

Financial Management & Planning

Business Review

Module Code: ACPA7002

Lecturer: Howard Davies

MSc Industry 4.0 Advanced Manufacturing

Student ID: 2110656

Student Name: Nathan Darran Gunter

Email: 2110656@student.uwtsd.ac.uk

30th January 2023

Aston Martin Lagonda-Financial Analysis

Abstract

Aston Martin has suffered year on year losses since its IPO in 2018. The company's Revenue growth is negative and being outpaced by its cost of goods sold, indicating that there are severe and costly inefficiencies within Aston Martin. These inefficiencies have resulted in cashflow problems leading to the company taking on more debt than can be covered by its assets should the need arise. This has the added impact of increasing the perceived risk to potential investors who can provide Aston Martin with much needed cash. This report details the reasons against entering into a £5m joint venture with Aston Martin.

Contents

1.	INTRODUCTION	3
2.	NOTES ON ASTON MARTIN LAGONDA'S FINANCIAL RESULTS	3
2.1.	LIMITATIONS	3
2.2.	IMPACT OF THE COVID-19 PANDEMIC.....	3
3.	ASTON MARTIN RATIOS 2017 TO 2021	4
4.	PROFITABILITY RATIOS	4
4.1.	PROFIT AND NET INCOME.....	4
4.2.	RETURN ON ASSETS.....	5
4.3.	RETURN ON EQUITY.....	5
5.	LIQUIDITY RATIOS.....	5
5.1.	CURRENT RATIO.....	5
5.2.	QUICK RATIO	6
5.3.	CASH RATIO	6
6.	ACTIVITY RATIOS	6
6.1.	DAY SALES OUTSTANDING & DAYS PAYABLE OUTSTANDING	6
6.2.	INVENTORY TURNOVER	6
7.	LEVERAGE RATIOS	7
7.1.	GEARING RATIO.....	7
7.2.	DEBT/EQUITY RATIO	7
7.3.	LONG TERM DEBT/EQUITY RATIO.....	7
7.4.	INTEREST COVERAGE.....	7
8.	INVESTOR RATIOS.....	8
8.1.	EARNINGS PER SHARE & PRICE PER EARNINGS RATIO.....	8
8.2.	DIVIDENDS.....	8
9.	CONCLUSION	8
9.1.	SUMMARY OF ASTON MARTIN'S PERFORMANCE	8
9.2.	DECISION ON A POSSIBLE JOINT VENTURE.....	9
9.3.	SUGGESTED IMPROVEMENTS.....	9
10.	REFERENCES.....	10
11.	APPENDIX	13
11.1.	ASTON MARTIN FINANCIAL DATA 2017-2021	13
11.2.	FINANCIAL RATIO FORMULAS.....	14
11.2.1.	<i>Profitability Ratios</i>	14
11.2.2.	<i>Liquidity Ratios</i>	14
11.2.3.	<i>Activity Ratios</i>	14
11.2.4.	<i>Leverage Ratios</i>	14
11.2.5.	<i>Investor Ratios</i>	14
	TABLE 1 ASTON MARTIN FINANCIAL RATIOS 2017-2021	4
	FIGURE 1 DAILY REVENUE V DAILY COGS	5
	FIGURE 2 NET INCOME V EPS RATIO	8

1. Introduction

Founded in 1913 by Lionel Martin and Robert Bamford, Aston Martin (LON:AML), is a manufacturer of high-performance luxury sports cars based in Gaydon, Warwickshire. While smaller than its competitors such as Ferrari, Lamborghini and McLaren, Aston Martin differentiates itself by focusing on expert craftsmanship and a more personalised and exclusive customer experience. The company's legacy of producing iconic and classic sports cars such as the DB5 and Vantage has helped Aston Martin build a loyal fan base and is synonymous with the James Bond franchise. Aston Martin has expanded its racing presence by officially joining the Formula 1 grid as a constructor in 2021 and has released its first hyper-car, the Valkyrie.

Aston Martin has had a rocky financial performance in recent years. The company went public in 2018 and is traded on the London Stock Exchange. However, the stock has struggled with its capitalisation which is now significantly lower than the valuation at the time of the initial public offering (IPO). Despite this, Aston Martin remains in the FTSE 250.

The following report will analyse Aston Martin's financial performance for the period 2017 to 2021 and determine if a potential £5m joint venture is a worth-while pursuit.

