

Research Article

Cash conversion cycle of sugar industry in India

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SUMMARY : Operating cycle and cash conversion cycle are the important cycle important component in liquidity management of any firm. Cash conversion cycle adds a new dimension and provides a complete insight into the management and liquidity analysis. It reflects the length of time it takes a company to sell inventory, collects receivables and pays its bills. Companies that have trouble in collecting their receivables or have long inventory turnover period can run into liquidity problems because they would find it hard to meet their obligations. Because business operations differ in each industry, it is always more useful to compare companies within the same industry. Hence, it is necessary to analyze the operating cycle and cash conversion cycle of the sugar firms. The data were collected during 2007-12 for forty sugar companies in India and used for the analysis of the study.

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Days in inventory
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BACKGROUND AND OBJECTIVES

The sugar industry is one of the world's major agro-based industries. Sugar is produced in over 100 countries worldwide. Around 75 per cent of the global sugar production comes from the top 10 producers, of which the top three producers are Brazil, India and the European Union. These countries contribute 40 per cent to the total production of sugar. India is the second largest producer of sugar after Brazil, with more than 45 millions of sugarcane growers in the country. The Indian sugar industry uses sugarcane in the production of sugar and hence, maximum number of the companies are likely to be found in the sugarcane growing states of India including Uttar Pradesh, Maharashtra, Gujarat, Tamil Nadu, Karnataka and Andhra Pradesh. Area under sugarcane is highest in Uttar Pradesh followed by Maharashtra, Karnataka, Tamil Nadu, Bihar and so on.

Indian share in the world's total production has shown an increasing trend in the past few years and currently India is contributing to around 16 per cent. The sugar industry's contribution, to the Indian economy is presently enormous with

its total turnover of over Rupees fifty five thousand crores (Rupees five hundred fifty billion) or 12 billion US Dollars per year (www.coopsugar.org). The country has been indulged in the production of cane sugar rather than beet sugar as India's tropical weather conditions support sugarcane production. The consumption level of sugar in India reaches up to 18.5 million tons annually making India the largest consumer of sugar in the world. This demand and consumption level is still showing a rising trend. The government largely controls the demand and supply of sugar in India and the prices fluctuate according to the government releases of sugar (www.sugarindia.com).

The cash conversion cycle (CCC) measures the time-in days-that it takes for a company to convert resource inputs into cash flows. In other words, the cash conversion cycle reflects the length of time it takes a company to sell inventory, collects receivables, and pays its bills. As a rule, the lower the number, the better. This is because, as the cash conversion cycle shortens, cash becomes free for a company to invest in new equipment or infrastructure or other activities to boost investment return. Also, the

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cash conversion cycle can be useful in comparing close competitors and assessing management efficiency.

RESOURCES AND METHODS

Forty sugar companies in India which are listed in Bombay Stock Exchange were selected for the analysis of cash conversion cycle. Six years periods from 2007 to 2012 was considered to analyze the cash conversion cycle of sugar mills in India. This study is based on secondary data which are available from the published and unpublished reports of the sugar companies. The data were collected from Centre for Monitoring Indian Economy (CMIE) and PROWESS database, Mumbai.

Operating cycle :

Operating cycle and cash conversion cycle are the important cycle important component in liquidity management. While the operating cycle is made up of two components *viz.*, days in receivables and days in inventory, the cash conversion cycle requires one more component *i.e.*, days in accounts payable. Operating cycle is obtained by adding days in inventory and days in accounts payable, where as cash conversion cycle is calculated by subtracting accounts payable days from the operating cycle.

$$\text{Operating cycle} = \text{Days in inventory} + \text{Days in accounts receivable}$$

$$\text{Cash conversion cycle} = \text{Operating cycle} - \text{Accounts payable in days}$$

Inventory conversion period /Days in inventory-Days in inventory denote the average time taken for clearing stocks. This ratio may be unfavourable if it is either too high or too low.

$$\text{Days inventory outstanding (DIO)} = \text{Inventories} / (\text{Sales}/365)$$

Average collection period /Days in accounts receivables - Average collection period indicates the efficiency of the credit and collection of the company and it directly affects the liquidity position of the company.

$$\text{Days Sales Outstanding (DSO)} = \text{Receivables} / (\text{Sales}/365)$$

Average payment period of creditors / Days in accounts payable - Average payment period means the average period taken by the company in making payments to its creditors. It indicates the efficiency of the credit and payment liquidity position of the company and liquidity directly depends on the period.

