

# Financing of Working Capital in Select Public Sector Oil and Gas Companies in India : A Comparative Study

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## Abstract

It is generally argued that the permanent or fixed portion of total current assets should be financed by long term sources and the temporary or variable portion of the total current assets should be financed by short term sources. However, in the real world situation this argument does not always holds good. The pattern of financing current assets adopted by a firm depends upon several factors, such as cost of capital, risk performance of owners etc. several studies on this issue have been made in India and abroad but no significant study on Indian public sector oil and gas companies considering the matter addressed here has been carried out. Oil and gas companies have a significant place in our national economy as it provides the basic input to infrastructure and consumer goods. In this backdrop, the present study seeks to examine financing pattern of working capital of select public sector oil and gas companies during the period 1978-79 to 2015-16. The present study has been made by simple mathematical analysis of collected secondary data.

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## I. Introduction

WORKING CAPITAL IS the amount of funds which an enterprise has to use to finance its day-to-day working on operations. It can also be regarded as that portion of the firm's total capital which is employed in current assets. It is generally argued that the permanent or fixed portion of the total current assets should be financed by long term sources and the temporary or variable portion of the total current assets should be financed by short-term sources. However, in the real world situation this argument does not always hold good. The pattern of financing current assets adopted by a firm depends upon several factors, such as cost of capital, risk preference of the owners, demand and supply position in the money market etc.

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## II. Review of Existing Literature

Several studies on the issue associated with the financing of working capital were made in both India and abroad. Some of the major studies on the same are mentioned below.

Agrawal (1983) conducted a study based on ten selected manufacturing and trading public limited companies. The study covered a period from 1966-67 to 1976-77. It was observed that maximum number of companies under study utilized trade credit along with long term funds for financing current assets to the maximum extent.

Chalam (1988) undertook a study to find out the various sources of financing in public enterprises during an eighteen year period from 1961-62 to 1978-79. For the study departmental undertakings, statutory corporations and joint stock companies were selected. The study observed that the public enterprises in India were heavily dependent on external sources of financing during the study period. The external sources depicted a positive trend with higher growth rate as against the internal sources of financing under the study period. The study also revealed that provisions occupied a major place in the generation of internal funds and the companies employed longer short term borrowings than long term borrowings.

Mukherjee (1988) under took a study based on the selected twenty public sector undertakings covering a period of five years from 1974-75 to 1978-79. The study revealed that some of the cases there was over financing of working capital requirements. It results mismanagement of working capital.

Kumar (1990) conducted a study on financing of public enterprises and public participation. The study conducted for the period of ten years from 1975-76 to 1984-85. The study revealed that no uniform policy was followed by the government in deciding the pattern of financing in public enterprises. While the enterprises producing and selling goods the overall composition of debt equity mix was almost 50:50, the servicing enterprises it was 18:82. The debt composition in the central enterprises engaged in various services was significantly higher than the enterprises engaged in producing and selling goods.

Goel (2001) carried out a study on management of finance in public enterprises by taking into consideration a sample of eight public sector companies during the period 1993-94 to 1997-98. The study observed that most of the selected public enterprises failed to utilise maximum of short term funds in financing working capital requirements during the study period.

Mukhopadhaya (2004) conducted a study on working capital management of a firm belonging to the heavy engineering industry group for the period 1993-94 to 2002-03 in order to examine the effectiveness of

working capital management of the firm and its effect on the commercial operations of the company. The study observed severe crisis of working capital which resulted in alarming liquidity of the firm throughout the study period.

Toby (2008) made an analysis of liquidity performance of selected 87 Nigerian manufacturing companies during the period 1990 to 2000. The study examined the relationships between liquidity and profitability, between liquidity and efficiency measures, and between liquidity and leverage measures. A significant relationship between liquidity and profitability of the selected companies during the study period was observed.

Karaduman (2010) in their study examined the effects of working capital management on profitability of 140 selected companies listed in Istanbul stock exchange for a period of five years from 2005 to 2008. The study revealed that the improvement in the return on assets was due to enhancement in the efficiency of debtors' management and inventory management of most of the selected companies.

