



Student Name: **Jessica Berger**

Student ID Number: **2012885**

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Lecturer: Howard Davies

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Introduction

Aston Martin are a high-end British car manufacturer that was founded in 1913 by Lionel Martin and Robert Bamford. They have a globally recognised brand that is known for its style, performance, and exclusivity.

As stated on their website their vision:

“is to be the world’s most desirable, ultra-luxury British brand, creating the most exquisitely addictive performance cars.” (Aston Martin Lagonda, 2018)

This report examines the income statements, balance sheets, and cash flow reports from 2018 to Q3 2022 to critically evaluate if this is a company that should be invested into at this current time.

Use and limitations of the statement and ratios

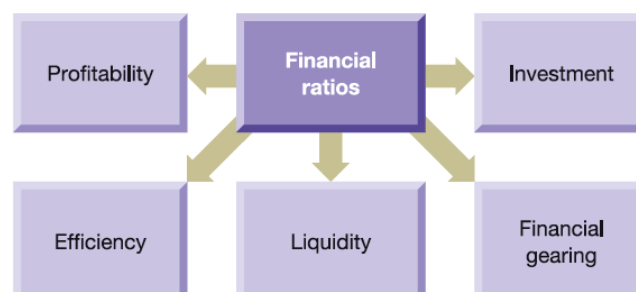
Financial ratios use information obtained from financial statements to provide a simple and quick way of assessing how healthy a business’s finances are (or are not). They are calculated by comparing certain data points in the statement to another data point.

Once the ratio has been determined, these are compared to the same ratio calculation from a previous period to discover if there have been any trends, deterioration, or improvement in performance.

Atrill & McLaney (2017) explain that this comparison can be used to develop an understanding of the performance and position of the business. The ratios highlight the businesses financial strengths or weaknesses however, it is only through further investigation that the underlying reasons can be found.

Other limitations highlighted by Atrill and McLaney include the fact that these data points are historical and do not reflect the current trading conditions, which may be very different to the period being compared. The operating inefficiencies may not be clear when only looking at the performance of a single business. Additionally, inflation can cause an overstatement of profit and an understatement of assets, which results in a distortion of the data on which the ratios are calculated.

There are 5 key financial ratios used in this report, which are broken down into several calculations (see appendices for formulas):



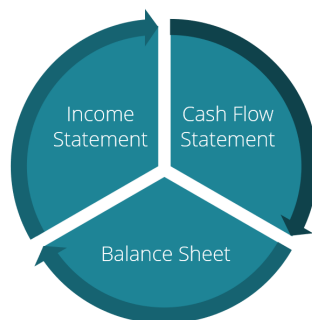
(Atrill & McLaney, 2017)

Each financial ratio uses different data points within the financial statement, pulling from the balance sheet and income statement.

Financial statements are incredibly useful as they present an accurate measure of the financial conditions of the business. As listed by Singh (2019) they are used internally by stake holders such as management of the company as well as employees, but more widely by external users including investors, customers, competitors, government and government agencies, investment analysts, lenders, rating agencies, and suppliers.

As with the ratios, which as discussed are calculated from the financial statements, the limitations are the same.

There are three main types of financial statement, each of which are linked:



(Corporate Finance Institute, 2022)

The **income statement** tells the financial performance and shows how profitable the business was over a given period by providing details of the revenue, cost of goods, operating profit/loss, and overall profit/loss for the period.

The **balance sheet** is focused on the financial health and details the businesses assets (what they owns), liabilities (what they owe), and equity (value of shares issued). The assets and liabilities are split into two categories: current meaning short term and within 1-year, and non-current which are those longer than 1=year.

The **cash-flow statement** shows the movement of cash through the business, including operations, investment, and financing. Cash flow is vitally important to any business because “without cash, a business cannot operate” – Atrill & McLaney. Surplus cash within a period can be used for re-investment, whereas a deficiency allows the finance team to put in place mitigating plans.

