FINANCING OF WORKING CAPITAL IN FOOD-PROCESSING INDUSTRY IN INDIA

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Financing of working capital is an integral part of working capital management. It decides the proportion of long-term and short-term sources of funds to be used to finance the current assets. It also affects the risk to which the firm is exposed. The present study aims at examining the patterns of financing working capital in food-processing industry in India and in different categories within this industry. The technique of ratio analysis has been applied to conduct the study.

Introduction

Food-processing industry is one of the most important industries in India in terms of employment potential and contribution to export earnings. This industry comprises those units, which create utility by processing plant, marine or animal products. All such enterprises can be covered under four major heads namely beverages, food-products, sugar and tea. Beverages include beer, country liquor and Indian Made Foreign Liquor. Food products include grain processing, dairy products, poultry and meat products, fisheries, fruit and vegetable processing, cocoa products, confectionery, chocolate, vanaspati and vegetable oil, soyabean products, bakery and milling, marine foods, soft drinks etc. Sugar industry consists of only one item namely sugar. Tea industry, here, includes coffee also as some of the tea companies produce both tea as well as coffee.

Food-processing industry with its large employment and export potential has considerable relevance in the context of addressing the pressing national problems of rising unemployment and foreign debt. According to M. K. Nair, Deputy Secretary, Ministry of Food-Processing Industries, though food-processing sector corners only 5.5 percent of the industrial investments, the food-processing industry ranks fifth in size employing 19 percent of the total industrial workforce, accounting for 14 percent of industrial output and contributing 18 percent to the gross domestic product (Business Line, 1999). Therefore, for a labour surplus country like India, the most significant point is that this industry has a high employment potential with significantly lower

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investment and also export potential with more than 10 percent share in total exports. Therefore, food-processing industry is rightly being stated as the 'sun-rise industry' and 'rainbow industry'.

The government is committed to provide a large thrust to food-processing and other agro-based industries in an endeavour to increase the income of farmers, create employment opportunities, diversify the rural economy and foster rural industrialisation (Govt. of India, 1994-95). Therefore, the Ministry of Food-Processing Industries (MFPI) was set up in July, 1988 to give an impetus to the development of food-processing industry in the country. Continuing with the policy of encouraging food-processing industry, the Ninth Plan (1997-2002) listed, as one of its basic objectives, the strengthening of agricultural base by a preferential treatment to food-processing industry.

Objectives of the Study

In view of the significance of food-processing industry in national economy, this industry has been selected to serve as a case in the context of the study of financing of working capital in India. The main objectives of this study are to examine the approach towards and means of financing working capital, the relative role of long-term and short-term sources of funds, relative proportion of different short-term sources and the role of commercial paper in financing working capital in this industry.

Methodology

The sample for the study consists of both private sector public limited companies and public sector enterprises. The sample companies in private sector in food-processing industry were selected from amongst those listed at Bombay Stock Exchange. The criterion for the selection was the availability of continuous data from the year 1989-90 to 1996-97. The year 1989-90 was taken as the starting year of analysis as the Ministry of Food-Processing Industries, was set up in July, 1988, for the promotion of food-processing industry in India including formation and implementation of industrial policy in respect of specific industries allotted to it. The year, 1996-97 was taken as the end year because it was the latest possible year for which largest number of companies reported data. Any change in the end year reduced the number of companies substantially. Using the above criterion, 82 private sector public limited companies were included in the sample. There were only two enterprises in public sector in food-processing industry during the study-period of 1989-90 to 1996-97. Both these have been included in the sample. Thus, the sample consisted of 82 private sector public limited companies and 2 public sector enterprises. The sample was unbiased in as much as the companies were selected on the basis of an objective criterion.

Coverage of public sector in the sample was total as there were only two food-processing enterprises in this sector and both were included in the sample. The coverage of the sample in private corporate sector is fairly comprehensive because share of sample companies in total sales of private corporate sector accounted for a substantial portion. Sample companies in the private corporate sector represented 58.52 percent of total sales of private corporate sector in food-processing industry in 1989-90 and 51.26 percent in 1996-97. For different categories of beverages, food-products, tea and sugar, it varied from 47.46 percent to 66.42 percent.

As the purpose of the present study is to conduct in-depth analysis in financing the working capital in food-processing industry in India, sample companies are grouped on different bases. Sample consists of both, public and private sector companies. As public sector included only 2 companies, public sector is not classified further. However, as sample in private sector consists of 82 companies, to facilitate detailed study in the private sector, these are further classified on different bases.

One classification consists of grouping the private sector companies in four groups on the basis of product namely beverages, food-products, tea and sugar[1]. Sample consists of 31, 22, 18 and 11 companies in food-products, sugar, tea and beverages respectively.

Another classification of sample companies is done on the basis of size. There are several criteria for deciding the size of companies such as paid up capital, total assets, fixed assets and sales. In the present study, size of company is determined on the basis of sales. The reason for using sales as an indicator of size is that investment in the various components of working capital is related with sales[2]. Companies falling in different categories formed on this basis[3] are termed as small-sized, medium-sized and large-sized companies respectively. There are 31 small-sized companies, 45 medium-sized and 6 large-sized companies in the sample.