Kaur (2010) carried out a study in which various issues associated with working capital management of four selected tire companies in India during the period 1999-2000 to 2006-07 were analysed. The emphasis on the assessment of the impact of working capital management on profitability was given in this study. The study revealed that there was a standoff between liquidity and profitability of the sample companies. The study also observed that the selected companies achieved a trade off between risk and return during the study period.

Gill (2010) in their study examined the relationship between working capital management and profitability of 88 selected American firms listed on New York stock exchange for the period of three years from 2005 to 2007. They found statistically significant relationship between cash conversion cycle and gross operating profit but did not find any significant relationship between size of the firm and operating gross profit.

Bhunia and Khan (2011) undertook a study on the relationship between liquidity management efficiency and profitability of 230 steel companies belonging to the Indian private sector covering a period of nine years from 2002 to 2010. The outcome of the study showed that solvency ratios of the selected companies were not satisfactory. The lower consistency was observed in respect of performance of liquidity management of the companies.

The review of the studies so far made on financing of working capital reveals that though several studies on this issue were conducted in both India and abroad, this matter was not properly addressed in Indian gas and oil sector during the post-liberalisation period. In this situation the present study was carried out to analyse the financing pattern of the selected public sector gas and oil companies covering a large span of time i.e. 38 years from 1978-79 to 2015-16.

### III. Research Design

#### 3.1 Objectives of the Study

The present study has the following objectives

- i. To analyse the variation of working capital of the selected public sector oil companies in India during the pre-liberalisation and post-liberalisation period.
- ii. To examine the sources of financing of working capital with special emphasis on the share of long term and short term funds of the selected companies during the pre liberalisation and post liberalisation period .

#### 3.2 Methodology

The present study is based on the five selected oil companies in Indian public sector. The companies are ONGCL, HPCL, BPCL, IOCL and GAIL (India) Limited. The study is based on secondary data exclusively. The data relating to these selected enterprises were collected from published annual reports of the enterprises and Official Directory, Public Enterprises Survey etc. Editing, classification and tabulation of the data collected from the above mentioned sources were done as per the requirement of the study. For analyzing the data, simple mathematical tools like percentages, averages, ratios were used.

#### 3.3 Findings of the Study

In this study an attempt was made to analyse the variation of working capital during the period under study as well as to explain the relative importance of long term and short term debt in financing working capital. Table I shows that of the two sources of working capital, short term debt dominated in both the pre-liberalisation and post-liberalisation periods. The proportion of short term debt of BPCL varied between 84.4 percent in the year 1982-83 and 100 percent in the years 1988-89, 1989-90, 1990-91, 1992-93, 1993-94 and 1994-95 during the pre-liberalisation period, while it ranged between 70.66 percent in the year 2005-06 and 100 percent in the years 2003-04, 2010-11, 2011-12, 2012-13, 2014-15 and 2015-16 during the post-liberalisation period. Theoretically speaking, working capital of any concern should mainly be financed by short term fund. From the practical point of view a proper balance between the long term and short term sources should be maintained as far as possible depending on the respective costs of these sources. The increasing dependence of BPCL on the short term funds in financing working capital signifies its better performance regarding working capital management. Though no comparison between the respective costs of long term and short term debt was made for the sake of simplicity, the generally accepted opinion that the long term debts are more costly than the short term debts is taken as base to comment over the performance of working capital management of the company. Increasing dependence on short term sources of financing working capital not only depicts the capability of the company to make efficient management of current assets but also reveals that the company gained the major portion of its short term funds in financing current assets and in the process could