Aston Martin ratio results and discussions

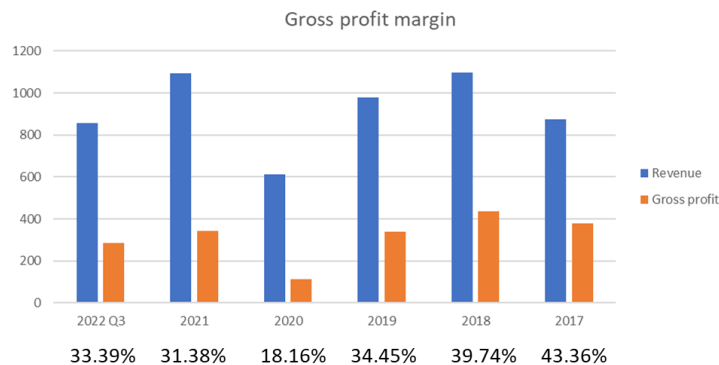
For the ratio analysis, the restated numbers in the next year have been used as these are considered the most acute for that financial year.

For example, in the 2019 report the revenue was stated as £997.3m however in the 2020 report it has been adjusted to £980.5m. Therefore, £980.5m is the value that has been used.

Profitability ratios						
	2022 Q3	2021	2020	2019	2018	2017
Gross profit margin	33.39%	31.38%	18.16%	34.45%	39.74%	43.36%
Operating profit margin	-17.31%	-6.98%	-52.78%	-5.30%	6.64%	16.99%
Net profit margin	-60.43%	-17.28%	-67.10%	-11.99%	-5.21%	8.77%
Return on Assets	-15.26%	-6.66%	-14.69%	-5.73%	-2.90%	4.71%
Return on Equity	-65.99%	-28.66%	-51.05%	-27.28%	-12.71%	56.43%
Liquidity ratios						
Current ratio	1.31	0.96	1.10	0.70	0.70	0.79
Quick ratios	N/A	0.74	0.84	0.49	0.49	0.55
Cash ratio	0.71	0.46	0.61	0.18	0.18	0.32
Working capital	£444.3m	£333.2m	-£37.3m	£81.2m	-£238.6m	-£238.7m
Efficiency (Activity) ratios						
Days Sales Outstanding	N/A	82	107	90	81	49
Inventory turnover	N/A	3.72	2.69	3.89	4.51	3.88
Days Payable Outstanding	N/A	355	427	400	398	368
Average revenue per day	2.35	3.00	1.68	2.69	3.00	2.40
Average COGS per day	1.56	2.06	1.37	1.76	1.81	1.36
Average inventory stock		98.4	202.1	186.35	165.3	146.55
Leverage ratios						
Gearing ratio	66.04%	65.91%	59.52%	65.87%	61.91%	87.66%
Dept/Equity ratio	332.38%	330.42%	247.57%	376.13%	338.41%	1099.19%
Long term dept/Equity ratio	N/A	162.76%	120.79%	140.27%	134.56%	607.94%
Interest coverage	40.89%	44.04%	176.35%	61.98%	-50.14%	-148.95%
Investors ratios						
Earnings per ordinary share (pence)	-155.7	-165.9	-543	-290.6	-31	38.3
Dividend cover	Cannot calculate as Aston Martin have not paid dividends.					
Price per earnings ratio	N/A	-0.00064	-0.00060	-0.00018	-0.00003	-0.00029
Dividend yield ratio	Cannot calculate as Aston Martin have not paid dividends.					

Profitability ratios

Gross profit margin



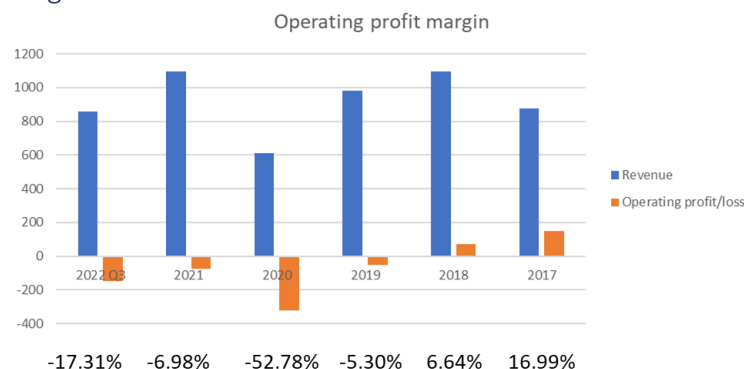
In Aston Martin's transcript from their Q3 2022 results, their gross margin target is 40%. As can be seen from their results over the years, they have not been able to achieve this. 2018 came close but it has since declined.

