



FINANCIAL RATIO ANALYSIS



Course- FIN 410
Section - 02
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Submitted To

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THE BALANCE SHEET

Advanced Chemical Industries Limited Statement of Financial Position

Year	2020	2021	2022	Trend Line
Non Current Assets				
Property , plant and equipment	26,68,24,30,648	29,82,17,15,259	30,43,97,51,634	
Right - of - use assets	1,50,55,62,594	1,49,79,52,751	1,72,01,25,531	
Equity - accounted investees	1,66,88,21,756	1,92,79,12,599	2,15,79,43,932	
Other investments	77,73,45,035	81,06,05,689	82,22,90,382	
Intangible assets	11,56,83,193	9,39,40,460	8,22,96,893	
Biological assets	1,09,14,869	1,77,78,109	3,13,03,261	
Deferred tax assets	39,89,06,932	44,80,04,545	70,98,41,617	
Total Non - current assets	31,15,96,65,028	34,61,79,09,411	35,96,35,53,250	
Current Assets				
Inventories	12,54,56,71,650	17,34,99,49,096	20,32,32,49,620	
Trade receivables	12,21,29,18,829	12,01,55,38,374	12,77,22,53,271	
Other receivables	67,01,19,195	81,54,33,268	83,25,00,769	
Inter - company receivables	95,24,610	95,85,811	56,12,894	
Advances , deposits and prepayments	2,08,20,01,900	2,30,09,41,553	2,51,24,97,990	
Short term investments	1,07,00,00,000	1,15,83,69,377	-	
Cash and cash equivalents	1,81,29,21,593	3,83,19,28,920	3,20,87,57,234	
Current assets	30,40,31,57,777	37,48,17,46,399	39,65,48,71,778	
Total Assets	61,56,28,22,805	72,09,96,55,810	75,61,84,25,028	
Equity				
Share capital	57,37,29,556	63,11,02,500	72,57,67,870	
Share premium	40,23,10,367	92,87,07,434	1,23,10,94,113	
Reserves	4,71,12,54,886	7,08,46,48,991	6,95,04,87,337	
Retained earnings	2,21,13,43,343	1,62,03,84,642	1,39,73,76,137	
Equity attributable to the owners of the company	7,89,86,38,152	10,26,48,43,567	10,30,47,25,457	
Non - controlling interest	-60,86,60,714	83,82,07,492	1,89,99,66,715	
Total equity	7,28,99,77,438	11,10,30,51,059	12,20,46,92,172	
Non Current Liabilities				
Employee benefits	1,36,70,18,271	1,46,28,75,059	1,58,31,57,153	
Long term bank loan	8,27,17,67,701	7,84,37,47,173	6,40,89,15,381	
Lease liabilities	1,18,05,84,553	1,16,12,43,121	1,38,47,17,849	
Total Non - current liabilities	10,81,93,70,525	10,46,78,65,353	9,37,67,90,384	
Current Liabilities				
Bank overdraft	4,44,08,93,673	3,54,39,43,716	5,17,71,25,582	
Loans and borrowings	27,28,82,88,273	34,51,64,21,376	35,27,15,95,114	
Lease liabilities - current portion	40,20,88,291	43,40,23,303	38,24,70,526	
Trade payables	4,89,73,72,492	4,54,06,56,791	5,51,83,27,175	
Other payables	5,91,57,61,374	7,30,39,09,434	7,70,27,34,053	
Unclaimed dividend account	17,35,31,474	13,11,77,139	8,80,81,841	
Current tax liabilities	33,55,39,266	5,86,07,638	-10,33,91,819	
Total Current liabilities	43,45,34,74,842	50,52,87,39,398	54,03,69,42,472	
Total liabilities	54,27,28,45,367	60,99,66,04,751	63,41,37,32,856	
Total equity and liabilities	61,56,28,22,805	72,09,96,55,810	75,61,84,25,028	

Common Size Analysis of Balance Sheet

Vertical Common Size Analysis

Year	2020	2021	2022	Trend Line
Non Current Assets				
Property , plant and equipment	43%	41%	40%	
Right - of - use assets	2%	2%	2%	
Equity - accounted investees	3%	3%	3%	
Other investments	1%	1%	1%	
Intangible assets	0%	0%	0%	
Biological assets	0.018%	0.025%	0.041%	
Deferred tax assets	1%	1%	1%	
Total Non - current assets	51%	48%	48%	
Current Assets				
Inventories	20%	24%	27%	
Trade receivables	20%	17%	17%	
Other receivables	1%	1%	1%	
Inter - company receivables	0%	0%	0%	
Advances , deposits and prepayments	3%	3%	3%	
Short term investments	2%	2%	0%	
Cash and cash equivalents	3%	5%	4%	
Current assets	49%	52%	52%	
Total Assets	100%	100%	100%	
Equity				
Share capital	1%	1%	1%	
Share premium	1%	1%	2%	
Reserves	8%	10%	9%	
Retained earnings	4%	2%	2%	
Equity attributable to the owners of the company	13%	14%	14%	
Non - controlling interest	-1%	1%	3%	
Total equity	12%	15%	16%	
Non Current Liabilities				
Employee benefits	2%	2%	2%	
Long term bank loan	13%	11%	8%	
Lease liabilities	2%	2%	2%	
Total Non - current liabilities	18%	15%	12%	
Current Liabilities				
Bank overdraft	7%	5%	7%	
Loans and borrowings	44%	48%	47%	
Lease liabilities - current portion	1%	1%	1%	
Trade payables	8%	6%	7%	
Other payables	10%	10%	10%	
Unclaimed dividend account	0%	0%	0%	
Current tax liabilities	1%	0%	0%	
Total Current liabilities	71%	70%	71%	
Total liabilities	88%	85%	84%	
Total equity and liabilities	100%	100%	100%	