invest only a nominal portion of the same in fixed assets and investment. Table I shows that the percentage of long term funds used for financing net fixed assets and investments (NFAI) gradually increased during the pre-liberalisation period, while it showed fluctuating trend during the post-liberalisation period. It increased from 59.65 percent in 1978-79 to 100 percent in 1987-88 to 1990-91, 1992-93 to 1994-95 during the pre-liberalisation period. In the post-liberalisation period the percentage of long term funds used for NFAI fluctuated between 79.30 percent in 2005-06 and 100 percent in 1997-98, 2003-04, 2010-11, 2011-12, 2012-13, 2014-15 and 2015-16. It implies that BPCL used its maximum proportion of long term fund towards financing in fixed assets and investment in the post-liberalisation period as compared to that in the pre-liberalisation period. It is also observed from the table that BPCL used its 1.97 percent of long term funds towards investment in deferred tax assets (DTA) in the year 2002-03 during the post-liberalisation period. It is observed from the Table I that BPCL followed an aggressive strategy of working capital financing in most of the years in both the pre-liberalisation and post-liberalisation periods.

It is observed from Table II that the short term funds played the dominating role as a source of working capital during the pre-liberalisation period. The percentage of short term debt of HPCL fluctuated between 72.98 percent in the year 1995-96 and 100 percent in the year 1986-87 during the pre-liberalisation period whereas it varied between 61.83 percent in the year 2000-01 and 100 percent in the years 2010-11, 2011-12 and 2012-13 during the post-liberalisation period. In the post-liberalisation period, the short term debt as a source of working capital registered a fluctuating trend. Table II depicts that the percentage of long term funds used for financing NFAI registered an increasing trend during the pre-liberalisation period, while it reported a fluctuating trend during the post-liberalisation period. It varied between 64.45 percent in 1980-81 and 100 percent in 1986-87 during the pre-liberalisation period while it fluctuated between 69.79 percent in 2000-01 and 100 percent in 2010-11, 2011-12 and 2012-13 during the post-liberalisation period. The use of long term funds in financing NFAI increased during the post-liberalisation period as compared to that in the pre-liberalisation period. Table II shows that HPCL relies more on short term funds than on long term funds to finance its current assets in the pre-liberalisation period as compared to that in the post-liberalisation period. It indicates that the company pursued an aggressive financing policy in the pre-liberalisation period and intended to convert it into a conservative one in the post-liberalisation period.

In case of IOCL also working capital was hugely financed by short term fund during the pre-liberalisation period. The proportion of short term debt of IOCL fluctuated widely between 78.81 percent in the year 1983-84 and 100 percent in the years 1987-88 to 1995-96 during the pre-liberalisation period while it varied between 57.52 percent in the year 2000-01 and 100 percent in the years 2011-12, 2013-14 , 2014-15 and 2015-16 during the post-

**Table I**  
**Statement of Financing of Working Capital of BPCL in the Pre-liberalisation and Post-liberalisation Periods**

Particulars	Pre-Lib. Per.	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Working capital (G)		14,449	23,063	31,070	33,844	23,703	28,433	36,025	45,897	50,240	46,688	53,319	84,734	86,263	87,420	1,75,530	1,47,472	1,94,988	1,90,301	2,90,362
2. % of Long term fund		13.27	8.65	5.86	1.11	15.6	5.48	1.6	8.64	10	-	-	-	-	3.55	-	-	-	0.2	11.38
3. % of Short term fund		86.73	91.35	94.14	98.89	84.4	94.52	98.4	91.36	90	100	100	100	100	96.45	100	100	100	99.8	88.62
4. % of long term fund used for financing WC		40.35	35.23	27.83	4.83	21.65	6.38	1.72	9.91	10.48	-	-	-	-	2.84	-	-	-	0.19	11.58
5. % of long term fund used for financing NFAI		59.65	64.77	72.17	95.17	78.35	93.62	98.28	90.09	89.52	100	100	100	100	97.16	100	100	100	99.81	88.42
6. % of long term fund used for financing DTA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Particulars	Post-Lib. Per.	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1. Working capital (G)		2,12,744	3,24,446	5,31,245	6,44,731	5,55,518	8,00,039	8,34,150	9,76,775	13,31,294	13,63,376	19,67,823	15,19,015	23,25,530	30,79,099	39,44,533	38,38,981	39,65,190	30,28,546	28,07,557
2. % of Long term fund		-	10.46	17.93	25.81	10.88	0.08	-	6.44	29.34	17.29	25.91	15.53	16.95	-	-	-	3.16	-	-
3. % of Short term fund		100	89.54	82.07	74.19	89.12	99.92	100	93.56	70.66	82.71	74.09	84.47	83.05	100	100	100	96.84	100	100
4. % of long term fund used for financing WC		-	7.23	15.64	20.2	7.07	0.07	-	5.6	20.7	10.48	18.09	6.83	16.95	-	-	-	3.16	-	-
5. % of long term fund used for financing NFAI		100	92.77	84.36	79.8	92.93	97.96	100	94.4	79.3	89.52	81.91	93.17	83.05	100	100	100	96.84	100	100
6. % of long term fund used for financing DTA		-	-	-	-	-	1.97	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Complied and Computed from Public Enterprise Survey from 1978-79 to 2015-16.