Sample companies in the private sector are classified on the basis of ownership also. Company, in which more than forty percent of the equity shareholding is in the hands of foreign shareholders, is described as foreign company[4]. Company, in which foreign equity participation is less than forty percent, is called Indian company. Foreign company is under the influence of foreign entrepreneurs, therefore attempts are made to find out the differences in financing the working capital in foreign and Indian companies. Private sector consists of 72 Indian companies and 10 foreign companies.

For the purposes of analysis, financial statement data of sample companies have been taken from CMIE-Prowess Database Package.

Analyse and Findings

The present study attempts to examine the following issues.

A. *Nature of Approach Used in Working Capital Financing*

First important issue is to find out whether the industry is following an aggressive, a moderate or a conservative approach in the financing of working capital. The approach to be used depends, inter-alia, upon the philosophy of management. Different approaches result in different proportions of current and long-term liabilities used to finance current assets, resulting in different levels of risk[5] in financing working capital assumed by the firm. This risk can be measured by

$R_F = CL / CA$

R_F – Risk in financing working capital

CL – Current liabilities

CA – Current assets

An enterprise is said to have followed the aggressive approach when current liabilities are used to finance not only entire temporary current assets but also a portion of permanent current assets[6]. This approach as is indicated by name; results in highest risk. However, for an external analyst it is difficult to find out the amount of permanent current assets as data on weekly and monthly basis are not available. So for the purposes of analysis, aggressive approach is taken to mean that all current assets are financed from current liabilities. In terms of risk measure, this approach results in

$R_F = 1$ as CL=CA.

An enterprise is said to have followed a moderate approach when short-term sources are used to finance temporary current assets and long-term sources are used to finance permanent current assets. However, because of practical difficulties moderate approach is assumed to mean that both short-term and long-term sources are used to finance current assets. It means current liabilities are greater than zero but less than total current assets. In terms of risk measure, it results in

$0 < R_F < 1$ as $0 < CL < CA$

Similarly, an enterprise is said to have followed a conservative approach when long-term sources are used to finance permanent current assets and also a portion of temporary current assets. It results in lowest risk. For the analytical purposes, conservative approach is taken to imply that all current assets are financed by long-term sources. Current liabilities are nil as the enterprise does not want to assume risk. In terms of risk measure,

$R_F = 0$ as $CL = 0$

Thus R_F measures risk assumed by the enterprise in financing working capital. As R_F increases, risk also increases. If it is equal to or greater than one, firm is highly risky as regards the financing of working capital.

Table 1 provides risk measure in financing working capital for the food-processing industry and its different categories. The most important result is that all the observations in the Table 1 fall between 0 and 1. It means all the firms followed moderate approach to finance working capital. The conservative approach is an extreme case and is

Table I

Risk measure in financing of working capital in the selected companies

(In Percentage)

	Number of Companies	1989-90	1996-97	Average	Coefficient of Variation
Product-wise					
Beverages	11	0.67	0.66	0.64	4.84
Food-products	31	0.65	0.70	0.66	5.75
Sugar	22	0.66	0.86	0.76	8.64
Tea	18	0.54	0.52	0.51	6.40
Ownership-Wise					
Private-Foreign	10	0.72	0.68	0.67	8.78
Private-Indian	72	0.60	0.72	0.65	6.28
Sales-Range-Wise					
Less than Rs. 50 Crores	31	0.71	0.80	0.78	7.58
Rs. 50 Crores-Rs. 500 Crores	45	0.67	0.73	0.67	6.32
Rs.500 Crores and above	6	0.49	0.65	0.56	16.42
Private sector	82	0.62	0.71	0.65	5.72
Public Sector	2	0.54	0.68	0.60	11.12
Food-Processing Industry	84	0.62	0.71	0.65	5.90

Risk Measure is Current Liabilities/Current Assets.

generally not adopted in practice. No study, conducted in Indian context, has found any industry following conservative approach (NCAER 1966; Agrawal 1983; Kaveri 1985). So is the case in the present study. So far as the aggressive approach is concerned, industries have been found following this approach in the past (Agrawal 1983; Dahejia Committee Report).

However, in the present study, food-processing industry and its different categories did not follow aggressive approach. It is, perhaps, the result of continuous efforts of RBI in the form of credit-rationing introduced by banks since 1969 and more so after 1975 as a result of recommendations of different committees on bank credit. This resulted in restrictions on the supply of short-term bank credit to firms forcing them to resort to long-term sources to finance current assets.

Within moderate approach, risk can vary between 0 and 1. Table 1 shows that food-processing industry assumed on an average 0.65 risk, and it has increased from 0.62 in 1989-90 to 0.71 in 1996-97. It means the risk assumed by the industry has increased in the later years. Private sector assumed slightly more risk, on an average, 0.65, as compared to public sector where it was 0.60. However, increase in risk over the study period was higher in public sector as compared to private sector. It is shown by higher coefficient of variation in public sector. It means public sector has started using relatively more current liabilities to finance current assets.

