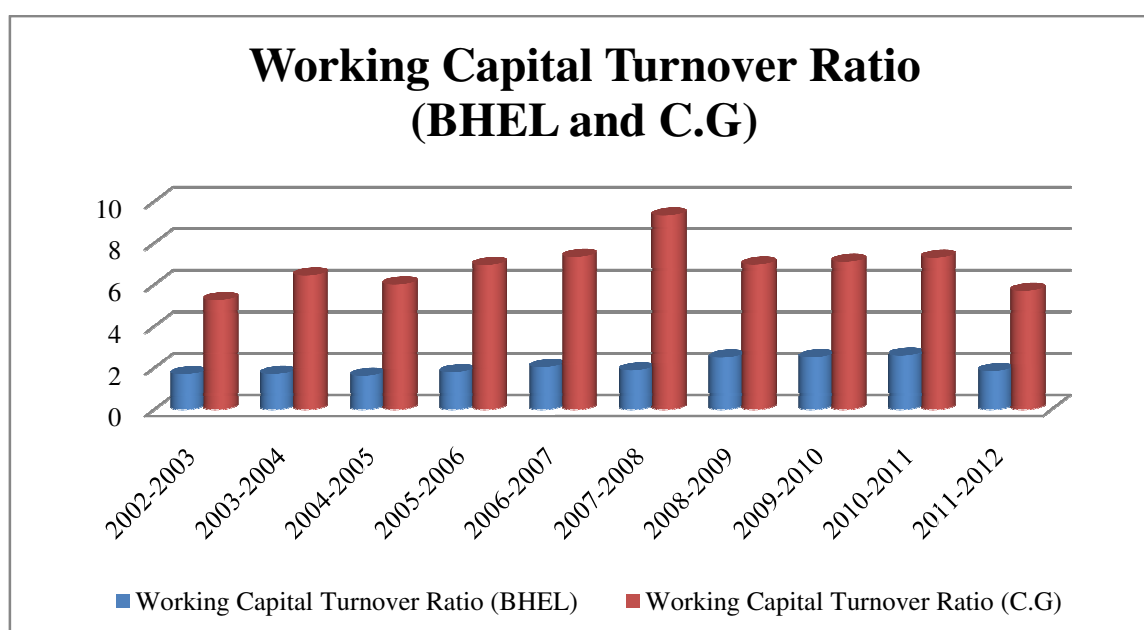
**Fig. 2: Working Capital Turnover Ratio (C.G)**

Table 2 reveals working capital turnover ratio of C.G which stood at an average of 6.83:1 during the study period of 2002-2003 to 2011-2012. In the year 2002-2003 the cost of goods sold in C.G amounted to Rs. 1485.39 crores and net working capital amounted to Rs. 282.52 crores which has resulted in working capital turnover ratio of 5.26:1. In 2003-2004 working capital turnover ratio of C.G. stood at 6.44:1. In 2004-2005 the working capital turnover ratio of C.G stood at 6.01:1. In the year 2005-2006 the cost of goods sold amounted to Rs. 2299.42 crores and net working capital amounted to Rs. 331.32 crores which has resulted in working capital turnover ratio of 6.94:1. In the year 2006-2007 the working capital turnover ratio stood at 7.33:1. In the same year the cost of goods sold amounted to Rs. 3030.25 crores and net working capital amounted to Rs. 413.42 crores. Further in the year 2007-2008 the cost of goods sold in C.G amounted to Rs. 3363.00 crores and net working capital amounted to Rs. 360.93 crores which has resulted in working capital turnover ratio of 9.32:1. In 2008-2009 cost of goods sold stood at Rs. 3967.84 crores and net working capital amounted to Rs. 570.30 crores which has resulted in working capital turnover ratio of 6.96:1. In 2009-2010 the

working capital turnover ratio of C.G stood at 7.09:1. In the same year the cost of goods sold of C.G amounted to Rs. 4393.73 crores and net working capital amounted to Rs. 620.02 crores. In the year 2010-2011 the cost of goods sold amounted to Rs. 5003.77 crores and net working capital amounted to Rs. 686.37 crores which has resulted in working capital turnover ratio of 7.29:1. In the year 2011-2012 the working capital turnover ratio of C.G stood at 5.70:1. Working capital turnover ratio of C.G. has also been shown with the help of Figure 2.