**Table II**  
**Statement of Financing of Working Capital of HPCL in the Pre-liberalisation and Post-liberalisation Periods**  
(Rs. In Lakhs)

Particulars	Pre-Lib. Per.	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Working capital (G)		15,016	25,990	35,243	35,155	29,702	37,864	43,350	58,541	59,666	67,496	84,208	90,195	1,08,441	1,15,036	1,33,565	1,59,107	1,86,447	2,44,189	4,27,062
2. % of Long term fund		17.55	9.83	13.71	10.41	4.21	9.82	19.53	15.56	-	8	15.46	9.56	10.18	5.31	6.16	11.61	15.75	27.02	25.55
3. % of Short term fund		82.45	90.17	86.29	89.59	95.79	90.18	80.47	84.44	100	92	84.54	90.44	89.82	94.69	93.84	88.39	84.25	72.98	74.45
4. % of long term fund used for financing WC		29.68	26.18	35.55	22.85	5.44	9.46	14.33	13.92	-	7.86	15.33	8.67	9.81	4.87	5.45	9.51	12.62	21.99	27.37
5. % of long term fund used for financing NFAI		70.32	73.82	64.45	77.15	94.56	90.54	85.67	86.08	100	92.14	84.67	91.33	90.19	95.13	94.55	90.49	87.38	78.01	72.63
6. % of long term fund used for financing DTA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Particulars	Post-Lib. Per.	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1. Working capital (G)		2,52,751	3,31,899	6,48,492	7,95,643	6,08,418	8,54,859	9,42,887	9,44,932	11,00,998	11,46,470	19,29,737	15,99,269	20,64,194	29,59,321	36,76,526	38,23,064	39,73,677	27,83,325	27,48,873
2. % of Long term fund		10.56	16.12	30.77	38.17	21.69	7.57	18.81	26.04	27.75	11.73	35.57	26.49	19.8	-	-	-	11.15	14.15	2.55
3. % of Short term fund		89.44	83.88	69.23	61.83	78.31	92.43	81.19	73.96	72.25	88.27	64.43	73.51	80.2	100	100	100	88.85	85.85	97.45
4. % of long term fund used for financing WC		4.78	8.32	23.01	30.21	12.88	6.85	16.28	20.5	18.2	6.25	23.71	12.07	11.79	-	-	-	10.48	9.77	1.6
5. % of long term fund used for financing NFAI		95.22	91.68	76.99	69.79	87.12	93.15	83.72	79.5	81.8	93.75	76.29	87.93	88.21	100	100	100	89.52	90.23	98.4
6. % of long term fund used for financing DTA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Complied and Computed from Public Enterprise Survey from 1978-79 to 2015-16.