This shows that they are under performing by their own standards, in particular in 2020 which coincides with the period where Aston Martin required being bailed out by fashion billionaire Lawrence Stroll (The Guardian, 2022).

Their struggling gross profit margins are the result of too high cost of goods compared to the revenue that they are generating.

Aston Martin have a few streams of revenue, comprising of vehicle sales, parts sales, servicing, as well as brand and motorsport. In their presentation they state that they are working to manage this margin through increased average selling price (ASP), as well as controlling incentives and moving to be a demand-led business.

Operating profit margin

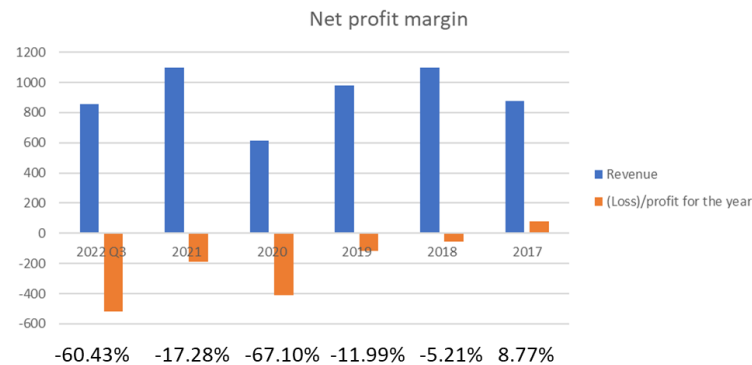


The negative operating margins since 2019 clearly support that their expenses are too high, which not only includes the costs of goods but also from the selling and distribution to the admin and other expenses, all of which have eroded the profit margin further. 2020 was exasperated by the global pandemic which forced localised lockdowns and is still having an effect in supply chains today.

In their 2021 report note 4, the largest loss was "cost of inventories recognised as an expense" at a charge -£641.4m. This clearly demonstrates poor stock management. It should be noted that they

have invested £191.2m into research and development which shows a small intent to continue innovation compared to the other costs within the business.

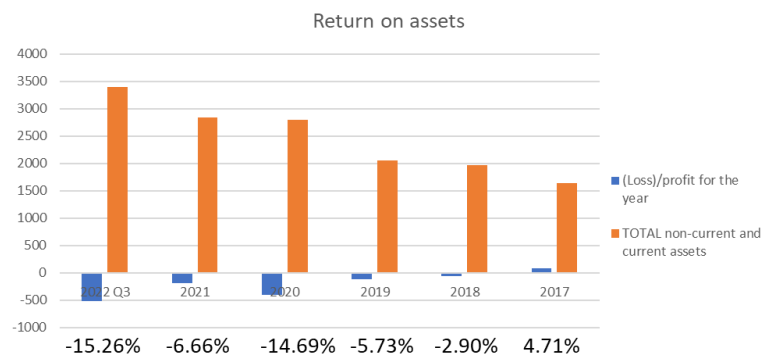
Net profit margin



Aston Martin has a very unhealthy net profit margin. These negative results further highlight that their overall production costs are greater than their total revenue year-on-year. They are spending more money than they are generating, which suggests there could be cash flow difficulties and they are heavily reliant on outside investment – this is not a sustainable business model. In their Q3 2022 report they highlight that they have been faced by a number of challenges which included incremental manufacturing and logistics costs.