Common Size Analysis of Balance Sheet

Horizontal Common Size Analysis

Year	2020	2021	2022	Trend Line
Non Current Assets				
Property , plant and equipment	100%	112%	114%	
Right - of - use assets	100%	99%	114%	
Equity - accounted investees	100%	116%	129%	
Other investments	100%	104%	106%	
Intangible assets	100%	81%	71%	
Biological assets	100%	163%	287%	
Deferred tax assets	100%	112%	178%	
Total Non - current assets	100%	111%	115%	
Current Assets				
Inventories	100%	138%	162%	
Trade receivables	100%	98%	105%	
Other receivables	100%	122%	124%	
Inter - company receivables	100%	101%	59%	
Advances , deposits and prepayments	100%	111%	121%	
Short term investments	100%	108%	0%	
Cash and cash equivalents	100%	211%	177%	
Current assets	100%	123%	130%	
Total Assets	100%	117%	123%	
Equity				
Share capital	100%	110%	126%	
Share premium	100%	231%	306%	
Reserves	100%	150%	148%	
Retained earnings	100%	73%	63%	
Equity attributable to the owners of the company	100%	130%	130%	
Non - controlling interest	100%	-138%	-312%	
Total equity	100%	152%	167%	
Non Current Liabilities				
Employee benefits	100%	107%	116%	
Long term bank loan	100%	95%	77%	
Lease liabilities	100%	98%	117%	
Total Non - current liabilities	100%	97%	87%	
Current Liabilities				
Bank overdraft	100%	80%	117%	
Loans and borrowings	100%	126%	129%	
Lease liabilities - current portion	100%	108%	95%	
Trade payables	100%	93%	113%	
Other payables	100%	123%	130%	
Unclaimed dividend account	100%	76%	51%	
Current tax liabilities	100%	17%	-31%	
Total Current liabilities	100%	116%	124%	
Total liabilities	100%	112%	117%	
Total equity and liabilities	100%	117%	123%	

THE INCOME STATEMENT

Advanced Chemical Industries Limited Statement of Profit and Loss

Year	2020	2021	2022	Trend Line
Revenue	69,47,52,87,805	80,74,84,03,165	96,57,16,41,497	
Cost of sales	-49,99,17,73,844	-59,03,26,86,076	-72,71,77,72,659	
Gross profit	19,48,35,13,961	21,71,57,17,089	23,85,38,68,838	
Administrative , selling and distribution expenses	-15,41,37,33,052	-16,46,70,45,135	-17,76,75,65,065	
Other income	26,16,33,957	31,02,98,388	34,77,44,046	
Operating profit	4,33,14,14,866	5,55,89,70,342	6,43,40,47,819	
Share of profit of equity accounted investees	36,70,08,180	47,25,15,593	44,48,50,102	
Net finance costs	-4,57,14,07,759	-3,55,25,75,030	-3,91,32,81,118	
Profit before contribution to WPPF	12,70,15,287	2,47,89,10,905	2,96,56,16,803	
Contribution to WPPF	-22,56,41,786	-29,17,74,335	-33,78,86,688	
Profit / (loss) before tax	-9,86,26,499	2,18,71,36,570	2,62,77,30,115	
Income tax expense				
Current tax expense	-1,68,42,41,935	-1,94,59,97,887	-1,94,25,02,635	
Deferred tax income	46,05,12,750	19,59,24,013	20,77,75,600	
Net Value	-1,22,37,29,185	-1,75,00,73,874	-1,73,47,27,035	
Profit / (loss) after tax	-1,32,23,55,684	43,70,62,696	89,30,03,080	
Profit / (Loss) attributable to				
Equity holders of the company	-1,05,87,58,906	34,71,70,658	37,96,44,188	
Non - controlling interests	-26,35,96,778	8,98,92,038	51,33,58,892	
Net Value	-1,32,23,55,684	43,70,62,696	89,30,03,080	
Earnings Per Share				
Basic and diluted earnings per share	-16.78	5.5	5.23	

Common Size Analysis of Income Statement Vertical Common Size Analysis

Year	2020	2021	2022	Trend Line
Revenue	100%	100%	100%	
Cost of sales	-72%	-73%	-75%	
	0%	0%	0%	
Gross profit	28%	27%	25%	
Administrative , selling and distribution expenses	-22%	-20%	-18%	
Other income	0%	0%	0%	
	0%	0%	0%	
Operating profit	6%	7%	7%	
Share of profit of equity accounted investees	1%	1%	0%	
Net finance costs	-7%	-4%	-4%	
Profit before contribution to WPPF	0%	3%	3%	
Contribution to WPPF	0%	0%	0%	
Profit / (loss) before tax	0%	3%	3%	
Income tax expense	0%	0%	0%	
Current tax expense	-2%	-2%	-2%	
Deferred tax income	1%	0%	0%	
Net Value	-2%	-2%	-2%	
Profit / (loss) after tax	-2%	1%	1%	
	0%	0%	0%	
Profit / (Loss) attributable to Equity holders of the company	0%	0%	0%	
Non - controlling interests	-2%	0%	1%	
Net Value	-2%	1%	1%	
Earnings Per Share				
Basic and diluted earnings per share	-16.78	5.5	5.23	