2. Notes on Aston Martin Lagonda's Financial Results

2.1. Limitations

Ratios are mathematical calculations that the company use to evaluate its performance (Fields, 2016). They are based on historical data and used by company management and stakeholders to assess the financial growth and stability. In the practise of financial analysis, financial ratios are mainly used for their simplicity and additional information value. These ratios make it possible to analyze the evolution of the financial situation of a firm (trend analysis), cross-sectional analysis and comparative analysis (Myskova & Hajek, 2017).

However, the use of ratios comes with limitations due to the baseline data being historical in its nature. When calculating financial ratios from balance sheets, the data tends to be for a given financial period. It can be difficult to use this data and the resulting ratios to predict future performance of a given company as future events or changes in the markets are not considered when calculating ratios. The accuracy of the ratios can also be impacted by one-time events which can skew the overall results and not show the true performance for a given period of operation. Ratios are also affected by the lack of standardisation when it comes to accounting policies and choices, which can mislead reviewers on the performance of a company without further reading into financial reports and balance sheets. Because of this, ratios will be most useful when used in conjunction with other financial information.

Financial ratios are most useful when compared to similar companies or industry averages. Doing so allows management and stakeholders to compare their performance more accurately against their competitors. A company may have financial data and ratios pointing to increased and steady performance over a five-year period, but when compared to the wider industry and direct competitors, they may be growing at a reduced rate.

2.2. Impact of the COVID-19 Pandemic

As stated above, the use of financial ratios cannot be used to predict future market conditions or say with certainty how a company would fare during one-time events. An example of this is how the COVID-19 pandemic impacted not only Aston Martin, but the automotive industry. There was significant decrease in the demand for luxury cars due to government mandated lockdowns to combat the spread of the virus.

These lockdowns and economic slowdown resulted in poor financial performance for Aston Martin. Some considerations were made as to the inclusion of the financial data for this period. The decision was made to include the data as the company's 2021 results will show how much of an impact COVID-19 had on the business and how well they are able to recover from the event. The effects of the pandemic will skew year-on-year growth results but comparison to other manufactures from the same industry will help to resolve any inconsistencies.

3. Aston Martin Ratios 2017 to 2021

		2017	2018	2019	2020	2021	CAGR/YoY
Profitability Ratios	Gross Profit	£ 379.80	£ 435.80	£ 354.60	£ 111.10	£ 343.70	-1.98%
	Gross Margin %	43.36%	39.74%	35.56%	18.16%	31.38%	-6.26%
	Operating Profit	£ 148.80	£ 72.80	-£ 36.70	-£ 322.90	-£ 76.50	-187.54%
	Operating Profit %	16.99%	6.64%	-3.68%	-52.78%	-6.98%	-183.72%
	Net Income	£ 76.80	-£ 57.10	-£ 104.40	-£ 410.50	-£ 189.30	-219.77%
	Net Profit %	8.77%	-5.21%	-10.47%	-67.10%	-17.28%	-214.54%
	Return On Assets	4.71%	-2.90%	-4.68%	-14.69%	-6.66%	-207.19%
	Return on Equity	56.43%	-12.71%	-29.09%	-51.05%	-28.66%	-187.33%
Liquidity Ratios	Current Ratio	0.790	0.698	0.661	1.100	0.959	3.95%
	Quick Ratio	0.55	0.49	0.43	0.84	0.74	6.21%
	Cash Ratio (with)	0.317	0.183	0.126	0.605	0.463	7.87%
Activity Ratios	Average Revenue per Day	£ 2,400,000.00	£ 3,004,109.59	£ 2,732,328.77	£ 1,676,164.38	£ 3,000,821.92	4.57%
	Average COGS per Day	£ 1,359,452.05	£ 1,810,136.99	£ 1,760,821.92	£ 1,371,780.82	£ 2,059,178.08	8.66%
	Day Sales Outstanding (DSO)	48.2 Days	80.8 Days	92.0 Days	106.7 Days	81.8 Days	11.16%
	Inventory Turnover	3.88 Turns	4.51 Turns	3.51 Turns	2.45 Turns	3.72 Turns	-0.86%
	Days Payable Outstanding (DPO)	368.38 Days	398.20 Days	404.07 Days	427.47 Days	354.90 Days	-0.74%
Leverage Ratios	Gearing Ratio	87.66%	61.91%	73.86%	59.52%	65.91%	-5.54%
	Debt/Equity Ratio	10.99	3.38	5.22	2.48	3.30	-0.60%
	Long Term Debt/Equity Ratio	7.10	1.63	2.83	1.47	1.93	-22.91%
	Interest Coverage	3.30	1.63	-0.66	-3.28	-0.51	-168.72%
Investor Ratios	Earnings per Ordinary Share	0.40	-0.28	-0.46	-5.32	-1.64	-232.83%
	Dividend Cover	0	0	0	0	0	%
	Price per Earnings Ratio	93.075	-278.063	-72.886	-3.778	-8.255	-161.60%
	Dividend Yield Ratio	0	0	0	0	0	0%