Among the categories formed on the basis of size, small-sized companies assumed highest risk followed by medium-sized companies and large-sized companies, average being 0.78, 0.67 and 0.56 respectively. Over the study period, risk assumed by all types of companies has increased. However, risk assumed by large-sized companies showed the highest increase as shown by highest coefficient of variation. On the basis of ownership, average risk assumed by foreign and Indian companies was 0.67 and 0.65 respectively. It means there was not much difference in the risk assumed by foreign companies and Indian companies in the financing of working capital. In the year 1989-90, foreign companies were more risky, 0.72, as compared to Indian companies 0.60. Over the study period, foreign companies have reduced their risk while Indian companies have increased their risk. As a result, in the year 1996-97 risk was 0.68 and 0.72 for foreign and Indian companies respectively. Sugar companies assumed highest risk, on an average 0.76, and tea companies lowest risk, 0.51. Beverages and food-products companies came in between assuming average 0.64 and 0.66 risk respectively, nearly the same risk. The risk assumed by sugar and food-products companies showed an increasing trend. Increase in risk assumed by sugar companies was highest as shown by highest coefficient of variation in their case.

To sum up, food-processing industry followed moderate approach in the financing of working capital. Risk assumed in the financing of working capital has increased over the study period. It implies increasing amount of current liabilities or decreasing amount of long-term debt has been used in the financing of working capital.

B. *Relative Role of Long-Term and Short-Term Funds in the Financing of Working Capital*

Working capital can be financed from long-term sources and/or short-term sources of funds. Long-term sources include internal sources like retained earnings and depreciation provision. External long-term sources include equity capital, debentures, long-term loans etc. Short-term sources consist of internal sources of dividend provision, tax provision and other short-term provisions; and external sources of trade credit, bank credit, loans and advances from sources other than banks, outstanding expenses, short-term securities like commercial paper etc.

Net working capital measures the amount of long-term funds used in the financing of working capital. Net working capital divided by current assets and multiplied by 100 gives the percentage share of working capital financed by long-term sources. Current liabilities divided by current assets multiplied by

100 measures percentage share of current assets financed by current liabilities. Percentage shares of long-term and short-term sources in financing of working capital are given in Table 2.

Table 2 shows that on an average 35 percent of working capital in food-processing industry was financed by long-term sources. Robert H. Wessel and Earnest W. Walker emphasised that permanent working capital should be financed from long-term funds and temporary working capital should be financed by short-term funds. But, for an external analyst it is difficult to find out the amount of permanent working capital, as data on weekly and monthly basis are not available. However, with the growth in working capital, proportion of long-term funds used in financing of working capital remain stable

Table II

Ratio net working capital to current assets and ratio of current liabilities to current assets in the selected companies

(In Percentage)

	Number of	NWC/CA		CL/CA	
	Companies	Average	C.V.	Average	C.V.
Product-wise					
Beverages	11	35.91	8.63	64.09	4.84
Food-products	31	33.61	11.37	66.39	5.75
Sugar	22	23.76	27.71	76.24	8.64
Tea	18	48.94	6.68	51.06	6.40
Ownership-Wise					
Private-Foreign	10	33.20	17.66	66.80	8.78
Private-Indian.	72	35.31	11.50	64.69	6.28
Sales-Range-Wise					
Less than Rs. 50 Crores	31	22.45	26.17	77.55	7.58
Rs. 50 Crores-Rs. 500 Crores	45	33.14	12.76	66.86	6.32
Rs.500 Crores and above	6	44.01	20.89	55.99	16.42
Private sector	82	34.90	10.80	65.10	5.79
Public Sector	2	40.34	16.45	59.66	11.12
Food-Processing Industry	84	35.04	10.93	64.96	5.90

C.V. means Coefficient of Variations

or increase if the concept of financing of permanent working capital by long-term sources is to be satisfied. But this does not hold true in food-processing industry in the present study as the amount of net working capital has declined in 1995-

96. The ratio of net working capital to current assets fluctuated over the study period. The trend of this ratio was towards decline particularly after 1993-94. One reason for reduction in the role of long-term funds in the financing of working capital seems to be the sluggishness of capital market. Sluggishness of capital market can be attributed to the prolonged bearish trend in the stock market since September 1994 (RBI, 1995-96). Moreover, annual trend growth rate in net working capital in food-processing industry and in majority of its categories was lower than the annual trend growth rate in total current assets and current liabilities. It resulted in declining proportion of working capital financed by long-term sources.

Within food-processing industry, public sector applied more long-term funds, on an average 40 percent, to finance working capital requirements as compared to private sector where this percentage was 35 percent. This ratio was highest in both the sectors in 1993-94 and after that it started declining. However, this decline was higher in public sector as shown by higher coefficient of variation in public sector.