Common Size Analysis of Income Statement Horizontal Common Size Analysis

Year	2020	2021	2022	Trend Line
Revenue	100%	116%	139%	
Cost of sales	100%	118%	145%	
	100%	111%	122%	
Gross profit	100%	111%	122%	
Administrative , selling and distribution expenses	100%	107%	115%	
Other income	100%	119%	133%	
	100%	128%	149%	
Operating profit	100%	128%	149%	
Share of profit of equity accounted investees	100%	129%	121%	
Net finance costs	100%	78%	86%	
Profit before contribution to WPPF	100%	1952%	2335%	
Contribution to WPPF	100%	129%	150%	
Profit / (loss) before tax	100%	-2218%	-2664%	
Income tax expense				
Current tax expense	100%	116%	115%	
Deferred tax income	100%	43%	45%	
Net Value	100%	143%	142%	
Profit / (loss) after tax	100%	-33%	-68%	
Profit / (Loss) attributable to Equity holders of the company	100%	-33%	-36%	
Non - controlling interests	100%	-34%	-195%	
Net Value	100%	-33%	-68%	
Earnings Per Share				
Basic and diluted earnings per share	-16.78	5.5	5.23	

THE CASH FLOW STATEMENT

Advanced Chemical Industries Limited Statement of Cash Flow

Year	2020	2021	2022	Trend Line
Cash flows from operating activities				
Cash receipts from customers and others	71,48,61,99,792	80,81,06,48,212	96,35,10,82,929	
Cash paid to suppliers and employees	-61,00,23,98,905	-77,70,87,78,306	-90,38,95,00,238	
Cash generated from operating activities	10,48,38,00,887	3,10,18,69,906	5,96,15,82,691	
Paid to WPPF	-13,46,09,898	-13,56,40,501	-25,68,73,602	
Interest paid	-3,96,75,39,139	-2,63,14,06,154	-3,25,63,72,716	
Income tax paid	-1,63,18,61,449	-2,21,91,68,717	-2,14,06,37,665	
Net Value	-5,73,40,10,487	-4,98,62,15,372	-5,65,38,83,983	
Net cash from / (used in) operating activities *	4,74,97,90,401	-1,88,43,45,465	30,76,98,708	
Cash flows from investing activities				
Acquisition of property , plant and equipment	-63,81,57,096	-72,19,62,817	-51,23,34,099	
Payments for capital work in progress	-2,03,26,23,525	-1,19,72,00,948	-1,66,86,57,993	
Sale proceeds from property , plant and equipment	55,54,245	8,94,54,342	61,58,696	
Purchase of biological assets	-	-65,48,243	-1,45,27,787	
Dividend received	30,25,55,905	39,45,95,493	35,28,39,090	
Short term investments	-1,07,00,00,000	-9,03,20,150	1,15,73,34,040	
Long term investments	-35,03,15,711	-17,07,20,000	-19,83,55,507	
Net cash from / (used in) investing activities	-3,78,29,86,182	-1,70,27,02,324	-87,75,43,559	
Cash flows from financing activities				
Payment as dividend to non - controlling interest	-7,24,98,119	-4,14,79,556	-7,05,04,383	
Inter - company debts received / (paid)	4,10,59,255	-61,201	1,57,199	
Dividend paid	-43,93,97,155	-50,17,26,209	-44,56,09,225	
Payment for lease liability	-38,42,90,121	-42,31,37,984	-41,76,89,912	
Equity investment received by ACI Motors Limited	-	1,23,21,38,145	82,47,28,692	
Short - term bank loan received / (paid)	-2,39,22,468	9,46,08,18,474	-34,21,81,408	
Long - term bank loan received / (paid)	-41,80,31,903	-3,22,34,13,402	-1,26,25,88,190	
Net cash from / (used in) financing activities	-1,29,70,80,510	6,50,31,38,268	-1,71,36,87,227	
Net increase / (decrease) in cash and cash equivalents	-33,02,76,291	2,91,60,90,479	-2,28,35,32,078	
Opening cash and cash equivalents	-2,29,81,88,132	-2,62,79,72,080	28,79,85,204	
Effect of movements in exchange rate on cash held	4,92,343	-1,33,195	2,71,78,526	
Cash and cash equivalents at reporting date	-2,62,79,72,080	28,79,85,204	-1,96,83,68,348	
Closing balance represents				
Cash and cash equivalents	1,81,29,21,593	3,83,19,28,920	3,20,87,57,234	
Bank overdraft	-4,44,08,93,673	-3,54,39,43,716	-5,17,71,25,582	
Net Value	-2,62,79,72,080	28,79,85,204	-1,96,83,68,348	
Consolidated Net Operating Cash Flows Per Share	75.26	-29.86	4.24	

PROFITABILITY RATIO

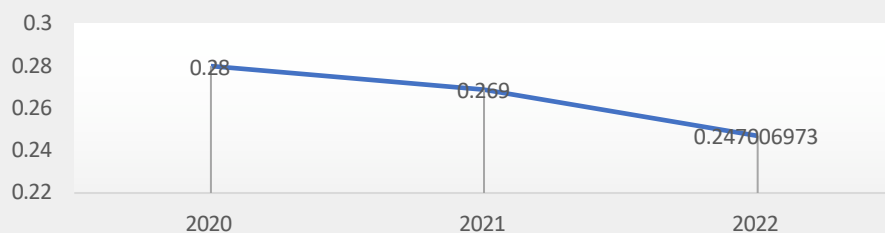
Name	2020	2021	2022
Gross Profit Margin	0.28	0.269	0.247006973
Net Profit Margin	-0.019	0.005	0.009247053
Return on Assets (ROA)	-0.02	0.006	0.008124941
Return on Equity (ROE)	-0.181	-0.02	0.050292416

Gross profit Margin

Gross profit margin indicates that a company's profitability by comparing its gross profit to its net sales. It is expressed as a percentage and helps businesses understand how much money is left after covering the cost of goods sold (COGS).

