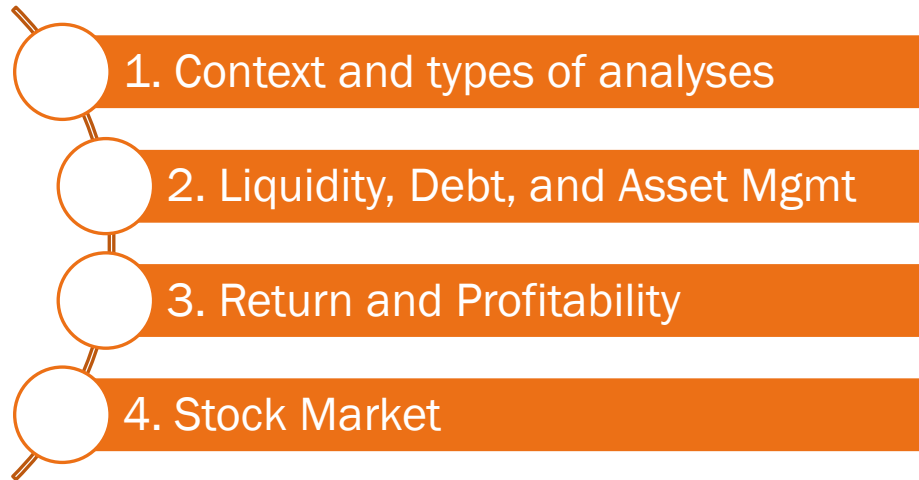




Managerial Accounting

MARCELO ORTIZ

Analysis of Financial Statements

- 
- 1. Context and types of analyses
 - 2. Liquidity, Debt, and Asset Mgmt
 - 3. Return and Profitability
 - 4. Stock Market

1. Context and types of analyses

As managers, we can use financial statements to evaluate the financial performance and efficiency of the overall company and different business segments... this analysis is very similar to the approach of an external investor deciding to price our company.

But as managers, we have an advantage relative to external investors: we can get more data, and request reports tailored to specific managerial questions.... That will be the focus on Topics 6 to 9.

Now, we will study a general framework for financial analysis (meaning, using the same data that an external investor would have), trying to get managerial insights from it:

- how is our company growing? Type of assets, funding.
- do we need to change our liquidity/solvency policy?
- are we using our assets efficiently?
- what is driving our profits/losses?

... not only useful for our evaluating our company (or business unit), but also competitors, suppliers, and customers.

1. Context and type of analyses

Economic Factors

- Unemployment
- Inflation
- Interest rate

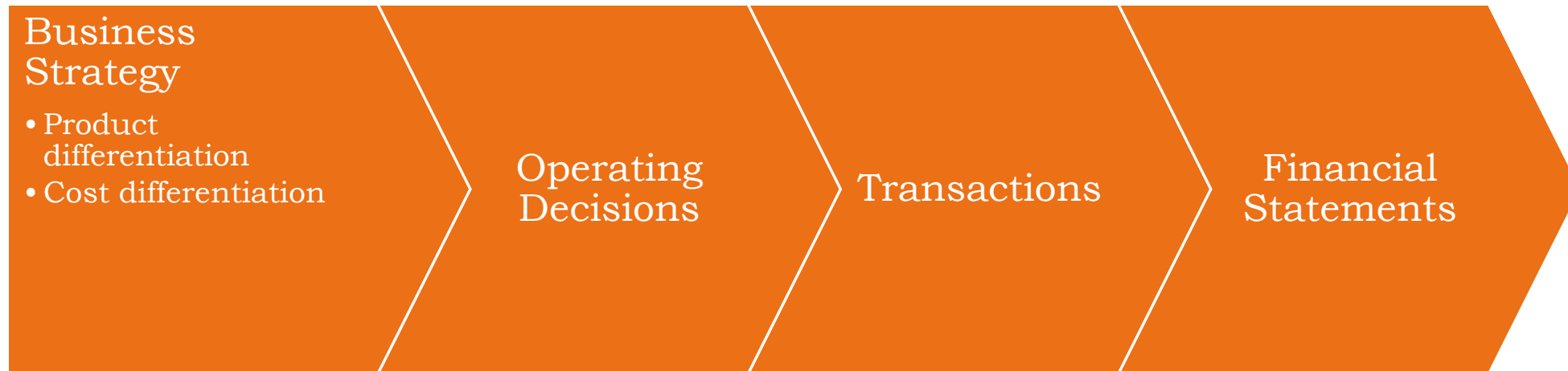
Industry Factors

- Competition
- Demand elasticity
- New technologies

Company Factors

- Business strategy
- Financial situation

1. Context and type of analyses



1. Context and types of analyses



Volkswagen AG

Industry:

- Automobile manufacturer and car manufacturer in Europe.

Products:

- The group develops vehicles, vehicle software, passenger cars, light commercial vehicle, truck, buses and motorcycles.
- It also offers dealer and customer financing, leasing, banking and insurance, and fleet management services. (...)

Brands:

- It markets its vehicles under multiple brand names, including Audi, SEAT, Skoda, Bentley, Bugatti, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania, and Cupra.