Comparative analysis of private sector companies on the basis of size shows that large-sized companies employed more long-term funds as compared to medium and small-sized companies. Average share of long-term funds was 44.01, 33.14 and 22.45 percent in large, medium and small-sized companies respectively. It implies that larger the size of the company, higher had been the use of long-term funds, in terms of percentage, for financing of working capital. This may be attributed to differences in cost and formalities involved in raising funds from short-term and long-term sources. Large-sized companies, because of sheer size of operations, can afford more formalities and higher cost involved in long-term funds and thus had higher ratio of long-term funds. Coefficient of variation shows that this ratio fluctuated maximum in small-sized firms followed by large and medium-sized firms. Table 2 further shows that there was not much difference in the philosophy of foreign and Indian companies regarding the use of short-term and long-term funds in the financing of working capital as foreign and Indian companies respectively financed nearly the same proportion, on an average, 33.20 and 35.31 percent of working capital by long-term funds. However, fluctuations in this ratio were more in foreign companies as compared to Indian companies as shown by coefficient of variation.

Among the categories on the basis of product, tea companies financed highest, average 48.94 percent of working capital from long-term sources. It is because of ownership of tea estates by tea companies, as a result of which their requirement to procure raw materials from outside is very less. It results in lower amount of creditors. As creditors is the most important source of short-term funds, less creditors result in lower share of short-term funds and therefore higher share of long-term funds in the financing of working capital as compared to other industries. Sugar industry used relatively the least amount of long-term funds to finance working capital. On an average, 23.76 percent of working capital was financed by long-term funds. Over the years this proportion fell to only 13.77 percent and the fall was marked after 1993-94. Perhaps this was due to change in government policy which eventually caused huge build-up of finished goods stock in sugar industry: In 1994, government placed sugar under Open General. Licence as a result of which imports of cheaper international sugar increased sharply causing lower sales and high finished goods stock in sugar companies in India (Venkataraman, 1999). Sugar companies financed increasing stock of finished goods from short-term bank loans as a result of which proportionate share of long-term sources got reduced. Beverages and food-products financed 35.91 and 33.61 percent respectively from long-term sources. Coefficient of variation was least in tea companies showing minimum fluctuations in the ratio of long-term funds to current assets. This ratio fluctuated most in sugar companies as shown by highest coefficient of variation in their case.

C. *Relative Proportions of Different Short-Term Funds in Financing of Working Capital*

Analysis presented in previous two sections has amply demonstrated that the share of long-term funds in financing the working capital has been declining while the share of short-term liabilities has been rising. The present section attempts at analysing the relative role of various short-term liabilities[8] in financing the working capital. The current liabilities or short-term sources of funds may be grouped into two categories: Internal and External.

Internal Short-Term Sources of Funds

Internal short-term sources include provision for taxes, provision for dividend and other short-term provisions like employees' compensation fund. These are cost free and formalities free source. Therefore, it should be used to the fullest possible extent. However, its availability to a large extent depends on profitability. Table 3 shows the role played by internal short-term sources in the

Table III

Ratio of short term internal funds to current assets in the selected companies

(In percentage)

	Number of Companies	1989-90	1996-97	Average	Coefficient of Variation
Product-wise					
Beverages	11	9.62	7.72	7.31	17.41
Food-products	31	5.28	5.26	5.38	38.46
Sugar	22	7.85	2.80	4.00	42.23
Tea	18	24.16	11.53	16.88	31.93
Ownership-Wise					
Private-Foreign	10	16.13	12.13	12.57	38.50
Private-Indian	72	10.63	4.77	7.14	29.99
Sales-Range-Wise					
Less than Rs. 50 Crores	31	14.53	5.82	10.73	35.04
Rs. 50 Crores-Rs. 500 Crores	45	12.36	5.27	8.22	34.52
Rs.500 Crores and above	6	8.77	7.33	7.07	26.48
Private sector	82	11.70	5.96	8.20	31.43
Public Sector	2	9.37	3.44	8.62	69.82
Food-Processing Industry	84	11.60	5.93	8.22	31.63

Internal Short term funds include tax provision, dividend provision and other short term provisions.

financing of working capital. It shows that on an average 8.22 per cent of working capital needs in food-processing industry was financed by current provisions. It was highest in 1990-91 i.e., 12.13 per cent, after which it declined continuously to 5.3 per cent in 1995-96 due to reduced profitability over this period. In 1996-97, situation improved slightly.

Public sector financed, on an average, slightly higher 8.62 percent of working capital needs from this source as compared to private sector where this percentage was 8.2. However, in public sector it was subject to wide fluctuations from 14.32 percent in 1992-93 to 0 percent in 1993-94. The high coefficient of variation substantiates this observation. Over the years the share of internal short-term sources has been falling in both the sectors.

It may also be observed from Table III, as the size of the company within private sector increases the average share of this source in financing of working capital has been falling. Average ratio of short-term sources to current assets was 10.73, 8.22 and 7.07 percent for small, medium and large-sized companies respectively. Small-sized companies tried to employ this source to the fullest possible extent. This is perhaps because of limited access of small-sized companies to other sources of long-term funds. However, as large-sized companies were more profitable, it is expected that they should use this particular source to a larger extent. Foreign companies utilised more internal sources to a greater extent than Indian companies throughout the sample period. This may, to some extent, be attributed to higher profitability of foreign companies. The share of short-term internal sources was more volatile in case of foreign companies as compared to Indian companies. On the basis of product, tea companies financed on an average as high as 16.88 percent of working capital from this source while sugar companies financed only 4 percent of working capital from internal short-term sources. Beverages and food-products financed 7.31 and 5.38 percent respectively from this source. Coefficients of variation show that this ratio fluctuated highest in sugar industry followed by food-products, tea and beverages.