In 2020 to 2022 years continuously falling because their cost of production is increasing. For that reason, their gross margin will also decrease. To increase their gross profit margin, ACI LTD need to focus on how much their product and solution is worth for the customer, rather than how much it cost from their supplier.

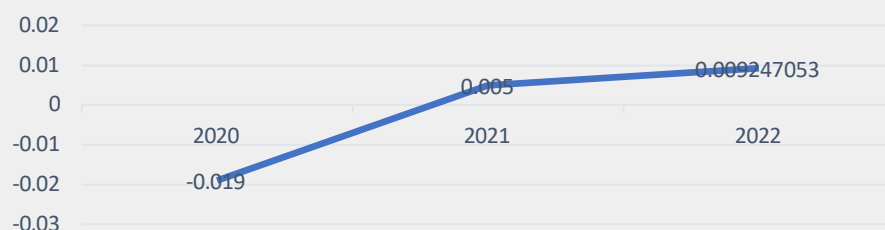
Gross Profit Margin:



Net Profit Margin

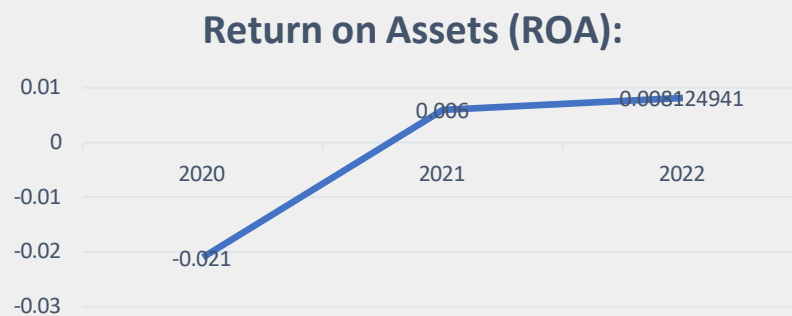
The net profit margin ratio shows the percentage of sales revenue a company keeps after covering all of its costs including interest and taxes. Through the year their net profit margin ratio moved positively showing a better efficiency of ACI LTD in generating operating revenue to net income.

Net Profit Margin:



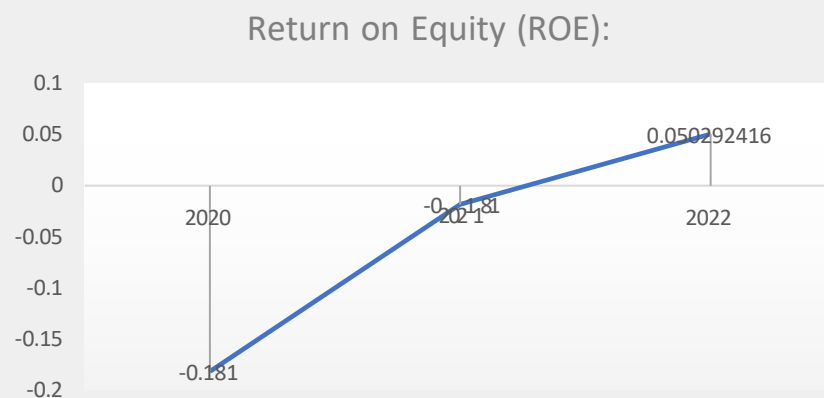
ROA

The return on asset ratio indicates how much return the assets are generating for a company. In 2020, the ratio hit the lowest point which was $-.02\%$. A lower ratio indicates ACI LTD was not able to make maximum use of its assets for getting more profits. In 2021, the ratio was higher than the previous year which was $.06\%$. In 2022, the ratio was the highest which was 0.0081% because both net income after tax and assets increased. ACI LTD can enhance its profit margin or, more effectively, use its assets to boost sales to achieve a high ROA.



ROE

The return on equity ratio indicates how much return a company generates from the equity invested by the shareholders. In 2022, the ratio was the highest among the three years which indicates that the performance of ACI LTD was better than other years. In 2021, the net profit before tax was higher than 2022, but due to high tax expenses, the ratio went down which was $-.02\%$. In 2020, ACI LTD had to pay the highest tax expense. As a result, the ratio continued to be lower in this year too. The company generated less profit resulting the ratio at $-.181\%$. It is assumed that due to Covid-19, this situation occurred. In 2021, the ratio increased and started to move upward. Throughout the years, the shareholders' equity increased.