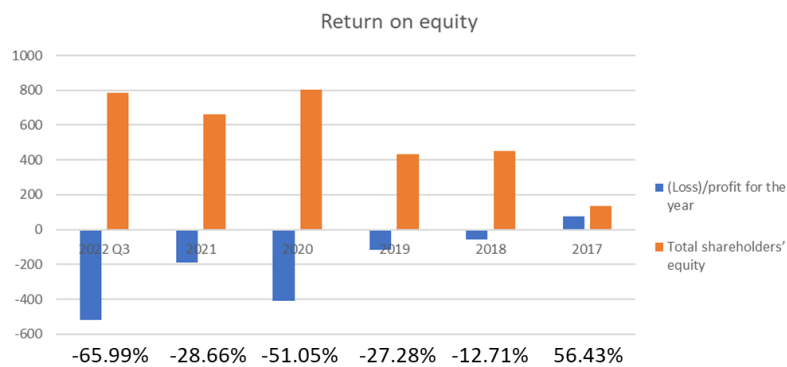
Additionally, as they have not reported a profit in the past 5 years, they will have avoided having any income tax liability.

Return on assets



Year-on-year Aston Martin have been experiencing a financial loss as shown in the return on assets. 2021 saw an improvement, partly due to the cash injection from Lawrence Stroll, but has increased again during 2023 due to severe supply chain shortages. In their Q3 report they state that they had 400 vehicles that they were unable to deliver due to awaiting final parts, these have delayed their ability to fulfil customer demand which in turn increases their inventory (current assets) and decreases their revenue (higher loss for the period).

Return on equity



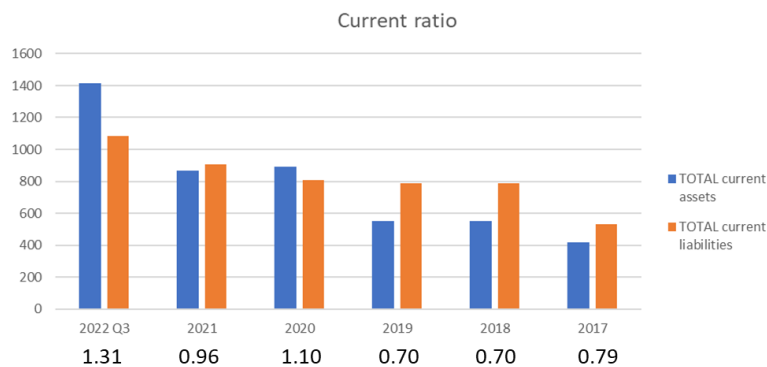
Given that Aston Martins net profit has been negative for the last several years, this means that their return on equity is also negative. They are unable to pay their investors and shareholders based on profits, which is a major concern for any investment plans. Although their free cash flow should also be taken into account, their year-on-year losses demonstrate a struggling business model.

Liquidity ratios

These ratios help to determine a business's ability to cover current liabilities, determine credit worthiness, and determine investment worthiness.

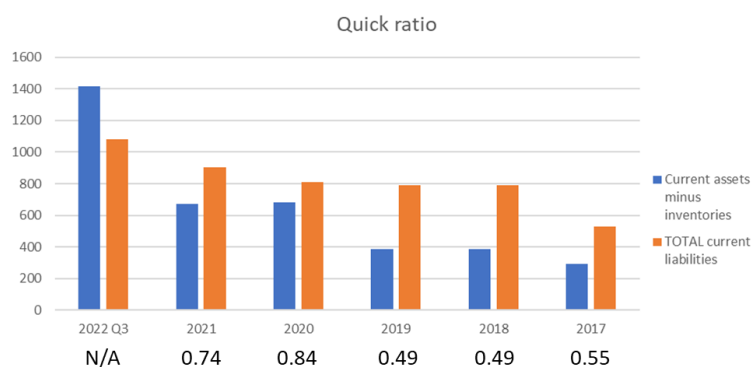
As described by Atrill and McLaney, liquidity is vital to the survival of a business. They must have sufficient resources available to meet their liabilities that must be paid in the near future.

Current ratio



This is known as the low test as it includes all assets, including inventories that are not readily available as cash. The ideal for this industry is greater than 1.2 to 1.3. As seen, Aston Martin have historically struggled to achieve that target, which demonstrates that their debts were higher than their assets. However, Q3 2022 was showing a positive trend which may be accounted by the appointment of the latest CFO Doug Lafferty in May 2022.

Quick ratio



The quick ratio, also known as the medium test, provide a better insight into the liquidity as it removes the inventories which are not readily cash available.