Table 1 Aston Martin Financial Ratios 2017-2021

4. Profitability Ratios

4.1. Profit and Net Income

Revenue has been falling -1.98% YoY, in the period 2017 to 2021. Gross profit has also been declining from £379.80m (43.36%), in 2017, to £343.70m (31.38%), in 2021. This decline is made worse due to an increase in COGS of 51.47% over the same period. Aston Martin's financial results show that COGS are outpacing any increases in revenue. This can be more clearly seen by calculating the average revenue and average COGS per day.

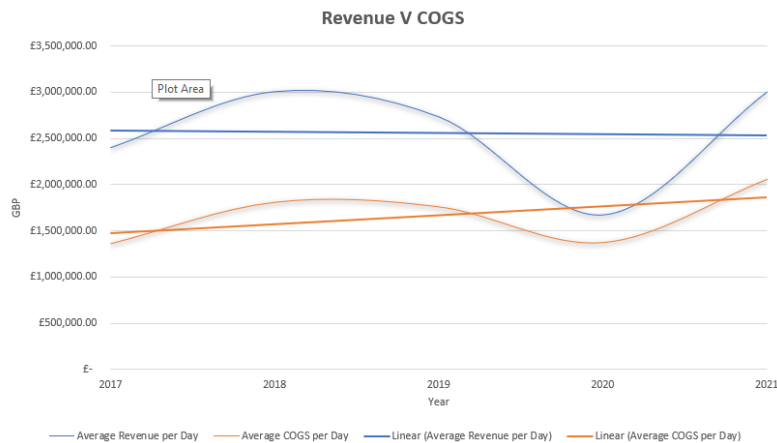


Figure 2 Daily Revenue v Daily COGS

These results show that on average, daily revenue increases by 4.57% CAGR, each year while COGS is almost double at 8.66% CAGR. Efforts in increasing manufacturing efficiencies should be undertaken to reduce these costs.

Operating expenses are also raising sharply, up almost 82% over the same 5-year period. This together with the increase in COGS has likely led to decreases in operating profit over 5 years of -48.59% and has resulted in Aston Martin not making a profit in the years 2018 to 2021; a decrease of 346% since last making a net income of £76.8m in 2017.

4.2. Return on Assets

Total assets have increased from £1,632.1m to £2842.5 (+11.74 CAGR), since 2017. This is likely due to Aston Martin tooling up production lines to prepare for the launch of the DBX model. However, the ROA has been in decline since 2017, slipping from 4.71% in 2017 to -6.66% in 2021. This points to the previous statement that there are inefficiencies within Aston Martin's manufacturing process that is contributing to loss of income.

4.3. Return on Equity

Return on equity (ROE), is a way of measuring how efficiently a company can generate profits by considering its shareholders equity. The higher the ROE, the better a company is at converting its equity financing into profits (Dotdash Meredith, 2021). Since their IPO in October 2018, Aston Martin has consistently recorded a ROE below zero. During 2020, ROE dropped to -51% but has since increased to -28.66%, slightly about 2019's figure. This negative ROE would suggest that the company carries a high amount of debt. When a company incurs losses, this results in cash outflow. So, the company generally borrows to stay and operate (Vaidya, 2017). Other ratios calculated and given further in this report supports the position that Aston Martin is operating with too much debt.

5. Liquidity Ratios

5.1. Current Ratio

Current ratio compares current assets with current liabilities. A resulting ratio below 1.0 indicates that a company's current assets are less than their current liabilities. This can signal that a company has liquidity problems. Aston Martin had a Current ratio of 0.79 in 2017 that dropped to 0.66 in 2019. This could be due to equipment depreciating quicker than any loans used to procure them is being paid. Another reason for the low ratio could be due to issues with inventory levels being too low to produce the required orders. Comparing Aston Martins inventory levels against the number of units sold suggests that low inventory is not the cause but other indicators such as cash flow may be the cause.