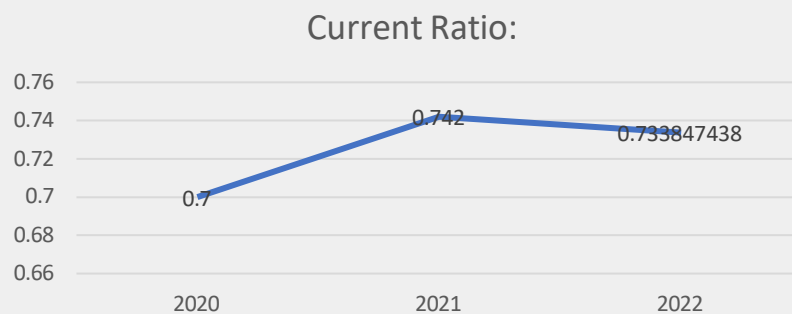


Liquidity Ratio Analysis

Name	2020	2021	2022
Current Ratio:	0.7	0.742	0.733847438
Quick Ratio:	0.411	0.398	0.304849144
Cash Ratio:	0.066	0.076	0.050600352
operating cash flow ratio	0.19316844	0.05085316	0.094010909
working capital ratio	0.56019097	0.61448906	0.625335712
cash flow coverage ratio	0.19316844	0.05085316	0.094010909

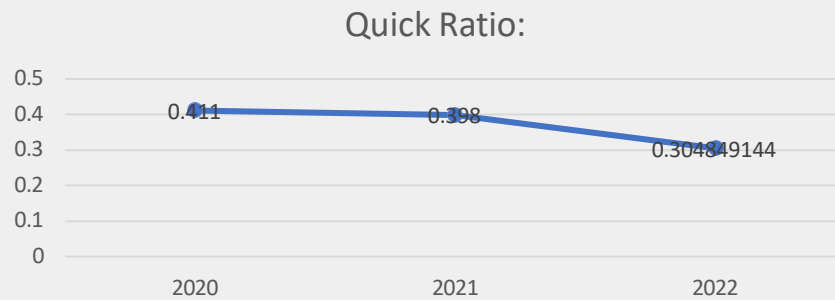
Current Ratio:

The current ratio compares all of a company's current assets to its current liabilities. A company with a current ratio of less than 1.00 does not have the capital on hand to meet its short-term obligations if they were all due at once, while a current ratio greater than 1.00 indicates that the company has the financial resources to remain solvent in the short term. Here in 2020 the company's current is .7 , in 2021 is .742 & 2022 is .734. As the company's current ratio is less than 1, It mean that the company does not have the capital on hand to meet its short-term obligations.



Quick ratio-

The quick ratio measures a company's capacity to pay its current liabilities without needing to sell its inventory or obtain additional financing. The higher the ratio result, the better a company's liquidity and financial health; the lower the ratio, the more likely the company will struggle with paying debts. Here the company's quick ratio was .411 in 2020, .398 in 2021 & .305 in 2022.



Cash ratio-

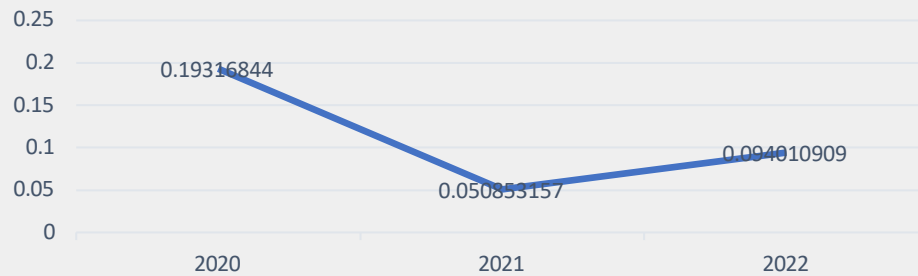
The cash ratio is a liquidity measure that shows a company's ability to cover its short-term obligations using only cash and cash equivalents. A calculation greater than 1 means a company has more cash on hand than current debts, while a calculation less than 1 means a company has more short-term debt than cash. Here the company's cash ratio was .066 in 2020, .076 in 2021 & .051 in 2022.



Operating cash flow ratio-

The operating cash flow ratio is a measure of the number of times a company can pay off current debts with cash generated within the same period. A high number, greater than one, indicates that a company has generated more cash in a period than what is needed to pay off its current liabilities. Here the company's operating cash flow ratio was .193 in 2020, .051 in 2021 & .094 in 2022.

operating cash flow ratio

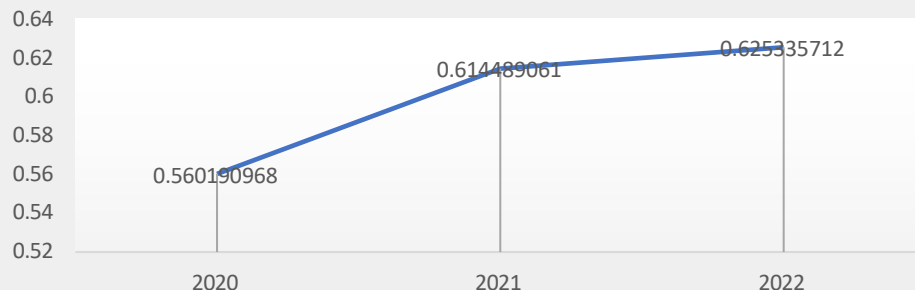


Working capital ratio-

Working capital and the working capital ratio are both measurements of a company's current assets as compared to its current liabilities. A working capital ratio below one suggests that a company may be unable to pay its short-term debts.

Conversely, a working capital ratio that is very high suggests that a company is not effectively managing excess cash flow, which could be better directed towards company growth. Here the company's working capital ratio was .560 in 2020, .614 in 2021 & .625 in 2022.