A healthy quick ratio is from 1 upwards, meaning the company would have the same amount of liquid assets as they do short-term liabilities. These results mean that Aston Martin are not showing a strong ability to cover the cost of their liabilities. They need to perform an in-depth assessment of their short-term debts and find clear ways of reducing these, such as paying their suppliers sooner.

2022 Q3 quick ratio cannot be calculated as they have not reported on the inventories for that period.

Cash ratio



As with the quick ratio, the ideal target is 1 as this means the company will have equivalent funds to cover short-term liabilities, however 0.8 is also considered acceptable.

Aston Martin has not been able to achieve this target. According to Investopedia, a ratio below 0.5 is considered risky as they have twice the amount of debt compared to cash. As can clearly be seen in their ratios, in 2021 their cash ratio was only 0.46.

Working capital

	2022 Q3	2021	2020	2019	2018	2017
Working capital	£444.3m	£333.2m	-£37.3m	£81.2m	-£238.6m	-£238.7m

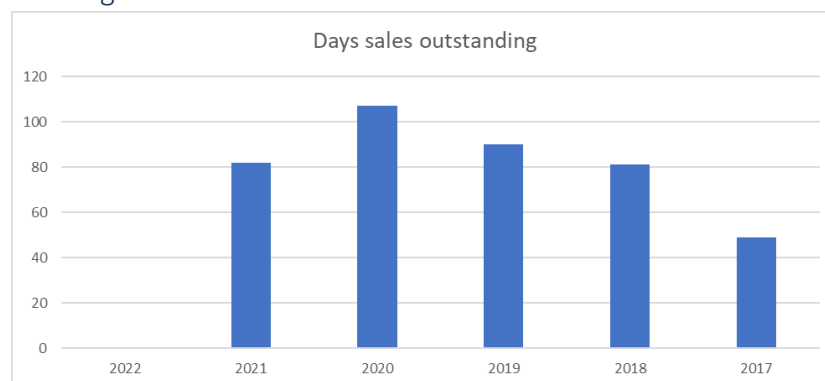
An assessment of their working capital, which is the deduction of their current liabilities from their current assets shows that Aston Martin had £444.3m as of Q3 2022. This is the highest it has been

over the past 6 years. Businesses should aim to keep this as low as possible since working capital is considered “dead” money that does not earn interest and is high risk. Aston Martin must reduce their current assets, which were inflated in 2022 due to their inability to complete builds and deliver to customers because of the supply chain disruptions.

Efficiency (activity) ratios

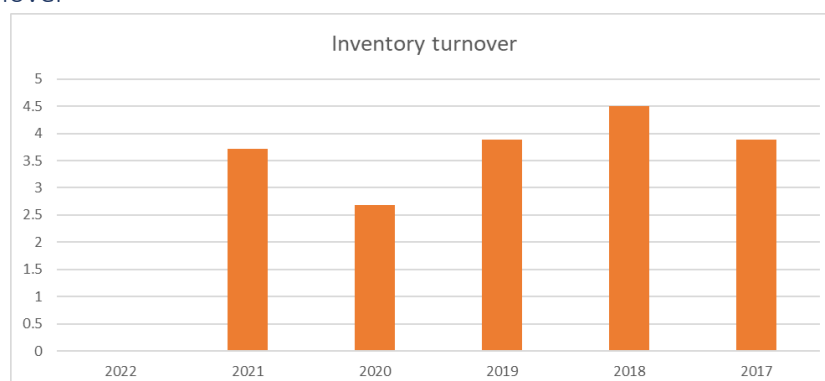
These ratios provide insights into the controlling of stock, specifically how quickly a company is receiving money from this customer as well as how quickly they pay their suppliers.

Days sales outstanding



On average in 2021, it took customers 82 days to pay for their purchases which is down compared to 2020 where the average was 107 day. However, Aston Martin should be targeting payments as fast as 2017 where they were only 49 days. This will help to reduce their inventory assets and thus their liquidity. The challenge that Aston Martin faced for the remainder of 2022, which cannot be calculated at this time as they have not provided the trade and other receivables data for either current or non-current assets, is that they were hit by the global supply chain issues seen by all manufacturing businesses. It is therefore expected that the 2022 result will be as high or possibly higher than 2020 due to cash being tied up in inventory assets.