liberalisation period. It reflects that the role of short term funds in financing the working capital of IOCL declined significantly during the post-liberalisation period. It is generally accepted that increasing dependence of short term sources of financing working capital not only shows the capability of the company to make efficient management of its current assets but also reveals that the company used the major portion of its short term funds in financing current assets and in the process could invest only a nominal portion of the same in fixed assets and investments. Table III shows that the percentage of long term funds used for financing NFAI increased in both the pre-liberalisation and post-liberalisation periods. The percentage of long term funds used for financing NFAI varied between 68 percent in 1983-84 and 100 percent in 1978-79 and 1987-88 to 1995-96 during the pre-liberalisation period. Again, it ranged between 70.07 percent in 2000-2001 and 100 percent in 2011-12, 2013-14, 2014-15 and 2015-16 during the post-liberalisation period. The increasing proportion of short term funds as sources of working capital of IOCL in the pre-liberalisation period implies that the management followed highly aggressive financing strategy regarding working capital financing, whereas in the post-liberalisation period the management slowly shifted the dependency from short term sources of working capital to long term sources of working capital.

Table IV shows that in ONGC, of the two sources of working capital, more emphasis was given on short term source in the pre-liberalisation period. It varied between 34.27 percent in the year 1994-95 and 90.1 percent in the year 1983-84 during the pre-liberalisation period whereas it ranged between 35.76 percent in the year 2003-04 and 73.9 percent in the year 2010-11 during the post-liberalisation period. Table IV depicts that the utilisation of short term funds as a source of working capital increased gradually during the post-liberalisation period. Table IV reveals that the percentage of long term funds used for financing NFAI in the pre-liberalisation and that in the post-liberalisation period were almost same. It ranged between 76.10 percent in 1991-92 and 93.83 percent in 1983-84 during the pre-liberalisation period while during the post-liberalisation period it fluctuated between 75.69 percent in 2000-01 and 95.18 percent in 2015-16. The increasing dependence of ONGC on long term funds for financing working capital in both the pre-liberalisation and post-liberalisation periods signifies that the company followed a conservative strategy in respect of working capital financing throughout the period under study.

In case of GAIL, short term fund played a major role in financing working capital during the pre-liberalisation period. Table V shows that the proportion of working capital financed by short term fund fluctuated between 74.62 percent in the year 1993-94 and 100 percent in the years 1985-86, 1986-87, 1987-88, 1989-90, 1990-91, 1991-92, 1995-96 and 1996-97 during the pre-liberalisation period whereas it ranged between 51.76 percent in the year 2005-06 and 100 percent in the years 1997-98, 1998-99, 2011-12 and 2015-16 during the post-liberalisation period. It indicates the

**Table III**  
**Statement of Financing of Working Capital of IOCL in the Pre-liberalisation and Post-liberalisation Periods**

(Rs. In Lakhs)

Particulars	Pre-Lib. Per.	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Working capital (G)		54,394	1,09,328	1,69,266	1,61,592	1,76,186	1,92,221	2,06,378	2,73,471	2,54,218	2,87,214	2,95,697	4,51,638	5,96,810	7,39,341	9,27,476	9,47,846	8,65,783	11,52,391	18,48,796
2. % of Long term fund			1.13	4.3	4.48	9.02	21.19	20.43	14.63	2.85	-	-	-	-	-	-	-	-	-	4.11
3. % of Short term fund		100	98.87	95.7	95.52	90.98	78.81	79.57	85.37	97.15	100	100	100	100	100	100	100	100	100	95.89
4. % of long term fund used for financing WC		-	2.03	9.44	8.15	15.63	32	31.05	29.59	4.41	-	-	-	-	-	-	-	-	-	5.44
5. % of long term fund used for financing NFAI		100	97.97	90.56	91.85	84.37	68	68.95	70.41	95.59	100	100	100	100	100	100	100	100	100	94.56
6. % of long term fund used for financing DTA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Particulars	Post-Lib. Per.	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1. Working capital (G)		11,55,807	11,22,512	21,63,344	25,68,002	19,82,691	24,97,433	25,05,339	31,73,795	36,55,257	39,10,308	52,96,057	44,55,436	59,38,764	96,56,785	1,21,72,683	1,28,29,857	1,34,57,777	95,93,102	89,34,974
2. % of Long term fund		31.4	14.23	34.39	42.48	19.04	25.87	24.77	29.81	29.76	24.03	34.71	20.64	24.64	1.39	3.25	-	-	-	-
3. % of Short term fund		68.6	85.77	65.61	57.52	80.96	74.13	75.23	70.19	70.24	75.97	65.29	79.36	75.36	98.61	100	96.75	100	100	100
4. % of long term fund used for financing WC		14.62	7.15	25.85	29.93	10.03	17.37	15.73	20.41	18.11	14	22.45	9.74	14.66	1.71	4.17	-	-	-	-
5. % of long term fund used for financing NFAI		85.38	92.85	74.15	70.07	89.97	82.63	84.27	79.59	81.89	86	77.55	90.26	85.34	98.29	100	95.83	100	100	100
6. % of long term fund used for financing DTA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Complied and Computed from Public Enterprise Survey from 1978-79 to 2015-16.