In 2020, this ratio broke the 1.0 threshold, raising to 1.10 after an increase in current liabilities of just over £300m. However, a ratio in excess of 1.0 is not necessarily an indication that the company is sufficiently liquid (Fields, 2016). High inventory levels can lead to higher Current ratios. Inventory levels for the period 2019 to 2021 remain relatively flat. No spikes can be seen but the sales for 2020 are significantly lower than both 2019 and 2021 figures. This may be the reason for the higher Current ratio due to excess inventory being held with no means of consumption due to the COVID lockdowns. This can be backed up with a Current ratio of 0.959 in 2021. During this period, Aston Martin would have resumed production and would slowly consume the inventory.

5.2. Quick Ratio

Quick Ratio is like the Current ratio except that it does not include inventory. Using this ratio, it would be possible to determine if the low Current ratio is due to mismanagement of inventory levels.

Quick ratio is less than 1.00 in the years 2017 to 2019, before hitting 0.84 in 2020. There is some discussion regarding the ideal Quick ratio figure. In his book, Finance and Accounting for Nonfinancial Managers, Edward Fields suggests that a Quick ratio in the vicinity of 0.8 would be acceptable. However, due to the way that this ratio is calculated it would suggest that the higher the ratio the better as the company would be able to generate cash quickly for protection against unexpected events in the market. One possible downside of a high Quick ratio could indicate that the company is not reinvesting funds to fuel growth.

5.3. Cash Ratio

Cash ratio shows whether a company can cover its short-term debts using only cash and cash equivalents. Any resulting figure above 1.0 suggests that a company has more cash than current debts. The inverse is also true in that any figure below 1.0 indicates that a company cannot cover its current debts with cash it has to hand.

Aston Martin has consistently had a Cash ratio of below 1.0 since 2017. This, together with a high DSO and DPO suggests that Aston Martin has a cashflow issue. Aston Martin are taking steps to improve this situation as their Cash ratio is increasing 7.87% YoY over the period 2017 to 2021.

6. Activity Ratios

6.1. Day Sales Outstanding & Days Payable Outstanding

DSO has been increasing since 2017 before dropping slightly in 2021. This may indicate that customers may be using lines of credit to make the purchases. This restricted cashflow is likely the reason for Aston Martin having a DPO of over 300 days. Having a high DPO gives Aston Martin more cash for short-term investments and increases their working capital. It should be noted that this is at the risk of souring relationships with suppliers and damaging its supply chains and the availability of future trade credit. This high DPO may also be contributing to the increasing COGS whereby discounts offered by its suppliers may be missed due to the time taken to settle accounts. However, a High DPO can be the result of a company using its available cash more wisely and not necessarily indicate a cashflow issue. But the higher-than-average DSO suggests issues with cashflow and possibly difficulties in paying suppliers.

6.2. Inventory Turnover

Inventory turnover is in line with Ferrari and has remained constant since 2017 with only a drop in 2020 to 2.45 turns, no doubt due to the pandemic. However, Ferrari did not experience such a drop during the same time.

7. Leverage Ratios

7.1. Gearing Ratio

Gearing ratio measures the capital structure of a business and provides information on the proportion of finance that is provided by debt compared to the finance from shareholders. An ideal gearing level varies from industry to industry. However, Investopedia.com states, A gearing ratio between 25% and 50% is typically considered optimal or normal for well-established companies (Dotdash Meredith, 2021).

Aston Martin's Gearing ratio has been consistently above the 50% target stated by Investopedia. It should be noted that this is decreasing by 5.54% YoY indicating that an effort may be underway to improve this ratio. Reducing this ratio will ultimately make investing in Aston Martin more appealing as they would be considered low risk.

7.2. Debt/Equity Ratio

The debt/equity ratio measures risk from the perspective of both the company and existing and potential lenders (Fields, 2016). The higher this ratio, the higher the investment risk as the company would rely on debt financing. Debt must be repaid or refinanced, imposes interest expense that typically can't be deferred, and could impair or destroy the value of equity in the event of a default (Dotdash Meredith, 2021). Although Aston Martin's D/E ratio has reduced drastically since its IPO in 2018, it is still high at 3.30 for the end of 2021. This effectively means that Aston Martin held £3.30 in debt for every £1 of equity. This ratio is best used when compared to a company's competitor. Looking at Ferrari (BIT:RACE), their D/E ratio has fallen from 5.60 at the end of 2016 to 1.19 by the end of 2021. This is an improvement of over 78% for Ferrari compared to Aston Martin improving only 0.6% since their IPO.