Inventory turnover

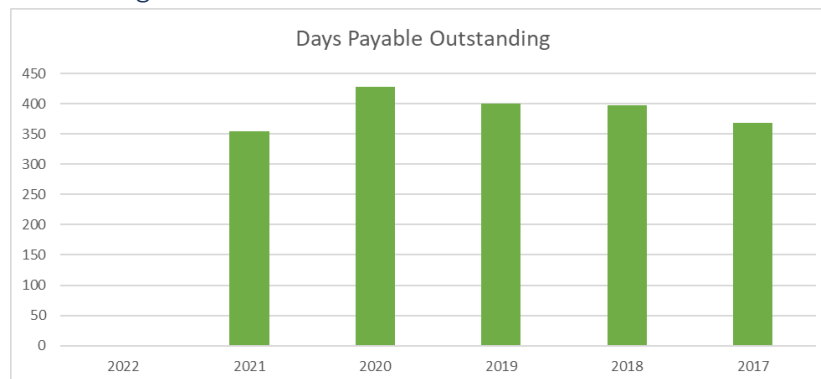


The inventory turnover forms part of the working capital cycle as it assesses how often the stock (inventory) is refreshed. Ideally this ratio should be higher (more turns per year) as this means more stock is being moved through the business within a period, which indicates that sales are strong.

The 2021 result of 3.72 is equal to 98 days for the stock to be refreshed, therefore it is taking on average over 3 months to use the stock. This negatively impacts the quick ratio, as inventory that is held in stock will have higher holding cost (more current assets). It can also be damaging to the brand as they are not delivering products to their customers as quickly as they should be.

2022 could not be calculated as the inventory data has not been published.

Days payable outstanding



Days payable outstanding is an assessment of how long it takes Aston Martin to pay their suppliers. In 2021 this reduced to 355 days compared to 427 days in 2020 and is the lowest it has been since 2017. Although the ideal situation is to have shortened customer pay, longer supplier pay and less stock held, in this instance the excessively long delays to paying their suppliers, nearly an entire year in 2021, is likely to be having a negative effect on Aston Martin. They are at risk of not having deliveries of essential parts since these have not been paid – which can be seen in 2022 where they were unable to deliver more than 400 cars due to supply chain issues and awaiting parts.

To mitigate this, Amedeo Felisa (CEO since May 2022), has stated in the 2022 Q3 presentation that the following plans are being put in place for supply chain improvement:

- “Working in partnership with key suppliers to address and mitigate current dynamics.
- Supplier taskforces, including co location of our people and resources.
- Immediate focus on corrective actions in order to accelerate DBX707 deliveries.
- Broader supply chain strategy review in progress.

2022 cannot be calculated as the trade and other payables of either current and non-current liabilities have not been reported.

Leverage ratios

As described by Atrill and McLaney, the leverage ratios (or financial gearing) provides insights into the relationship between the contribution by others (loans) and the contribution of the business. This is important to assess as it effects the level of risk associated with the business.

Gearing ratio

	2022 Q3	2021	2020	2019	2018	2017
Gearing ratio	66.04%	65.91%	59.52%	65.87%	61.91%	87.66%

This measures the amount of borrowed finance used to invest in assets, the higher the ratio the higher the dependence on external current and non-current borrowings – therefore the higher the financial risk.

As can be seen from the calculated figures, Aston Martin have remained above the >50% which according to Boyte-White (2021), is considered high. The result of this is that Aston Martin are more vulnerable to loan default and bankruptcy. In order to address this, they will need to significantly reduce the amount that they are borrowing, with a target of 25% to 50% which is considered optimal for well established businesses.