**Table IV**  
**Statement of Financing of Working Capital of ONGC in the Pre-liberalisation and Post-liberalisation Periods**

(Rs. In Lakhs)

Particulars	Pre-Lib. Per.	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Working capital (G)		23,254	33,038	41,922	89,029	1,72,614	2,55,285	3,83,706	4,23,488	4,45,388	4,45,263	4,88,029	6,09,111	8,49,901	8,94,058	8,56,281	6,97,803	6,20,487	6,93,661	7,68,807
2. % of Long term fund		52.54	34.13	28.51	34.59	22.2	9.9	18.23	30.04	35.12	37.55	48.63	41.25	41.39	51.16	45.95	54.44	65.73	65.28	57.5
3. % of Short term fund		47.46	65.87	71.49	65.41	77.8	90.1	81.77	69.96	64.88	62.45	51.37	58.75	58.61	48.84	54.05	45.56	34.27	34.72	42.5
4. % of long term fund used for financing WC		15.25	12.05	10.15	16.28	11.87	6.17	13.24	18.18	17.92	15.68	17.3	15.6	19.56	23.9	19.33	15.27	14.39	15.2	14.69
5. % of long term fund used for financing NFAI		84.75	87.95	89.85	83.72	88.13	93.83	86.76	81.82	82.08	84.32	82.7	84.4	80.44	76.1	80.67	84.73	85.61	84.8	85.31
6. % of long term fund used for financing DTA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Particulars	Post-Lib. Per.	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1. Working capital (G)		7,53,426	9,61,853	11,88,779	13,96,495	15,54,479	14,28,956	17,01,480	19,11,838	20,14,392	29,79,553	37,05,759	37,75,042	36,38,394	25,92,356	36,58,442	30,60,129	29,84,332	30,16,325	30,72,434
2. % of Long term fund		40.91	44.67	56.12	60.27	57.68	39.3	64.24	51.86	47.4	54.06	52.48	44.09	46.41	26.1	29.76	42.9	36.07	36.43	31.19
3. % of Short term fund		59.09	55.33	43.88	39.73	42.32	60.7	35.76	48.14	52.6	45.94	47.52	55.91	53.59	73.9	70.24	57.1	63.93	63.57	68.81
4. % of long term fund used for financing WC		9.75	13.29	19.72	24.31	23.37	13.49	19.09	16.08	13.14	19.4	21.66	16.33	15.11	5.25	7.45	8.17	5.97	5.82	4.82
5. % of long term fund used for financing NFAI		90.25	86.71	80.28	75.69	76.63	86.51	80.91	83.92	86.86	80.6	78.34	83.67	84.89	94.75	92.55	91.83	94.03	94.18	95.18
6. % of long term fund used for financing DTA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Complied and Computed from Public Enterprise Survey from 1978-79 to 2015-16.