7.3. Long Term Debt/Equity Ratio

Long term debt to equity ratio is a leverage ratio comparing the total amount of long-term debt against the shareholders' equity of a company (Carbon Collective Corporation, 2023). While this ratio is like the debt/equity ratio, as the name suggests this ratio only calculates long term debt. This is an important ratio to consider as long-term debt can be more burdensome and inherently higher risk. Aston Martin's long-term debt/equity ratio has decreased from 7.10 in 2017, to 1.93 at the end of 2021. This is considered normal for manufacturing companies as large investments are often required. Capital-intensive industries like the financial and manufacturing industries often have higher ratios that can be greater than 2 (British Business Bank plc, 2023).

7.4. Interest Coverage

Taking on debt can be an effective way of growing a business if free cashflow is insufficient to do so. For obvious reasons repaying these debts is crucial but at the bare minimum, a company must ensure that it is able to cover the interest on any outstanding debt. To determine this, the interest coverage ratio is used. Lenders, investors, and creditors often use this formula to determine a company's riskiness relative to its current debt or for future borrowing (Dotdash Meredith, 2021). It would be vital that any company planning on using debt to fuel growth or general operations monitors and maintain this ratio. When applying this ratio to Aston Martin it shows serious sign of concern for the company. With a relatively healthy ratio of 3.30 in 2017, this has dropped drastically to -0.51 by the end of 2021. This figure was worse for 2020 at -3.28 for obvious reasons and would explain the negative figure in 2021 if the interest coverage ratio hadn't dropped to -.66 by the end of 2019. Although it may be possible for companies that have difficulties servicing their debt to stay in business, a low or negative interest coverage ratio is usually a major red flag for investors. In many cases, it indicates that the firm is at risk of bankruptcy in the future (GoCardless Ltd, 2020).

8. Investor Ratios

8.1. Earnings per Share & Price per Earnings Ratio

The earnings per share ratio (EPS) is the percentage of a company's net income per share if all profits are distributed to shareholders (Deskera, 2022). This ratio is tied directly to the net income and in the case of Aston Martin has been negative in line with net losses.

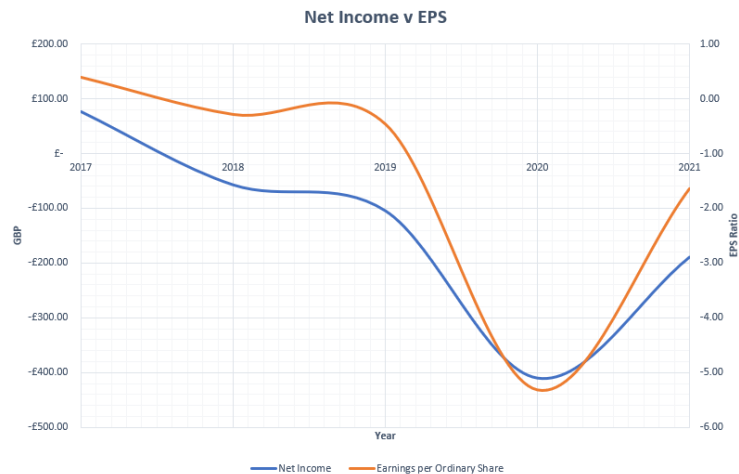


Figure 3 Net Income v EPS Ratio

As of 2021, the EPS ratio is at £-1.64. This ratio has been in the negative since the company's IPO in 2018. This negative ratio also directly affects the Price per Earnings ratio which has also been negative since the company's IPO. Negative EPS and P/E ratios aren't always a cause for concern. Changes to accounting methods and depreciation or amortization policies can skew the accuracy of these ratios.

8.2. Dividends

Aston Martin has no dividends information available. There is no legal obligation on a company to declare dividends. Even if there are available profits for distribution, the directors may decide not to declare a dividend if this is not in the best interests of the company (Downie, 2020). With Aston Martin failing to turn a profit from 2018 to 2021, it is no surprise that they opted not to pay any dividends.

9. Conclusion

9.1. Summary of Aston Martin's performance

Aston Martin's financial results shows the company is not only failing to turn a profit due to COGS outpacing revenue growth, but also the taking on of more debt than its assets can cover, to remain operational. Delays in accounts receivable is harming their ability to maximise cashflow for reinvestment within the company and has a knock-on effect of increasing the DPO to 12 months or greater. This in turn increases the COGS further whereby Aston Martin would be unable to benefit from possible discounts from their suppliers and defend against inflation, should they be able to pay suppliers in a timely manner.