Dept/Equity ratio

	2022 Q3	2021	2020	2019	2018	2017
Dept/Equity ratio	332.38%	330.42%	247.57%	376.13%	338.41%	1099.19%

This ratio tells us how much debt a company has per £1 of equity, therefore how much of the business is owned by the creditors who they have borrowed from. In 2022 Aston Martin have reported £3.32 of dept for every £1 of equity, this is up on 2021 which was only slightly less at £3.30 per equity. However, it is not as high as previous years where in 2017 it was as much as £10.99 dept per equity.

Long term dept/Equity ratio

	2022 Q3	2021	2020	2019	2018	2017
Long term dept/Equity ratio	N/A	162.76%	120.79%	140.27%	134.56%	607.94%

The long-term dept ratio removes the current (short-term) liabilities and focuses on non-current liability borrowings. Although significantly down from 2017 where it was as high as 607.94%, these results confirm and support that Aston Martin is at risk of bankruptcy since there is the potential that they will be unable to pay the interest expense on the dept if cash flows decline (Bragg, 2019).

2022 Q3 could not be calculated as the non-current borrows have not been provided.

Interest coverage

	2022 Q3	2021	2020	2019	2018	2017
Interest coverage	-40.89%	-44.04%	-176.35%	-61.98%	-50.14%	-148.95%
Operating profit/loss	-£148.4m	-£76.5m	-£322.9m	-£52m	£72.8m	£148.8m
Finance expense	-£362.9m	-£173.7m	-£183.1m	-£83.9m	-£145.2m	-£99.9m

These figures show that as of Q3 2022, Aston Martin do not have enough operating profit to cover the cost of the interest from their borrowings. They will need to borrow more to cover these or make significant changes to their operating business model.

Investor ratios

Investors ratios						
Earnings per ordinary share (pence)	-155.7	-165.9	-543	-290.6	-31	38.3
Dividend cover	Cannot calculate as Aston Martin have not paid dividends.					
Price per earnings ratio	N/A	-0.00064	-0.00060	-0.00018	-0.00003	-0.00029
Dividend yield ratio	Cannot calculate as Aston Martin have not paid dividends.					

Although some of the ratios can be calculated the price per earnings ratios are negative because Aston Martin are reporting negative earnings per ordinary share. They are unable to pay their shareholders dividends, which has been the trend for the past several years.

Any investment as a shareholder will have no returns.

However, it is interesting to note that in the balance sheets they have reported that they have available in cash and cash equivalents:

	2022 Q3	2021	2020	2019	2018	2017
Current cash and cash equivalents	£771.8m	£418.9m	£489.4m	£107.9m	£144.6m	£167.8m

Summary and recommendations

To summarise, regarding the income statement and the profitability ratios, Aston Martin need to perform an in-depth assessment of the operating expenses as well as cost of goods with the aim to significantly reduce these.

If possible, they should also perform a retail cost analysis to determine if they are able to increase this without pricing themselves out of their market. However, as they have recently increased their average selling price this may not be possible. An alternative would be to alter their business model of being ultra-luxury high-end vehicles and produce a range that is slightly more reasonable in price, this may lead to increased revenue through increased quantity. This alternative is unlikely given their positioning of quality over quantity.

From the balance sheet Aston Martin are too reliant debt, of which they are unable to cover with their liquidity. They are not seeing a return on assets; in fact, they are experiencing a year-on-year loss. This means that they are at risk of bankruptcy should their creditors demand repayment. It is critical that they re-evaluate their levels of debt with the aim to reduce the amount that is owed.

Aston Martin have also historically not been working efficiently with their suppliers, taking over 1 year to pay their invoices. This is very likely to have been a factor in their recent supply chain issues, although these have been faced by all manufacturing businesses across most industries. They appear to be taking steps to mitigate and put in place supply chain improvements, but we will not be able to see the results of this until the next financial report.

Conclusion

Based on the findings in this report and the requirements to make significant changes to the business operations to ensure that Aston Martin are not at risk of bankruptcy, the decision has been made to **not invest** in the company at this time.

Should Amedeo Felisa (CEO) and Doug Lafferty (CFO), who both joined Aston Martin less than 12 months ago in May 2022, be able to demonstrate substantial improvements then this venture can be revisited.