**Table V**  
**Statement of Financing of Working Capital of GAIL in the Pre-liberalisation and Post-liberalisation Periods**

(Rs. In Lakhs)

Particulars Pre-Lib. Per.	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Working capital (G)	#	#	#	#	#	#	#	2,074	2,797	5,371	12,732	13,532	13,657	41,810	98,674	1,31,661	1,59,817	1,40,919	1,37,243
2. % of Long term fund	#	#	#	#	#	#	#	-	-	-	14.66	-	-	-	19.19	25.38	22.67	-	-
3. % of Short term fund	#	#	#	#	#	#	#	100	100	100	85.34	100	100	100	80.81	74.62	77.33	100	100
4. % of long term fund used for financing WC	#	#	#	#	#	#	#	-	-	-	1.27	-	-	-	9.45	15.18	14.72	-	-
5. % of long term fund used for financing NFAI	#	#	#	#	#	#	#	100	100	100	98.73	100	100	100	90.55	84.82	85.28	100	100
6. % of long term fund used for financing DTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Particulars Post-Lib. Per.	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1. Working capital (G)	1,70,505	2,23,860	3,17,111	2,89,477	3,94,235	4,64,366	4,10,708	6,33,704	7,24,970	7,74,551	10,41,002	12,23,654	13,64,586	9,42,019	9,46,799	9,05,419	11,25,032	10,59,535	10,75,584
2. % of Long term fund	-	-	2.98	14.78	2.82	40.22	26.22	45.18	48.24	41.24	41.78	33.36	23.94	6.08	-	0.92	15.81	5.69	0
3. % of Short term fund	100	100	97.02	85.22	97.18	59.78	73.78	54.82	51.76	58.76	58.22	66.64	76.06	93.92	100	99.08	84.19	94.31	100
4. % of long term fund used for financing WC	-	-	1.33	5.22	1.43	19.51	9.97	24.1	26.52	22.74	27.9	23.6	16.61	2.47	-	0.23	4.41	1.41	-
5. % of long term fund used for financing NFAI	100	100	98.67	94.78	98.57	79.79	90.03	75.9	73.48	77.26	72.1	76.4	83.39	97.53	100	99.77	95.59	98.59	100
6. % of long term fund used for financing DTA	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-

**Note :** # The Pre-liberalisation period in case of GAIL covers only twelve years as the company was formed in the year 1984-85

**Source:** Compiled and Computed from Public Enterprise Survey from 1978-79 to 2015-16.

decreasing dominance of long term funds as source of working capital as compared to the short term funds during both the pre-liberalisation and post-liberalisation periods. The increasing dependence on the short term funds in financing working capital of GAIL during the pre-liberalisation period signifies its better performance regarding working capital management. However, the company used both the short term funds and long term funds as sources of working capital during the post-liberalisation period. In fact, the company tried to maintain a balance between the long term and short term sources of fund in the post-liberalisation period. Table V also shows that the percentage of long term funds used for financing NFAI increased during the pre-liberalisation period. It ranged between 84.82 percent in 1993-94 and 100 percent in the years 1985-86, 1986-87, 1987-88, 1989-90, 1990-91, 1991-92 1995-96 and 1996-97 during the pre-liberalisation period while in the post-liberalisation period the proportion of long term fund used for financing NFAI varied between 72.10 percent in 2007-08 and 100 percent in 1997-98, 1998-99, 2011-12 and 2015-16. The company used a small percentage of long term funds for financing deferred tax which was only 0.70 percent in 2002-03 during the post-liberalisation period. So it can be said that in case of GAIL, highly aggressive financing strategy was adopted by the company in both the pre-liberalisation and post-liberalisation periods.

#### IV. Conclusion

The paper deals with the financing of working capital in the selected gas and oil companies. The study stresses importance on long term and short term financing of working capital. It reveals that short term funds dominated as a source of working capital in BPCL and HPCL in both the pre-liberalisation and post-liberalisation periods. In case of IOCL and GAIL working capital was financed largely by short term funds in the pre-liberalisation period, whereas in the post-liberalisation period the role of short term funds in financing of working capital became insignificant. The study also observes that ONGC utilised both the short term and long term funds as sources of working capital in each and every year in both the pre-liberalisation and post-liberalisation periods.

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