Location:

- It has manufacturing facilities in Salzgitter, Germany and China. Volkswagen has business presence the Americas, Europe, Asia-Pacific and the Middle East. The company is headquartered in Wolfsburg, Germany.

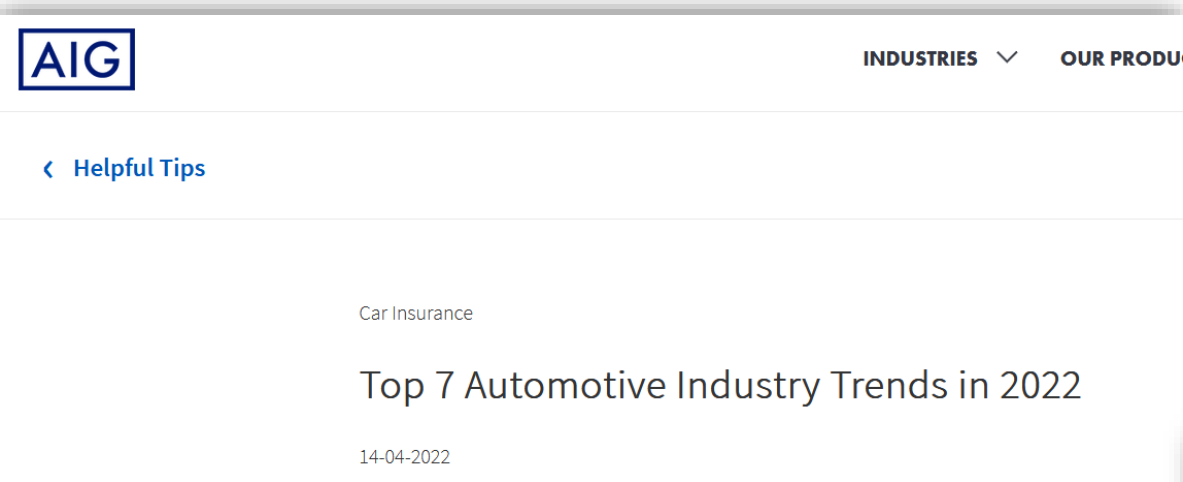
1. Context and type of analyses

First, we need to know the background (also called "qualitative analysis").

How is the industry evolving in terms of:

- technologies?
- product demand?
- input costs or supply chain?
- the number of competitors?

1. Context and type of analyses



- + connected cars.
- + electrical batteries.
- + autonomous self-driven cars.
- + digital sales.
- + sales of pre-owned cars.