**Table 3: Working Capital Turnover Ratio (BHEL and C.G)**

Year	Working Capital Turnover Ratio (BHEL)	Working Capital Turnover Ratio (C.G)
2002-2003	1.69	5.26
2003-2004	1.70	6.44
2004-2005	1.61	6.01
2005-2006	1.79	6.94
2006-2007	2.03	7.33
2007-2008	1.88	9.32
2008-2009	2.49	6.96
2009-2010	2.50	7.09
2010-2011	2.59	7.29
2011-2012	1.84	5.70
Average	2.01	6.83



**Fig. 3: Working Capital Turnover Ratio (BHEL and C.G)**

Table 3 reveals working capital turnover ratio of BHEL and C.G which stood at an average of 2.01:1 and 6.83:1 respectively during the study period of 2002-2003 to 2011-2012. In the year 2002-2003 the working capital turnover ratio of BHEL stood at 1.69:1 where as the working capital turnover ratio of Crompton Greaves stood at 5.26:1. In the year 2003-2004 the working capital turnover ratio of BHEL and Crompton Greaves stood at 1.70:1 and 6.44:1 respectively. BHEL has a working capital turnover ratio of 1.61:1 where as Crompton Greaves has a working capital turnover

ratio of 6.01:1 in 2004-2005. In the year 2005-2006 the working capital turnover ratio of BHEL stood at 1.79:1 where as the working capital turnover ratio of Crompton Greaves stood at 6.94:1. In the year 2006-2007 BHEL has a working capital turnover ratio of 2.03:1 where as Crompton Greaves has working capital turnover ratio of 7.33:1. Further in the year 2007-2008 the working capital turnover ratio of BHEL and Crompton Greaves stood at 1.88:1 and 9.32:1 respectively. BHEL has a working capital turnover ratio of 2.49:1 where as Crompton Greaves has a working capital turnover ratio of 6.96:1 in 2008-2009. In the year 2009-2010 the working capital turnover ratio of BHEL stood at 2.50:1 where as the working capital turnover ratio of Crompton Greaves stood at 7.09:1. In the year 2010-2011 BHEL has working capital turnover ratio of 2.59:1 where as Crompton Greaves has a working capital turnover ratio of 7.29:1. In the year 2011-2012 the working capital turnover ratio of BHEL and Crompton Greaves stood at 1.84:1 and 5.70:1 respectively. Working capital turnover ratio of BHEL and C.G has also been shown with the help of Figure 3.

### HYPOTHESIS TESTING ON WORKING CAPITAL TURNOVER RATIO (BHEL and C.G)

To test whether there is a significant difference between working capital turnover ratio of BHEL and C.G the following hypothesis is framed and tested through t-test at 95 % confidence level:

H<sub>0</sub> There is no significant difference between working capital turnover ratio of BHEL and C.G

H<sub>1</sub> There is a significant difference between working capital turnover ratio of BHEL and C.G

<b>t-Test: Two-Sample Assuming Unequal Variances</b>		
<b>PARAMETERS</b>	<b>WORKING CAPITAL TURNOVER RATIO BHEL</b>	<b>WORKING CAPITAL TURNOVER RATIO C.G</b>
Mean	2.011686579	6.832530143
Variance	0.140211593	1.257813604
Observations	10	10
Hypothesized Mean Difference	0	
df	11	
t Stat	-12.89334309	
P(T<=t) one-tail	2.77125E-08	
t Critical one-tail	1.795884814	
P(T<=t) two-tail	5.5425E-08	
t Critical two-tail	2.200985159	

*Since the calculated value of t two tail at .05 level of significance is more than the table value of t, null hypothesis is rejected and alternative hypothesis is accepted that there is a significant difference between working capital turnover ratio of BHEL and C.G.*

### CONCLUSION

On the basis of above analysis it can be concluded that BHEL is maintaining working capital turnover ratio at an average of 2.01:1 where as C.G is maintaining working capital turnover ratio at an average of 6.83:1 during the study period of 2002-2003 to 2011-2012. Working Capital Turnover Ratio indicates the relationship between the cost of goods sold during the year and net working capital during the year. This ratio reveals how efficiently working capital has been utilised in making sales. A high working capital turnover ratio shows efficient use of working capital and quick turnover of current assets like stock and debtors. The above analysis reveals that C.G is able to maintain a higher working capital turnover ratio during the study period than BHEL, which means

that C.G is able to use its working capital more efficiently than C.G. In addition the above analysis also reveals that there is a significant difference between working capital turnover ratio of BHEL and Crompton Greaves.

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