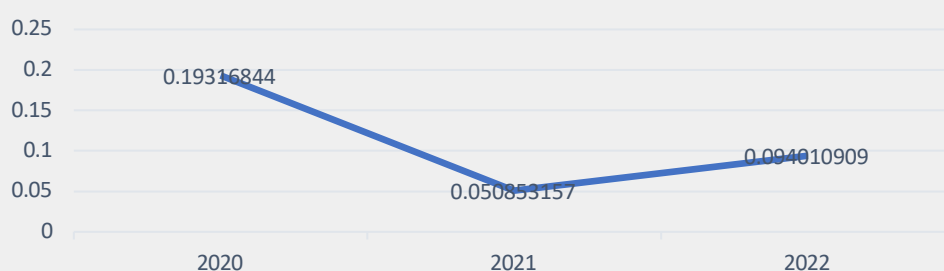
working capital ratio



Cash flow coverage ratio-

The cash flow coverage ratio is a liquidity formula that shows the relationship between a company's total debt and operating cash flow. In other words, it shows how well a company can pay its debts using cash from operations. Here the company's cash flow coverage ratio was .193 in 2020, .050 in 2021 & .094 in 2022.

cash flow coverage ratio



Activity Ratios

(i) Inventory Turnover:

	2022	2021	2020
Inventory Turnover	3.578058333	3.402470275	3.98478258
Days of Inventory on Hand (DOH)	8.500886189	8.939583363	7.633206093

The inventory turnover ratio calculates the number of times goods are sold and replaced during a certain time period to determine how efficiently a firm maintains its inventory. In general, a greater ratio suggests better inventory management.

Reasons for the changes in the inventory turnover ratio include:

- (a) *Increase in Cost of Goods Sold (COGS)*: The COGS increased significantly from 2020 to 2022 (49,991,773,844 Taka in 2020, 59,032,686,076 Taka in 2021, and 72,717,772,659 Taka in 2022). This indicates that ACI Limited sold more goods during this period, leading to higher inventory turnover ratios.
- (b) *Decrease in Inventories*: The value of inventories at the end of each year increased consistently from 2020 to 2022 (12,545,671,650 Taka in 2020, 17,349,949,096 Taka in 2021, and 20,323,249,620 Taka in 2022). However, the rate of increase slowed down in 2022. While the inventories increased, the increase was not

proportional to the increase in COGS, resulting in a slightly lower inventory turnover ratio in 2022.

(ii) Receivables Turnover:

	2022	2021	2020
Receivables Turnover	7.561049679	5.782120255	5.688671871
Days of Sales Outstanding (DSO)	4.022810054	5.2604694	5.346883659

The receivables turnover ratio assesses how well a firm collects its accounts receivable. A higher ratio often suggests faster receivable recovery, indicating excellent credit management and collection techniques.

Reasons for the changes in the receivables turnover ratio include:

(a) *Increase in Revenue:* ACI Limited experienced consistent growth in revenue from 2020 to 2022 (69,475,287,805 Taka in 2020, 80,748,403,165 Taka in 2021, and 96,571,641,497 Taka in 2022). Higher revenue can lead to an increased volume of sales and, consequently, higher receivables turnover ratios.

(b) *Stable Trade Receivables:* The value of trade receivables remained relatively stable over the years (12,212,918,829 Taka in 2020, 12,015,538,374 Taka in 2021, and 12,772,253,271 Taka in 2022). While there were minor fluctuations, the overall stability in trade receivables indicates that the increase in the receivables turnover ratio is primarily driven by the increase in revenue.

(iii) Payables Turnover:

	2022	2021	2020
Payables Turnover	12.63869827	11.94285565	10.41501151
Number of Days of Payables	2.406629703	2.546850397	2.920464047

The payables turnover ratio calculates the number of times payables are paid and replaced within a certain period to determine how efficiently a firm handles its trade payables. A greater ratio often suggests better trade payables management.

Reasons for the changes in the payables turnover ratio include:

(a) *Increase in Purchases:* ACI Limited experienced an increase in purchases from 2020 to 2022 (51,006,190,879 Taka in 2020, 54,228,408,630 Taka in 2021, and 69,744,472,135 Taka in 2022). Higher purchases can result in higher payables turnover ratios as the company pays off its suppliers more frequently.

(b) *Increase in Trade Payables:* The value of trade payables increased over the years (4,897,372,492 Taka in 2020, 4,540,656,791 Taka in 2021, and 5,518,327,175 Taka in 2022). The increase in trade payables suggests that ACI Limited extended its payment terms with suppliers, leading to a higher payables turnover ratio.

(iv) Working Capital Turnover:

	2022	2021	2020
Working Capital Turnover	-4.619422214	-4.125678418	-4.32361217

The working capital turnover ratio assesses how well a business uses its working capital to produce income. A negative ratio implies that the company's working capital is not being used to support its revenue generation operations successfully.

Reasons for the changes in the working capital turnover ratio include:

(a) *Increase in Revenue:* ACI Limited experienced consistent growth in revenue from 2020 to 2022 (69,475,287,805 Taka in 2020, 80,748,403,165 Taka in 2021, and 96,571,641,497 Taka in 2022). The growth in revenue can outpace the growth in working capital, resulting in a lower working capital turnover ratio.