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Appendices

Ratio calculations:

Profitability ratios:

Gross profit margin = $\text{Gross Profit} / \text{Sales} \times 100$

Operating profit margin = $\text{Operating profit} / \text{Sales} \times 100$

Net profit margin = $\text{Net income} / \text{Sales} \times 100$

Return of assets = $\text{Net income} / \text{Assets} \times 100$

Return on equity = $\text{Net income} / \text{Shareholder's equity}$

Liquidity ratios:

Current ratio = $\text{Current assets} / \text{Current liabilities}$

Quick ratio = $(\text{Current Assets minus Stock}) / \text{Current liabilities}$

Cash Ratio = $\text{Cash and Cash equivalents} / \text{Current liabilities}$

Activities ratios:

Days Sales Outstanding (DSO) = $\text{Trade and other receivables} / \text{Average Revenue per Day}$

Inventory Turnover = $\text{Cost of Goods Sold} / \text{Average Inventory}$

Days Payable Outstanding (DPO) = $\text{Trade and other payables} / \text{Average COGS per day}$

Where

Average Revenue per Day = $\text{Annual Revenue} / 365$

Average COGS per Day = $\text{Annual COGS} / 365$

Leverage ratios:

Gearing Ratio = $\text{Non-Current Liabilities} / (\text{Equity Plus Non-Current Liabilities}) \times 100$

Debt / Equity Ratio = $\text{Total Liabilities} / \text{Stockholders equity} \times 100$

Long term debt / Equity Ratio = $\text{Long term debt} / \text{stockholders Equity} \times 100$

Interest coverage = $\text{operating profit} / \text{Interest Charge} \times 100$

Investor ratios:

Earnings per ordinary share (EPS) = $\text{Net income} / \text{no. of shares}$

Dividend cover = $\text{Net income} / \text{Dividend proposed and paid} \times 100$

Price per Earnings ratio = $\text{Market value per Share} / \text{EPS}$

Dividend Yield ration = $\text{Dividend per share} / \text{Market value per share} \times 100$

Extracts from financial reports used in calculations:

	Category	Total £m					
		2022 Q3	2021	2020	2019	2018	2017
Income statement	Revenue	857.2	1095.3	611.8	980.5	1096.5	876
	Cost of sales	571	751.6	500.7	642.7	660.7	496.2
	Gross profit	286.2	343.7	111.1	337.8	435.8	379.8
	Operating profit/loss	-148.4	-76.5	-322.9	-52	72.8	148.8
	Finance expense	-362.9	-173.7	-183.1	-83.9	-145.2	-99.9
	(Loss)/profit before tax	-511.3	-213.8	-466	-119.6	-68.2	84.5
	(Loss)/profit for the year	-518	-189.3	-410.5	-117.6	-57.1	76.8
Earnings per ordinary share	Basic (pence)	-155.7	-165.9	-543	-290.6	-31	38.3
Balance sheet Non-current assets	Trade and other receivables		2.1	0.9	1.8	1.8	2.1
	TOTAL non-current assets	1978.2	1974.6	1905.3	1501.7	1418.6	1213.8
Current assets	Inventories		196.8	207.4	165.3	165.3	127.8
	Trade and other receivables		243.4	177.9	240.1	240.8	115.7
	Cash and cash equivalents	771.8	418.9	489.4	144.6	144.6	167.8
	TOTAL current assets	1416	867.9	889.5	550.9	551.6	418.3
	TOTAL non-current and current assets	3394.2	2842.5	2794.8	2052.6	1970.2	1632.1
Current liabilities	Borrowings		114.3	113.5	99.4	99.4	13.5
	Trade and other payables		721	578.9	655.2	671	483.1
	TOTAL current liabilities	1082.8	905.2	808.3	789.5	790.3	529.5
Non-current liabilities	Borrowings		1074.9	971.3	604.7	604.7	827.4
	Trade and other payables		9.8	7.5	49.8	49.8	17.7
	TOTAL non-current liabilities	1526.4	1276.9	1182.4	832	730.5	966.5
	TOTAL non-current and current liabilities	2609.2	2182.1	1990.7	1621.5	1520.8	1496

Capital and reserves	Total shareholders' equity	785	660.4	804.1	431.1	449.4	136.1
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