$$\text{Days payable outstanding (DPO)} = \text{Payables} / (\text{Sales}/365)$$

OBSERVATIONS AND ANALYSIS

The results of the present study as well as relevant discussions have been presented under following sub heads:

Days inventory outstanding of firms in sugar industry :

It measures how quickly inventory flows through the company from purchase to sale. It is an excellent measure of how efficiently a company is managing its inventory. The results of day's inventory outstanding of individual sugars firms are given in Table 1. The average days in inventory outstanding vary from one industry to another. Out of 40 firms, 8 firms such as Triveni sugars, Renuka sugars, Dhampur sugars, Mawana sugars, K.M. sugars, Sakthi sugars, EID parry and Kothari sugars had a lower number of days inventory outstanding which reflected the efficiency in inventory management and better for these firms. The remaining firms such as Riga sugars, Jeypore sugars, Vishnu sugars Shadilal sugars, JK sugars, Ugar sugars, Girdharilal sugars, Rana sugars, Kesar sugars, Uttam sugars, KCP sugars and Belapur sugars had larger number of days in inventory outstanding which affects the state of inventory position in sugar industry.

It suggested that the companies strive to bring down the level of raw material and finished goods since there is no value added in these stages and the company has to bear the inventory carrying cost. However, the product stays in the work in progress (WIP) stage for the longest time and leads to higher inventory holding. Hence, the company attempts to delay the product differentiation to the last stage of the production process.

Days sales outstanding of firms in sugar industry :

It is a measure of how many days it takes to collect the cash from sales. It is also called as receivables collection period. From Table 1. Belapur sugars, Triveni sugars, Girdharilal sugars, India sugars and EID Parry sugars had higher days sales outstanding period which reflected the extent of a company's control over credit and collections. It indicated that these firms have greater the probability of delinquencies in accounts receivable. Vishnu sugars, JK sugars, Oudh sugars, Dwarikesh sugars, Venus sugars, Piccadilly sugars and Uttam sugars had lower sales outstanding indicating that these firms were actively maintaining and monitoring accounts receivable to ensure that customers are paying in a timely manner. Out of 40 firms, 8 firms had lower days in sales outstanding period which reflected the efficiency in receivables collection of these firms.

Days payable outstanding of firms in sugar industry :

Days payable outstanding is the average numbers of days it takes a company to pay its vendor invoices. Table 1 shows the list of individual sugar firms days payable outstanding. From that out of 40 firms, 6 firms such as Riga sugars, Jeypore sugars, Ugar sugars, JK sugars, India sugars and KCP sugars had higher payable outstanding period indicating that more cash a company keeps on hand, but the

Table 1: Cash conversion cycle of firms in sugar industry

Sr. No.	Company	DIO	DSO	DPO	OC	CCC
1.	Dhampur sugars	77.11	19.92	52.45	97.03	44.58
2.	Dwarikesh sugars	135.81	3.21	48.77	139.02	90.26
3.	K.M. sugars	79.86	11.84	36.45	91.70	55.24
4.	Kesar sugars	206.11	12.84	66.98	218.95	151.97
5.	Mawana sugars	79.14	13.36	47.35	92.50	45.15
6.	Monnet sugars	186.41	65.56	23.15	251.97	228.82
7.	Piccadilly sugars	148.90	6.98	90.33	155.88	65.56
8.	Rana sugars	201.60	42.14	39.55	243.74	204.19
9.	Uttam sugars	225.82	7.21	66.79	233.03	166.24
10.	SEBC sugars	163.22	42.86	88.41	206.08	117.67
11.	Bajaj Hindusthan sugars	127.77	15.77	82.93	143.54	60.61
12.	Balrampur Chini mills	167.93	19.48	51.70	187.41	135.71
13.	Jeypore sugars	322.65	17.21	302.33	339.86	37.53
14.	Riga sugars	266.81	22.63	125.70	289.44	163.74
15.	Simbhaoli sugars	127.12	29.22	86.15	156.34	70.19
16.	Shadilal sugars	238.90	11.29	39.70	250.19	210.48
17.	Triveni sugars	99.29	58.61	48.21	157.90	109.67
18.	Upper ganesh sugars	172.08	16.55	65.47	188.63	123.15
19.	Venus sugars	184.89	2.62	18.67	187.51	168.84
20.	Vishnu sugars	372.84	3.74	90.08	376.58	286.50
21.	Belapur sugars	514.58	247.68	3.26	762.26	759.00
22.	Girdharilal sugars	309.27	62.78	50.32	372.05	321.72
23.	India sugars	124.16	84.65	133.35	208.81	75.47
24.	JK sugars	233.67	8.63	141.01	242.30	101.29
25.	Oudh sugars	191.63	11.00	76.39	202.63	126.24
26.	Parry's sugars	116.40	45.05	95.68	161.45	65.78
27.	Ravangaon sugars	184.74	10.31	8.08	195.05	186.97
28.	Renuka sugars	94.44	25.38	39.80	119.82	80.03
29.	Sri Chamundeswari sugars	106.26	18.50	64.02	124.76	60.74
30.	Ugar sugars	227.82	32.72	144.29	260.54	116.26
31.	Andhra sugars	145.95	32.45	55.54	178.40	122.86
32.	Bannari Amman sugars	183.22	44.78	46.47	228.00	181.53
33.	Dharani sugars	150.38	22.40	74.78	172.78	98.00
34.	Dalmia sugars	173.80	24.86	91.03	198.66	107.63
35.	EID parry sugars	83.16	52.77	66.41	135.93	69.52
36.	Empee sugars	149.89	27.06	45.71	176.95	131.23
37.	KCP sugars	246.79	13.94	112.87	260.73	147.87
38.	Kothari sugars	79.39	15.74	48.93	95.13	46.19
39.	Sakthi sugars	37.08	37.21	54.57	74.29	19.72
40.	Thiru Arooran sugars	143.77	15.73	98.69	159.50	60.81