(b) *Changes in Current Assets and Liabilities:* The value of current assets and current liabilities changed over the years, which affected the working capital turnover ratio.

- Current assets at the end of each year increased consistently, but at a decreasing rate: 32,038,666,999 Taka in 2019, 30,403,157,777 Taka in 2020, 37,481,746,399 Taka in 2021, and 39,654,871,778 Taka in 2022. While the current assets increased, the increase was not proportional to the increase in revenue, leading to a lower working capital turnover ratio.
- Current liabilities at the end of each year also increased consistently, but at a decreasing rate: 41,582,315,073 Taka in 2019, 43,453,474,842 Taka in 2020, 50,528,739,398 Taka in 2021, and 54,036,942,472 Taka in 2022. The increase in current liabilities could have outpaced the increase in current assets, contributing to a lower working capital turnover ratio.

(c) *Inefficient Working Capital Management:* ACI Limited have faced challenges in managing its working capital effectively. This could include issues such as excessive inventory levels, slow collection of receivables, or inefficient management of payables. These factors can result in a lower working capital turnover ratio.

It's worth noting that a negative working capital turnover ratio is often seen as unfavourable, implying inefficiency in the use of working capital to produce income. ACI Limited should aim to improve its working capital management by optimizing its current assets and liabilities, streamlining processes, and adopting more efficient cash flow management strategies.

(v) Fixed Asset Turnover:

	2022	2021	2020
Fixed Asset Turnover	3.172550245	2.707704854	2.603784068

The fixed asset turnover ratio assesses how well a corporation generates income from its fixed assets. A higher ratio often implies better fixed asset use and productivity.

Reasons for the changes in the fixed asset turnover ratio include:

- (a) *Increase in Revenue:* ACI Limited experienced consistent growth in revenue from 2020 to 2022 (69,475,287,805 Taka in 2020, 80,748,403,165 Taka in 2021, and 96,571,641,497 Taka in 2022). The growth in revenue can be an indication of increased business activity and utilization of fixed assets, resulting in higher fixed asset turnover ratios.
- (b) *Incremental Growth in Property, Plant, and Equipment:* The value of property, plant, and equipment increased over the years (26,682,430,648 Taka in 2020, 29,821,715,259 Taka in 2021, and 30,439,751,634 Taka in 2022). While the increase in fixed assets is not substantial, it suggests that ACI Limited made some investments in its infrastructure. This could have contributed to improved operational efficiency, resulting in higher fixed asset turnover ratios.
- (c) *Improved Asset Utilization:* ACI Limited may have implemented measures to enhance the utilization of its fixed assets. This could include optimizing production processes, reducing idle time or downtime, improving maintenance practices, or increasing production capacity. These improvements can result in higher revenue generation per unit of fixed assets, leading to increased fixed asset turnover ratios.

(vi) Total Asset Turnover:

	2022	2021	2020
Total Asset Turnover	1.277091416	1.11995546	1.128526676

The total asset turnover ratio assesses how well a business uses its total assets to produce income. A greater ratio suggests better asset use and productivity.

Reasons for the changes in the total asset turnover ratio include:

- (a) *Increase in Revenue:* ACI Limited experienced significant growth in revenue from 2020 to 2022 (69,475,287,805 Taka in 2020, 80,748,403,165 Taka in 2021, and 96,571,641,497 Taka in 2022). The increase in revenue contributes to a higher total asset turnover ratio, as the company generates more revenue with its existing assets.
- (b) *Changes in Total Assets:* The value of total assets at the end of each year also increased over the years: 61,562,822,805 Taka in 2020, 72,099,655,810 Taka in 2021, and 75,618,425,028 Taka in 2022. The increase in total assets can be attributed to investments made by ACI Limited to support its growth, expand its operations, or acquire additional assets. This expansion of assets, combined with the growth in revenue, contributes to a higher total asset turnover ratio.
- (c) *Improved Asset Efficiency:* ACI Limited have focused on improving the efficiency and productivity of its assets, which would lead to a higher revenue generation from a given level of assets. This could involve streamlining operations, optimizing asset utilization, or implementing process improvements to enhance overall efficiency.
- (d) *Strategic Investments:* ACI Limited have made strategic investments in specific assets or business areas that have contributed to higher revenue generation. These targeted investments can positively impact the total asset turnover ratio by generating significant revenue relative to the investment made.

Solvency Ratios

- (i) Debt to Asset Ratio (Debt to Capital Ratio):

	2022	2021	2020
Debt to Asset Ratio	0.084753357	0.108790355	0.134363035

The debt to asset ratio determines how much of a company's assets are financed by debt. A lower ratio suggests a decreased reliance on debt funding and maybe a healthier financial condition.

Reasons for the changes in the debt to asset ratio include:

- (a) *Reduction in Long-Term Debt:* ACI Limited experienced a consistent decrease in long-term bank loans from 2020 to 2022 (8,271,767,701 Taka in 2020, 7,843,747,173 Taka in 2021, and 6,408,915,381 Taka in 2022). The reduction in long-term debt contributed to a decrease in the debt component of the ratio, resulting in a lower debt to asset ratio.
- (b) *Increase in Total Assets:* The total assets of ACI Limited increased over the years (61,562,822,805 Taka in 2020, 72,099,655,810 Taka in 2021, and 75,618,425,028 Taka in 2022). As the denominator of the ratio increased, while the numerator decreased (due to lower long-term debt), it led to a lower debt to asset ratio.
- (c) *Improved Financial Position:* ACI Limited have focused on deleveraging and reducing its debt burden to strengthen its financial position. By reducing debt and increasing total assets, the company improved its financial stability and reduced its dependency on debt financing.
- (d) *Capital Infusion or Equity Financing:* ACI Limited have received capital infusion or raised funds through equity financing, which increased the proportion of assets financed by equity and reduced the reliance on debt. This resulted in a lower debt to asset ratio.