The lack of profit also impacts earnings per share. This makes Aston Martin less attractive to potential investors and limits a potential avenue of extra cash that the company needs.

An article in *Almana: Jurnal Manajemen dan Bisnis* by Astuti et al, detailed a study in which ratios were used to predict financial distress of a company. This study found that the most useful ratios for the Prediction of financial distress companies in the manufacturing sector in IDX were profitability (Astuti, et al., 2021). Aston Martin shows all the signs of being in distress and

questions should be asked by its current shareholders and board members regarding any possible safeguarding action required to secure the company's long-term future.

Aston Martins Q3 results show further losses for the nine months to 30th September. During this time, Aston Martin has a net loss of £-518m. To put this in perspective, the losses for 2020 and 2021 total £-599.8m. Aston Martin's losses will likely increase for the final three months of 2022 due to supply chain issues preventing sales as well as increased inflation driving up raw material costs and the increases in energy costs.

9.2. Decision on a Possible Joint venture

The nature of the joint venture with Aston Martin is key to this decision. The company's financial results would preclude any technical venture. The initial £5m could be quickly absorbed by Aston Martin as it represents 3 days COGS according to their 2022 Q3 results. Any party entering into a joint venture with Aston Martin may also get caught up in any legal action should the company collapse and risk losing any technical advancements as a result. However, dictating the terms of the agreement prior to any venture could protect against this.

A branding or licensing venture would be preferable. The fallout from this venture should Aston Martin collapse may result in brand damage from being associated with a failed company but remains the less risky option.

With no clear definition of the type of joint venture proposed, this report cannot recommend entering any venture with Aston Martin.

9.3. Suggested Improvements

Aston Martin needs significant improvement to remain operational and return to profitability. There are several strategies that can be employed:

- Focusing on cost-cutting and efficiency improvements to reduce COGS and streamline the production process to improve profits. This would help increase cashflow and can be used to reduce the company's debt. This would also have the added benefit of making the company more appealing to investors. Increasing the costs of their products should be a last resort as this can negatively impact Aston Martin's position in the market,
- Streamline their dealer network to ensure that funds are transferred in a timely manner. This would go on to increase cashflow within the company and provide a solid foundation for reducing their DPO ratio.
- Expanding its product portfolio to include more affordable models or electric vehicles with the aim of appealing to a wider range of potential customers.
- Aston Martin could invest in more R&D activities to develop new technologies and innovations. These can then be sold, licensed, or used in their cars to set them apart from their competitors.
- Diversifying revenue streams such as exploring licensing of the brand to other manufacturers or industries as well as merchandising.

These are general suggestions and the strengths and weakness not only of the business but also, its employees should be considered before any decision is made.

10. References

Aston Martin Lagonda, 2019. *ASTON MARTIN LAGONDA 2018 ANNUAL REPORT*, Warwick: Aston Martin Lagonda.

Aston Martin Lagonda, 2020. *ASTON MARTIN LAGONDA GLOBAL HOLDINGS PLC 2019 ANNUAL REPORT*, Warwick: Aston Martin Lagonda.

Aston Martin Lagonda, 2021. *ASTON MARTIN LAGONDA GLOBAL HOLDINGS PLC 2020 ANNUAL REPORT*, Warwick: Aston Martin Lagonda.

Aston Martin Lagonda, 2022. *ASTON MARTIN LAGONDA ANNUAL REPORT AND ACCOUNTS 2021*, Warwick: Aston Martin Lagonda.

Aston Martin Lagonda, 2023. *Q3 2022 Results*, Warwick: Aston Martin Lagonda.

Astuti, M. D., Hermuningsih, S. & Maulida, A., 2021. FINANCIAL RATIO ANALYSIS IN PREDICTING THE CONDITIONS OF FINANCIAL DISTRESS. *Almana : Jurnal Manajemen dan Bisnis*, 5(2), pp. 235-240.

Bank of England, 2023. www.bankofengland.co.uk. [Online]
Available at: <https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator>
[Accessed 11 January 2023].

