**Current ratio:** 0.945, 1.136, 1.050

The current ratio is a financial metric used to assess the companies ability to cover its short term liabilities with its short-term asset which can be converted into cash or used up within a year. The current ratio has decreased in 2022 indicating a challenge in meeting short term liabilities with available assets and raises concerns about immediate liquidity.

**Quick Ratio: 0.72, 0.91, 0.86**

The quick ratio, also known as the acid-test ratio, is a financial metric used to measure a company's ability to meet its short-term liabilities with its most liquid assets, excluding inventory. The decreasing trend suggests a decline in the ability to cover immediate liabilities without relying on inventor and will require consistent attention to bolster immediate liquidity.

**Cash Ratio: 0.35, 0.25, 0.33**

The cash ratio is a liquidity ratio that specifically measures a company's ability to cover its short-term liabilities with its most liquid assets: cash and cash equivalents. It's an even more stringent measure of liquidity than the quick ratio because it considers only the most liquid assets. The cash ratio demonstrates a moderate ability to cover short term obligations using readily available cash with fluctuations across the year.

**Defensive Interval 107, 132.55, 133.40:** The defensive interval, also known as the defensive interval ratio or the liquidity ratio, is a financial metric used to assess how long a company can cover its expenses using its liquid assets without relying on incoming revenue. It's a measure of a company's ability to withstand tough economic conditions or periods of low or no revenue. Although the defensive interval decreased in 2022 showing a decline in the days the company can sustain without additional revenue it remained relatively stable across the years.

**Inventory Days and Payable Days (27.50, 23.15, 23.92) (57.91, 64.53, 72.91)**

Inventory days, also known as days sales of inventory (DSI) or days inventory outstanding (DIO), is a financial metric that measures the average number of days it takes for a company to sell its entire inventory during a specific period. It provides insights into how efficiently a company manages its inventory.

Payable days, also known as days payable outstanding (DPO), is a financial metric that measures the average number of days a company takes to pay its suppliers or vendors for the goods and services it has purchased on credit. It evaluates how long a company takes to settle its accounts payable. Decreased over the year implying improved turnover of inventory whereas the payable days decreased indicating the company took less time to pay its suppliers in 2022 compared to precious year which might positively impact supplier relationships.

**Receivable Days 30.08, 25.55, 23.20**Receivables days, also known as days sales outstanding (DSO) or average collection period, is a financial metric that measures the average number of days it takes a company to collect payment from its customers after a sale has been made. It assesses the efficiency of a company's accounts receivable management.

The increase in receivable days signals a delay in collecting payments from customers which might impact cashflow.

**Net trading cycle: 0.33, -15.83, -25.79** Measures the time it takes for a company to convert its resources tied up in accounts receivable and inventory into cash through sales and then use the cash to pay its accounts payable.

The negative net trading cycle suggests the company’s ability to manage payables and receivables more efficiently than previous years with a few malfunctions.

**Working Capital as a % of Sales: -1.67%, 4.11%, 1.64%**Measures the relationship between a company’s working capital and its sales revenue. It evaluates the efficiency with which a company uses its working capital in proposition to its sales. The trend portrays volatility and potential inefficiencies in capital utilisation in 2022, reversing the trends witnesses in 2021.

The gross margin has steadily increased from 39.57% in 2020 to 43.81% indicating improved profitability on the sales.

EBITDA and margin has declined from 12.62% in 2021 to 10.54% in 2022 resulting in decline to $54.169mn from $59312mn the year before. While the EBIT has declined more significantly from 5.93% in 2020 to 2.38% in 2022 (from 24879mn to 12248).

With the current ratio greater than 1 indicating the short term asset’s ability term ability to meet short term liabilities, the quick and cash ratios above 0.5 indicate Amazon can meet more than 50% of its short term liabilities with cash in hand. The current ratio decline is related to reduction of marketable securities following the sale of their stake in Rivian.