DIO- Days in inventory outstanding,DSO- Days in sales outstanding, DPO-Days in payable outstanding,OC- Operating cycle,CCC-Cash conversion cycle

less happy its vendors are likely to be. Triveni sugars, Ravalgaon sugars, Renuka sugars, K.M. sugars, Rana sugars, Mawana sugars, Venus sugars, Monnet sugars, Bannari amman sugars, Kothari sugars and Empee sugars had lower accounts payable turnover which indicated that these firms were slow in paying their suppliers.

Comparison of cash conversion cycle of firms in sugar industry :

Cash conversion cycle adds a new dimension and provides a complete insight into the management and liquidity analysis. It reflects the length of time it takes a company to sell inventory, collect receivables and pay its bills. The cash conversion cycle of sugar firms are given in Table 1. Bajaj Hindusthan sugars (60.61), Jeypore sugars (37.53), Simbhaoli sugars (70.19), India sugars (75.47), Parry's sugars (65.78), Dhampur sugars (98.00), K.M. sugars (55.24), Dwariakesh sugars (90.26), Mawana sugars (45.15), Piccadilly sugars (65.56), Sakthi sugars (19.72), Sri Chamundeswari sugars (60.74), EID Parry sugars (69.52), Thire Arooran sugars (60.81) and Kothari sugars (46.19) had lower cash conversion cycle which indicated that shorter cycle which minimizes firm costs. These firms could receive cash in a shorter time and it can be reinvested. Sometimes shorter cycle might restrict sales. Because minimal inventory levels might mean that the company cannot fulfill orders on a timely basis, resulting in lost sales. Thus, it would appear that if the company is experiencing solid sales growth and reasonable profits, its operating cycle components should reflect a high degree of historical consistency.

Riga sugars (163.74), Vishnu sugars (286.50), Shadilal sugars (210.48), Girdharilal sugars (321.72), Venus sugars (168.84), Rana sugars (204.19), Uttam sugars (166.24), Bannari Amman sugars (181.53) and Belapur sugars (759.00) had higher cash conversion cycle which reflected that these firms are taking time to collect cash from the customer in payment for finished goods and paying for inventory. These firms should reduce the cash conversion cycle because greater the need for interim financing to pay for the firm's

materials needs.

Conclusion :

When comparing the cash conversion cycle across companies, it is important to compare companies within the same industry. Otherwise, the analysis could not be helpful. For the better management of the firms would consider the collection of receivables in time, lower inventory turnover and payables. Cash to cash conversion cycle of the firms will be both positive and negative values. A positive value indicates the length of the time that cash remains tied up in inventory and receivables until receiving payment from customers. Negative number shows how many days the firm holds cash from a sale before supplier payment is required. Every firm should reduce its cash to cash cycle to increase the liquidity and profitability.

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