British Business Bank plc, 2023. www.british-business-bank.co.uk. [Online]
Available at: <https://www.british-business-bank.co.uk/finance-hub/what-level-of-debt-is-healthy-for-business/#:~:text=Generally%2C%20a%20good%20debt%20ratio,can%20be%20greater%20than%202.>
[Accessed 5 January 2023].

Carbon Collective Corporation, 2023. www.carboncollective.co. [Online]
Available at: <https://www.carboncollective.co/sustainable-investing/long-term-debt-to-equity-ratio>
[Accessed 15 January 2023].

Deskera, 2022. www.deskera.com. [Online]
Available at: [https://www.deskera.com/blog/earnings-per-share-ratio/#:~:text=Earnings%20per%20share%20ratio%20\(EPS\)%20is%20a%20financial%20ratio%20calculated,performance%20and%20profitability%20before%20investing.](https://www.deskera.com/blog/earnings-per-share-ratio/#:~:text=Earnings%20per%20share%20ratio%20(EPS)%20is%20a%20financial%20ratio%20calculated,performance%20and%20profitability%20before%20investing.)
[Accessed 17 January 2023].

Dotdash Meredith, 2021. www.investopedia.com. [Online]
Available at: <https://www.investopedia.com/ask/answers/121814/what-good-gearing-ratio.asp#:~:text=A%20gearing%20ratio%20between%2025,by%20both%20investors%20and%20lenders.>
[Accessed 30 December 2022].

Downie, S., 2020. www.franciswilksandjones.co.uk. [Online]
Available at: <https://www.franciswilksandjones.co.uk/failure-to-pay-dividends/#:~:text=There%20is%20no%20legal%20obligation,best%20interests%20of%20the%20company>.
[Accessed 05 December 2022].

Fields, E., 2016. *Finance and Accounting for Nonfinancial Managers*. 3rd ed. New York: AMACOM.

GIF, 2020. *Impact Report 2020*, London: Global Innovation Fund.

GoCardless Ltd, 2020. www.gocardless.com. [Online]
Available at: <https://gocardless.com/guides/posts/interest-coverage-ratio/>
[Accessed 7 January 2023].

Grady, J. T., 2008. A Better Way to Analyze Business Cash Flow. *The RMA Journal*, 91(2), pp. 74-80.

Kim, J. & Im, C., 2017. Study on Corporate Social Responsibility (CSR): Focus on Tax Avoidance and Financial Ratio Analysis. *Sustainability*, 9(10), pp. 1-15.

Lind, L. et al., 2012. Working capital management in the automotive industry: Financial value chain analysis. *Journal of Purchasing & Supply Management*, 18(2), pp. 92-100.

Myskova, R. & Hajek, P., 2017. Comprehensive assessment of firm financial performance using financial ratios and linguistic analysis of annual reports. *Journal of International Studies*, 10(4), pp. 96-108.

OECD, 2013. *"THE WHERE" OF DEVELOPMENT FINANCE*, Paris: Organisation for Economic Co-operation and Development.

Pisar, P., 2019. European SMEs' value management based on controlling financial analysis and ratios – empirical study. *Investment Management and Financial Innovations*, 16(4), pp. 277-289.

Rashid, C. A., 2018. Efficiency of Financial Ratios Analysis for Evaluating Companies' Liquidity. *International Journal of Social Sciences & Educational Studies*, 4(4), pp. 110-123.

Roni, M., Meriyati & Hermanto, A., 2021. CAPITAL STRUCTURE CHANGES IN THE AUTOMOTIVE SECTOR AFFECTED BY FINANCIAL PERFORMANCE. *el Barka: Journal of Islamic Economic and Business*, 4(1), pp. 108-133.

Tudose, M. B. & Avasilcai, S., 2019. *The assessment of the financial performance based upon ratios. A comparative analysis*. Iași,, IOP Publishing.

Uechi, L. et al., 2015. Sector dominance ratio analysis of financial markets. *Physica A: Statistical Mechanics and its Applications*, Volume 421, pp. 488-509.

Vaidya, D., 2017. *www.wallstreetmojo.com*. [Online]
Available at: <https://www.wallstreetmojo.com/negative-shareholders-equity/>
[Accessed 29 December 2022].

Zacks Investment Research, 2023. *www.macrotrends.net*. [Online]
Available at: <https://www.macrotrends.net/stocks/charts/RACE/ferrari/financial-ratios>
[Accessed 05 January 2023].