As an online marketplace with 1000s of vendors on their site, their payable days is typically higher than other competitors due to their 90-day credit policy. Because of the nature of the business the payables balance are higher than inventories and receivables due to it holding inventory on behalf of vendors. This results in negative working capital and trading cycle and YoY basis it has worsened but supported by the fact amazon has started its own fulfilment service and is a fast growing company.

The net margin turned negative in 2022 at -0.53% showing a loss making scenario contrary to the positive margins in 2020 and 2021. However it is noticeable that amazons technology and content and sales and marketing have seen sharp increases with heavy spending on AWS and Prime Video while the ecommerce sector is beginning to normalise post covid-19 and sales are reflecting increasing global inflation levels.

**DEBT RATIOs**

Debt to Equity (D/E) increased over the years, indicating a higher reliance on debt financing.

Debt to Total Assets and Long-term Debt to Capital also showed an increasing trend, possibly signalling a greater debt burden. Times Interest Earned: The times interest earned decreased significantly over the years, indicating potential challenges in meeting interest payments from operating profits. Debt Coverage: The negative debt coverage in 2022 raises concerns about the company's ability to cover its debt obligations with its cash flows.

The long-term liabilities have been increasing YoY as the company has increased financial lease commitments to facilitate some new fulfilment centres through the last year. With long-term debt remaining steady, financial lease commitments have increased which has increased the debt service burden. The company does have adequate levels of interest coverage and free cash flow indicate financial health. However the increase in the debt level would implies the company’s borrowing capacity in the future is strained and might have to pay higher interests to secure more debt in a rising interest rate environment.

Asset Utilization:

Asset Turnover: Total asset turnover decreased gradually over the years, suggesting a decline in sales generated per dollar of assets. Inventory Turnover: The inventory turnover remained relatively stable over the years, indicating consistent efficiency in managing inventory levels. Return on Assets (ROA): ROA declined to negative values in 2022, indicating decreased profitability concerning the total assets employed.

They have a large portion of goodwill in its asset base, where fixed asset turnover is almost 3x higher than the total asset turnover. The goodwill and intangibles are a result of acquisitions in addition to the increased R&D spending on AWS which will need to be watched closely for future profitability.

Investor/Market Ratios:

P/E, EPS, and PBV:

The Price to Earnings (P/E) ratio became negative in 2022, signalling a negative market sentiment or potentially overvalued stock. Earnings per Share (EPS) dropped significantly in 2022.Price to Book Value (PBV) showed an increasing trend, suggesting a higher market value relative to the book value of the company. Return on Equity (ROE) and Return on Capital Employed (ROCE): ROE and ROCE decreased notably in 2022, indicating reduced profitability concerning shareholder equity and capital employed.

Amazon faced challenges in liquidity management in 2022 with declining current and quick ratio while improvement were seen in in inventory turnover and payable, delayed receivables and negative working capita pose risks. Attention to efficient cash management receivables collection and maintaining positive working capital are crucial for sustained financial health. Amazons financial health particularly the relationship between working capital and sales, experienced a reversal in trend from positive to negative in 2022, following a previous year of improvement. The decline raises concerns about the company's efficiency in utilizing its working capital resources concerning its sales revenue. Efforts to enhance liquidity, manage inventory, expedite receivables collection, and sustain positive working capital ratios are vital. Addressing these challenges will be crucial in ensuring sufficient resources to cover short-term obligations and maintaining financial stability in the upcoming periods. Amazon financial health deteriorated in 2022 across various ratios including profitability debt management , solvency and investor sentiment.. Negative margins, decline profitability metrics and increased debt burden raise concerns about the companies financial stability. The declining asset turnover and negative ROA further emphasises challenges in utilising assets efficiently to generate profits. Addressing these issues, improving profitability, reducing debt burden and enhancing asset utilisation will be critical for financial health and investor confidence.

ROE, ROA and ROCE remain in healthy territory but have declined slightly compared to previous years. Given Amazons valuations it would be expected the ratios to be better as there are many smaller companies with better returns than Amazon however it is notable these valuations are backed by their expansion.