Percentage share of dividend provision, tax provision and other short-term provisions separately in financing of working capital shows that tax provision ranked first in the financing of current assets, followed by dividend provision and then other provisions. A careful scrutiny reveals that tax provision played more significant role than dividend provision. It is probably because of legal obligation of firms to pay income tax in case of profits and hence make provision for tax. While payment of dividend is optional. But, generally when once dividend is declared, companies try to maintain it. Therefore, dividend provision in absolute terms showed a steady trend with very slight decline here or there. The amount of tax provision showed wide fluctuations.

External Short-Term Sources of Funds External short-term sources of funds include trade credit, short-term bank loans, other short-term liabilities like outstanding expenses, short-term loans from other than banks, short-term securities like commercial paper etc. It is the most important source in as much as it accounts for more than 50 percent of gross working capital. Following discussion analyses the relative contributions of two important external sources namely trade credit and short-term bank credit. These two sources together account for about 47 percent of gross working capital and more than 82 percent of external short-term sources themselves.

Trade Credit Trade credit is one of the primary sources of funds to finance inventories. It is a spontaneous source as it is available in the natural course of business. It does not involve cost, if used wisely, like making payment on the last day of the credit period. But it is available only in the form of goods or services. Percentage share of trade credit in financing of working capital is presented in Table IV.

Table 4 shows that food-processing industry financed, on an average 25.52 percent of working capital from this source only and the trend was towards the increasing use of this source particularly after 1993-94. This trend can be noticed for almost all the categories. Public sector used trade creditors very hesitantly as compared to private sector, average being 10.79 and 25.85 percent respectively. Moreover, use of this source in the public sector was subject to wide fluctuations from 23.34 percent in 1991-92 to 0 percent in 1993-94. The fluctuations get reflected in very high coefficient of variation in public sector. It implies that public sector could not appreciate the use of this source of funds to finance working capital. Private sector applied increasing use of this source from 25.13 percent in 1989-90 to 28.34 percent in 1996-97. Lower coefficient of variation in this sector shows constant use of this source.

Table IV

Ratio of trade credit to current assets in the selected companies

(In percentage)

	Number of Companies	1989-90	1996-97	Average	Coefficient of Variation
Product-wise					
Beverages	11	17.94	29.99	28.27	15.91
Food-products	31	29.89	33.24	29.65	6.57
Sugar	22	29.25	29.53	27.77	8.38
Tea	18	19.66	15.33	16.86	10.53
Ownership-Wise					
Private-Foreign	10	39.36	37.45	36.29	5.81
Private-Indian	72	21.55	26.57	23.33	8.64
Sales-Range-Wise					
Less than Rs. 50 Crores	31	28.63	28.40	26.88	13.87
Rs. 50 Crores-Rs. 500 Crores	45	25.27	27.46	25.60	7.96
Rs.500 Crores and above	6	23.05	30.01	25.84	14.61
Private sector	82	25.13	28.34	25.85	6.35
Public Sector	2	2.00	6.07	10.79	72.33
Food-Processing Industry	84	24.12	28.05	25.52	6.87

Table IV shows that the role of trade credit in financing of working capital exhibited a mixed trend in the categories formed on the basis of size in the private sector. Till 1991-92, small-sized companies made maximum use of this source followed by medium and large-sized companies. It could possibly be due to limited access of small-sized companies to long-term sources of funds. However, from 1993-94 onwards, large-sized companies used this source maximum. Large-sized companies because of their large size tend to enjoy better creditworthiness and are often in a better position to get more credit. However, average percentage share of creditors to current assets was highest in small-sized companies at 26.88 percent followed by large-sized companies, 25.84 and medium-sized companies, 25.60 percent.

On the basis of ownership, foreign companies employed this source, average being 36.29 percent, which is very high as compared to Indian companies, 23.33 percent. In fact in comparison with the companies in other categories also, foreign companies had a greater share of trade creditors throughout the study-period. Not only this, fluctuations in this ratio were the least in this sector. It appears that foreign companies attempted to employ this source continuously to the fullest possible extent. It is perhaps because of international reputation and creditworthiness associated with foreign companies as a result of which suppliers are willing to give more credit to these companies. However, the performance of foreign companies seems to be undergoing a change in this regard as over the study period, the contribution of this source has slightly reduced in foreign companies. Indian companies seem to be attempting to increase their reliance on trade creditors to finance working capital as is manifest in the fact that there was 25 percent increase in the share of this source over the study-period in case of these companies.