(vii) Debt to Equity Ratio:

	2022	2021	2020
Debt to Equity Ratio	0.52511897	0.706449708	1.134676722

The debt-to-equity ratio compares the proportion of a company's financing given by debt to that provided by equity. A lower ratio often suggests a lower debt-to-equity ratio and, perhaps, a healthier financial condition.

Reasons for the changes in the debt-to-equity ratio include:

- (a) *Reduction in Long-Term Debt:* ACI Limited also experienced a consistent decrease in long-term bank loans from 2020 to 2022 (8,271,767,701 Taka in 2020, 7,843,747,173 Taka in 2021, and 6,408,915,381 Taka in 2022). The reduction in debt, combined with the increase in equity, led to a decrease in the debt-to-equity ratio.
- (b) *Change in Total Equity:* The value of total equity at the end of each year also increased over the years (7,289,977,438 Taka in 2020, 11,103,051,059 Taka in 2021, and 12,204,692,172 Taka in 2022). As the increase in total equity outpaced the increase in total liabilities, it contributed to a lower debt to equity ratio.
- (c) *Improved Financial Stability:* The increase in equity and decrease in debt indicate improved financial stability for ACI Limited. Lower debt levels relative to equity signify a reduced financial risk and a stronger financial position.
- (d) *Capital Infusion or Equity Financing:* ACI Limited have received capital infusion and raised funds through equity financing, which increased the proportion of equity in the capital structure and reduced the reliance on debt. This resulted in a lower debt to equity ratio.

Valuation Analysis

Advanced Chemical Industries Limited Valuation Ratios Analysis			
	2022	2021	2020
Price to Book Value			
Total Assets	75,618,425,028	72,099,655,810	61,562,822,805
Total Liabilities	63,413,732,856	60,996,604,751	54,272,845,367
Net Outstanding Shares	725,767,870	631,102,500	573,729,556
Market Price Per share	\$283.00	\$263.70	\$204.20
Book value of Equity	\$12,20,46,92,172.00	\$11,10,30,51,059.00	\$7,28,99,77,438.00
Book value per share	\$16.82	\$17.59	\$12.71
Price to Book Value	\$16.83	\$14.99	\$16.07
Price to Earnings			
	2022	2021	2020
Basic and diluted earnings per share	5.23	5.50	(16.78)
Market Price Per share	\$283.00	\$263.70	\$204.20
Price to Earnings	\$54.11	\$47.95	-\$12.17
Price to Sales			
	2022	2021	2020
Market Capitalization	\$19,82,87,00,000	\$19,82,87,00,000	\$19,82,87,00,000
Revenue	\$96,57,16,41,497	80,748,403,165	69,475,287,805
Price to Sales	0.21	0.25	0.29
Price to Cash Flow			
	2022	2021	2020
Market Capitalization	\$19,82,87,00,000	\$19,82,87,00,000	\$19,82,87,00,000
Net cash from / (used in) operating activities *	30,76,98,708.00	(1,884,345,465)	4,749,790,401
Price to Cash Flow	64.44	-10.52	4.17

Price to Book Value

	2020	2021	2022
Market Price per Share	\$204.20	\$263.70	\$283.00
Book Value per Share	\$12.71	\$17.59	\$16.82

Here, we can see ACI Limited Market price per share 2020, \$204.20 and Book value per share \$12.71 On the other hand Market price per share increased 2021, \$263.70 and Book value per share increased \$17.59. Moreover, Last Year 2022 Market price per share also increased \$283.00 and Book value per share decreased \$16.82.

Price to Earnings

	2020	2021	2022
Basic and diluted earnings per share	5.23	5.50	(16.78)
Market Price Per Share	\$204.20	\$263.70	\$283.00

Basic and diluted earnings per share 2020, 5.23 and Market price per share \$204.20 and we can see 2021, Basic and diluted earnings per share and Market price per share both are increased from previous year 5.50 and \$263.70. However, 2022 Basic and diluted earnings per share decreased (16.78) and Market Price per share increased \$283.00.

Price to Sales

	2020	2021	2022
Market Capitalization	\$19,828,700,000	\$19,828,700,000	\$19,828,700,000
Revenue	\$69,475,287,805	\$ 80,748,403,165	\$96,571,641,497

2020, Market Capitalization \$19,828,700,000 and Revenue \$69,475,287,805 and we can see here, next two years 2021 and 2022 both year are increased Revenue \$ 80,748,403,165 and \$96,571,641,497.

Price to Cash Flow

	2020	2021	2022
Market Capitalization	\$19,828,700,000	\$19,828,700,000	\$19,828,700,000
Net cash from / (used in) operating activities *	\$4,749,790,401	(\$1,884,345,465)	\$307,698,708.00

In 2020, Market Capitalization \$19,828,700,000 and Net cash from / (used in) operating activities \$4,749,790,401 and next year 2021 decreased the Net cash from / (used in) operating activities (\$1,884,345,465). Last year 2022, increased of the Net cash from / (used in) operating activities \$307,698,708.00.