11. Appendix

11.1. Aston Martin Financial Data 2017-2021

Year	2017	2018	2019	2020	2021
Revenue (£m)	£ 876.00	£ 1,096.50	£ 997.30	£ 611.80	£ 1,095.30
COGS (£m)	£ 496.20	£ 660.70	£ 642.70	£ 500.70	£ 751.60
SG&A (£m)	£ 231.00	£ 363.00	£ 391.30	£ 434.00	£ 420.20
Interest & TAX (£m)	£ 72.00	£ 129.90	£ 67.70	£ 87.60	£ 112.80
Current Assets (£m)	£ 418.30	£ 551.60	£ 567.50	£ 889.50	£ 867.90
Total Assets (£m)	£ 1,632.10	£ 1,970.20	£ 2,231.10	£ 2,794.80	£ 2,842.50
Shareholder Equity (£m)	£ 136.10	£ 449.40	£ 358.90	£ 804.10	£ 660.40
Current Liabilities (£m)	£ 529.50	£ 790.30	£ 858.20	£ 808.30	£ 905.20
Non-Current/Long Term Liabilities (£m)	£ 966.50	£ 730.50	£ 1,014.00	£ 1,182.40	£ 1,276.90
Total Liabilities (£m)	£ 1,496.00	£ 1,520.80	£ 1,872.20	£ 1,990.70	£ 2,182.10
Stock (£m)	£ 127.80	£ 165.30	£ 200.70	£ 207.40	£ 196.80
Cash & Cash Equivalents (£m)	£ 167.80	£ 144.60	£ 107.90	£ 489.40	£ 418.90
Trade and Other Receivables (£m)	£ 115.70	£ 242.60	£ 251.50	£ 178.80	£ 245.50
Trade and Other Payables (£m)	£ 500.80	£ 720.80	£ 711.50	£ 586.40	£ 730.80
Interest Charge (£m)	£ 45.10	£ 44.60	£ 55.30	£ 98.40	£ 151.30
Number of Shares	193,800,000	202,100,000	228,000,000	77,200,000	115,500,000
Ordinary Dividend	0.000	0.000	0.000	0.000	0.000
Market Value per Share	£ 36.88	£ 78.56	£ 33.37	£ 20.09	£ 13.53
Dividend per Share	0.000	0.000	0.000	0.000	0.000
Units Sold	5,098	6,441	5,862	3,394	6,178

11.2. Financial Ratio Formulas

11.2.1. Profitability Ratios

$$\text{Gross Profit} = \text{Revenue} - \text{COGS}$$

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100$$

$$\text{Operating Profit} = \text{Gross Profit} - \text{SG\&A}$$

$$\text{Operating Profit Margin} = \frac{\text{Operating Profit}}{\text{Revenue}} \times 100$$

$$\text{Net Income} = \text{Operating Profit} - \text{Tax}$$

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Revenue}} \times 100$$

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}} \times 100$$

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{ShareHolder Equity}} \times 100$$

11.2.2. Liquidity Ratios

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Stock}}{\text{Current Liabilities}}$$

$$\text{Cash Ratio} = \frac{\text{Cash \& Cash Equivalents}}{\text{Current Liabilities}}$$

11.2.3. Activity Ratios

$$\text{Days Sales Outstanding (DSO)} = \frac{\text{Trade \& Other Recivables}}{\text{Average Revenue per Day}}$$

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\left(\frac{\text{Average Inventory}}{\text{Stock}} \right)}$$

$$\text{Days Payable Outstanding (DPO)} = \frac{\text{Trade \& Other Recivables}}{\text{Average COGS per Day}}$$

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

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

11.2.4. Leverage Ratios

$$\text{Gearing Ratio} = \frac{\text{Non Current Liabilities}}{\text{Equity} + \text{Non current Liabilities}} \times 100$$

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

$$\text{Long Term Debt/Equity Ratio} = \frac{\text{Long term Debt}}{\text{Stockholders Equity}} \times 100$$

$$\text{Interest Coverage} = \frac{\text{Operating Profit}}{\text{Interest Charge}} \times 100$$

11.2.5. Investor Ratios

$$\text{Earnings per Share (EPS)} = \frac{\text{Net Income}}{\text{Number of SShares}}$$

$$\text{Dividend Cover} = \frac{\text{Net Income}}{\text{Dividend Proposed \& Paid}} \times 100$$

$$\text{Price per Earnings Ratio} = \frac{\text{Market Value per Share}}{\text{Earnings per Share}}$$

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per Share}}{\text{Market Value per Share}} \times 100$$