Comparison of private sector companies on the basis of product shows that tea industry used this source, on an average to the extent of 16.86 percent which is slightly higher than half the proportion used by other industries. It may be so because tea estates which supply their raw materials are mostly owned by tea companies themselves thereby obviating the need to procure raw materials from outside. This results in lower quantum of creditors and hence lower ratio of creditors to current assets. So far as other products are concerned, food-products used this source most followed by beverages and sugar, average being 29.65, 28.27 and 27.77 percent respectively. Over the study period, the importance of this source has declined in tea and improved in beverages, food-products and sugar. This ratio varied maximum in beverages followed by tea, sugar and food-products.

One important finding of the analysis is that over the study period, food-processing industry financed increasing proportion of current assets from trade credit. It was because of higher annual trend growth rate in creditors as compared to working capital.

Short-Term Bank Credit Commercial banks are the primary institutional source of providing short-term credit to trade and industry. One of the major objectives of commercial banks is to provide short-term credit to industry. In the present study, nearly 79 percent of total bank credit to food-processing industry was of the short-term nature. Out of 84 sample companies, there was not even a single company, which did not use this source throughout the study period. Role of short-term bank credit in working capital financing is given in Table V.

On an average, short-term bank credit financed 22.15 percent of working capital needs in food-processing industry as a whole. As compared to trade credit, on an average, 25.52 percent, short-term bank credit stood second in terms of financing the working capital needs. Over the study period, contribution of bank credit has almost doubled. It became even more important than trade credit from 1994-95 onwards. Appreciable increase has taken place in 1994-95 over 1993-94 in the percentage financing of current assets by short-term bank credit in food-processing industry and its different categories

Table V

Ratio of short term bank credit to current assets in the selected companies

(In Percentage)

	Number of Companies	1989-90	1996-97	Average	Coefficient of Variation
Product-wise					
Beverages	11	13.01	14.13	14.92	18.89
Food-products	31	20.26	22.05	22.66	14.19
Sugar	22	15.65	45.92	33.89	28.54
Tea	18	7.44	21.59	13.92	40.18
Ownership-Wise					
Private-Foreign	10	11.96	11.90	13.98	39.87
Private-Indian	72	15.16	31.64	24.56	22.24
Sales-Range-Wise					
Less than Rs. 50 Crores	31	17.50	35.69	30.09	18.95
Rs. 50 Crores-Rs. 500 Crores	45	14.10	31.41	22.91	25.36
Rs.500 Crores and above	6	14.11	20.81	18.72	32.46
Private sector	82	14.54	28.43	22.51	23.23
Public Sector	2	5.12	5.62	4.68	44.50
Food-Processing Industry	84	14.13	28.13	22.15	23.90

except beverages. It shows that the industry attempted to compensate the reduced availability of long-term funds from 1994-95, by availing of short-term bank loans.

Among various categories of food-processing industry, public sector financed on an average only 4.68 percent of working capital from short-term bank credit as compared to 22.51 percent in private sector. In private sector, role of this source almost doubled from 14.54 percent in 1989-90 to 28.43 percent in 1996-97. However, coefficient of variation in private sector was lower than that of public sector showing steady increase in this ratio over the study-period in private sector.

Comparative analysis of private sector companies on the basis of size shows that small-sized companies employed this source much more than medium-sized and large-sized companies throughout the study-period, average being 30.09, 22.91 and 18.72 percent respectively. Small-sized companies used this source extensively because of limited access to capital market due to small size, and limits on the availability of funds from trade credit. Fluctuations were also least in small-sized companies as shown by lower coefficient of variation in these companies. On the basis of ownership, Indian companies financed on an average 24.56 percent of working capital from this source as compared to 13.98 percent in foreign companies. Over the study period, role of short-term bank credit in foreign companies remained almost the same. In Indian companies it has doubled. It was because of sizeable reduction in availability of funds from long-term sources and short-term internal sources. Sugar companies financed largest share of working capital on an average 33.89 percent, from short-term bank credit. Analysis further shows that short-term bank credit played much more important role than net working capital and trade credit in sugar. Over the study period, share of short-term bank credit in sugar companies tripled from 15.65 percent in 1989-90 to 45.92 percent in 1996-97. It implies that in 1996-97, almost half of working capital was financed from this source only. It was because of fast increase of inventories and it seems that a major portion of increase in inventories was being financed from bank credit. As short-term bank credit consists of regular payment of interest and short repayment schedule also, presence of such a large size of short-term bank credit in sugar industry, was not a healthy sign. It affects profitability adversely. Food-products and beverages financed on an average 22.66 and 14.92 percent respectively from this source and there was no remarkable growth in this ratio over the study period. Tea companies financed 14 percent from this source and it has increased from 7.44 percent in 1989-90 to 21.59 in 1996-97.

Commercial Paper Following the Vaghul Committee's recommendations, RBI in March, 1989 announced its decision to introduce a scheme for the issuance of commercial paper by corporates albeit with stringent restrictions on the type of company[9] that could issue commercial paper. As a result, in the recent past, commercial paper has been introduced as a source of short-term financing. Commercial paper consists of short-term unsecured promissory notes issued by corporate borrowers directly to investors in the money market. The commercial paper market has the advantage of giving highly rated corporate borrowers cheaper funds than they could obtain from the banks while still providing institutional investors with higher interest earnings than they could obtain from the banking system. "The issue of commercial paper imparts a degree of financial stability to the system as the issuing company has an incentive to remain financially strong. The possibility of raising short-term finance at relatively cheaper cost would provide an adequate incentive for the corporate clients to improve their financial position and in the process the financial health of the corporate sector should show visible improvement" (RBI, 1987).

There has been sizeable growth in the primary market for commercial paper with the outstanding of commercial paper increasing from Rs. 64.7 crores in end-June 1991 to Rs. 646 crores as at the end of March 1997 (RBI, 1996-97). Therefore, the role played by commercial paper in providing short-term funds to finance working capital in food-processing industry in India is also analysed here.

In the food-processing industry, commercial paper as a source of funds was used only from 1993-94 onwards. Our data shows that the source is yet to gain popularity in the industry. Only 0.16 percent of working capital was financed from this source and in the latest year 1996-97, it came down to 0.07 percent. Company-wise analysis shows that out of eighty-four companies included in the sample, only five companies have used this source and none was from public sector. Four companies issued commercial paper in 1993-94 and only one in 1994-95. These companies belong to food-products and sugar and were large and medium-sized companies. Small-sized companies did not employ this source at all. The sparing use of this source is primarily because of the stringent Reserve Bank of India regulations.

Apart from trade credit and short-term bank credit, another source includes loans and advances obtained from sources other than banks, outstanding expenses and other current liabilities. The role played by these sources in the financing of working capital in food-processing industry is quite low on an average only 8.91 percent. Over the years, it has reduced from 12.22 percent in 1989-90 to 9.12 percent in 1996-97. In public sector, this source played very significant role, financing on an average 35.56 percent of current assets with wide fluctuations throughout the study period.

Conclusion

The major conclusions that emerge from the above analysis can be summarised as follows:

- Companies in food-processing industry have been using moderate approach towards financing of working capital i.e. both long-term as well as short-term sources of funds are used for financing of working capital. However, the share of long-term funds has been falling over the years. It seems to be the effect of sluggishness of capital market. Sluggishness of capital market can be attributed to the prolonged bearish trend in the stock market since Sep. 1994. As far as short-term sources of funds are concerned, the industry in general has tended to rely more on external short-term sources than the internal sources. Conventional sources of short-term bank credit and trade credit have been relied upon to a much greater extent than the other sources. The new and non-conventional sources of finance like commercial paper are yet to make a mark in this regard.

- Within food-processing industry, public sector applied relatively more long-term funds to finance working capital than private sector. Public sector used trade creditors very hesitantly financing only 10.79 percent of working capital requirements from this source as compared to 25.85 percent in private sector. Public sector financed only 4.68 percent as compared to 22.51 percent of working capital in private sector from short-term bank credit.

- A scrutiny of private sector companies on the basis of size showed that small-sized companies assumed highest risk in financing of working capital followed by medium-sized and large-sized companies. Large-sized companies financed 44.01 percent of working capital from long-term funds as compared to 22.45 percent in small-sized companies. It may be because of differences in cost and formalities involved in raising funds from short-term and long-term sources. Large-sized companies due to their large-size, can afford more formalities and higher cost involved in raising funds from long-term sources and thus had greater role of long-term funds in the financing of working capital. Regarding the use of short-term internal sources, our results showed that the larger the size of the company, the smaller the share of these sources in the financing of working capital. Small-sized companies attempted to employ this source to the fullest possible extent. This has been because of limited access of small-sized companies to the sources of long-term funds. Average percentage ratio of creditors to current assets was highest in small-sized companies followed by large-sized companies and medium-sized companies. Small-sized companies used short-term bank credit extensively because of limited access to capital market due to small-size, and limits on the availability of funds from trade credit.

There was not much difference in the risk assumed in the financing of working capital by foreign and Indian companies. Foreign companies utilised more short-term internal sources than Indian companies. Among various categories of companies, trade creditors provided highest quantum of funds, 36.29 percent of working capital, in foreign companies. Moreover, fluctuations in this ratio were the least in this sector. It shows that foreign companies employed this source to the fullest possible extent. It is likely that due to the international reputation and creditworthiness associated with foreign companies, the suppliers give more credit to these companies. Indian companies financed 23.33 percent from this source i.e. trade credit. Indian companies financed 24.56 percent of working capital as compared to 13.98 percent in foreign companies from short-term bank credit.

Classification of private sector companies on the basis of product revealed that sugar companies assumed the highest risk in the financing of working capital and tea companies the lowest. Sugar company financed only 24 percent of working capital from long-term sources and in later years it came down to 14 percent. It could, to some extent be attributed to continuously increasing inventories. As recourse to new issues market became difficult particularly after 1994-95, sugar industry relied heavily on short-term bank loans to finance increasing inventories resulting in higher proportions of short-term funds. Over the study-period, risk assumed by sugar and food-product companies showed an increasing trend, risk assumed by beverages and tea companies has reduced. Tea companies financed as high as 17 percent of working capital while sugar companies only 4 percent from short-term internal sources. The difference could be explained by the large gap in the profitability of tea and sugar companies. Tea industry used trade credit as a source of financing working capital to the extent of 16.86 percent which is nearly half the percentage used in other industries. Less use of trade credit in case of tea companies is explained by the fact that most tea companies own tea estates which reduces the requirement to procure raw materials from outside substantially. It has resulted in lower quantum of creditors and hence lower ratio of creditors to current assets. Food-products used this source most followed by beverages and sugar. Sugar companies financed largest share of working capital, i.e., 33.89 percent of working capital from short-term bank credit. In sugar, short-term bank credit played much more important role than net working capital and trade credit. It was because of fast increase of inventories and a major portion of increase in inventories was being financed from short-term bank credit. As short-term bank credit consists of regular payment of interest and has short repayment schedule also, presence of such a large size of short-term bank credit in sugar industry is not a healthy sign.

To sum up, Companies in the food-processing industry have employed both long-term and short-term sources of funds to finance working capital requirements. But, over the years, firms have increasingly been relying on short-term funds particularly short-term bank credit and trade credit.

Footnotes

[1] A company with more than one line of business activity is classified under the industry from which it derived more than half of its sales (Reserve Bank of India, 1988-89 to 1990-91). Same criterion is used in CMIE Prowess Package

[2] "The level of operational cash needs depends primarily on the scope of the business and its type. A business whose sales are relatively large compared to assets, normally requires larger bank balances to support these sales than a business of similar asset size but with smaller sales. Generally the larger the sales, the larger is the amount of money tied up each day as uncollected funds in cash receipts. Many corporations employ rule of thumb and maintain cash balances at some multiplier of average daily sales" (Sagan, 1955).

[3] These categories are formed on the basis of categories given in Reserve Bank of India, 1998.

[4] The word 'Foreign Company' means company other than banking company, in which non-resident interest exceeds forty percent (FERA, 1973).

[5] Risk, here, implies the risk of not meeting all current obligations as they mature. Risk is defined as the probability of technical insolvency (Vanhorne, 1969).

[6] Permanent current assets represent the minimum level of current assets required all the time for minimum level of operations.

[7] No doubt, this issue is directly related with risk measure in financing of working capital. As R_F is current liabilities/current assets, if R_F is multiplied by 100, it would give percentage share of short-term funds in working capital financing. And if this is subtracted from 100, result would be the share of long-term funds in financing of working capital. However, it is studied here, separately so as to have a quick idea of relative role of short-

term and long-term funds in the financing of working capital.

[8] Since use of long-term funds in financing the working capital is out of a common pool of long-term funds, it is not possible to isolate the relative contribution of different sources of long-term funds in financing the working capital. Hence, this exercise has not been attempted.

[9] RBI initially required the companies issuing commercial paper, should have tangible net worth of Rs. 10 crores, that working capital limits of the company , be not less than Rs. 25 crores, that the company must have a minimum credit rating of P1+.

References

Agrawal N. K. 1983. *Management of Working Capital*, Sterling Publishers Private Limited, New Delhi, p. 94.

Business Line. 1999. "FDI in food processing sector at Rs. 9000 cr.", November. 3, p. 13.

Dahejia Committee Report. 1969. A summary of the report is available in *RBI Bulletin*, November 1969, pp.1792-98.

Ernest W. Walker. 1974. *Essentials of Financial Management*, Prentice Hall of India Private Limited, New Delhi, p. 74.

Government of India. Ministry of Food-Processing Industries. 1994-95. *Food-Processing Industries in India – Investment Opportunities*, p. 18.

Kaveri V. S. 1985. "Financing of Working Capital in Indian Industry", *Economic and Political Weekly*, Vol. XX, No. 35, August, pp. M123- M128.

National Council of Applied Economic Research. 1966. *Structure of Working Capital*, New Delhi.

Reserve Bank of India. 1987. *Working Group on Money Market* (Chairman: N. Vaghul).

Reserve Bank of India. 1988-89 to 1990-91. *Corporate Finance Statistics, Selected Financial and other Ratios, Public Limited Companies*, Bombay.

Reserve Bank of India. 1995-96. *Report on Currency and Finance*, Bombay, p. VI-8.

Reserve Bank of India. 1996-97. *Report on Currency and Finance*, Bombay, p. VI-3.

Reserve Bank of India. 1998. "Finances of Public Limited Companies, 1995-96", *Reserve Bank of India Monthly Bulletin*, Bombay, November, pp. 873-912.

Sagan John. 1955. "Towards a Theory of Working Capital Management", *The Journal of Finance*, May, pp. 124-125

Vanhorne J. C. 1969. "A Risk-Return Analysis of a Firm's Working Capital Position", *The Enginbering Economist*, Winter, Vol. 14, NO. 2, p. 72.

Venkataraman Latha. 1999. "Levy price hike delays irks sugar industry", *Business Line*, September 27, p.8.

Wessel Robert H. 1961. *Principles of Financial Analysis-A Study of Financial Management*, The Macmillan Company, New York, p. 95.