eMobility

In-depth Market Insights & Data Analysis

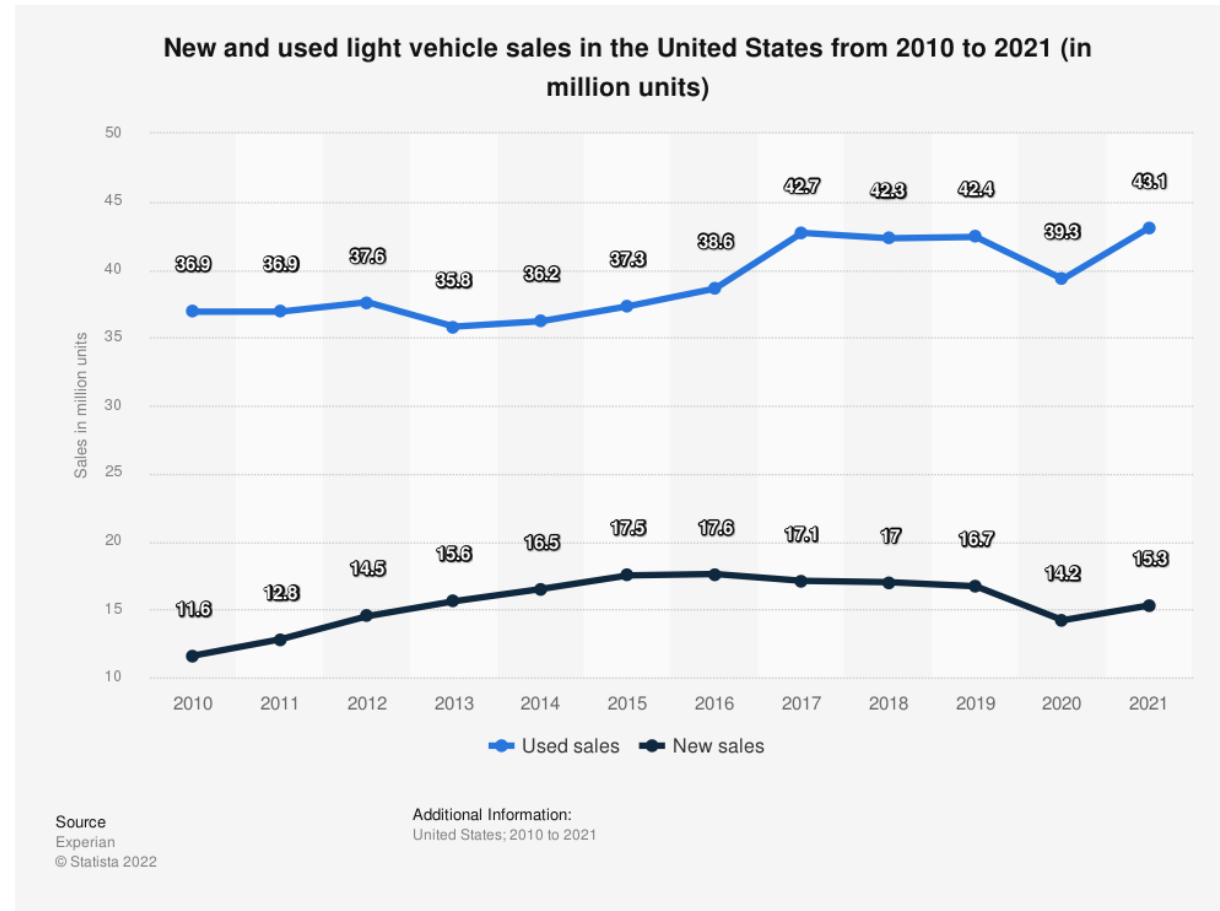


In 2021, global electric vehicle sales surpassed 6.5 million units, an increase of 120% over that of 2020. Currently, Mainland China is leading the way with a market share of almost 50%.

Car manufacturers are pushing to bring out new electric car models and have big plans for the future. The 2021 race for the highest market share was won by the Tesla Model 3 with 8%, followed by Wuling's Hong Guang MINI EV, and Tesla Model Y with 6% each, Volkswagen ID.4 and BYD Qin Plus PHEV with 2% each respectively.

[Source](#)

1. Context and type of analyses



[Source](#)

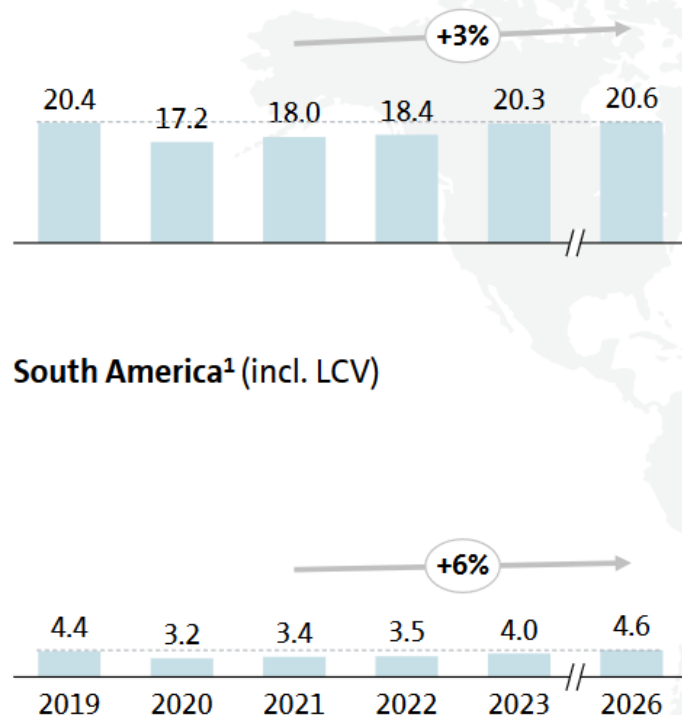
1. Context and type of analyses

Passenger Car Total Markets by Region

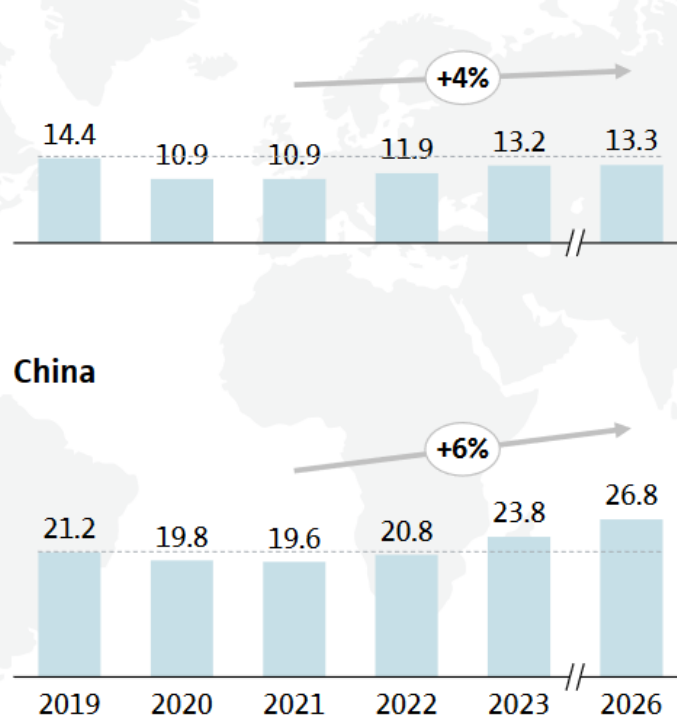
[million units]

CAGR ○

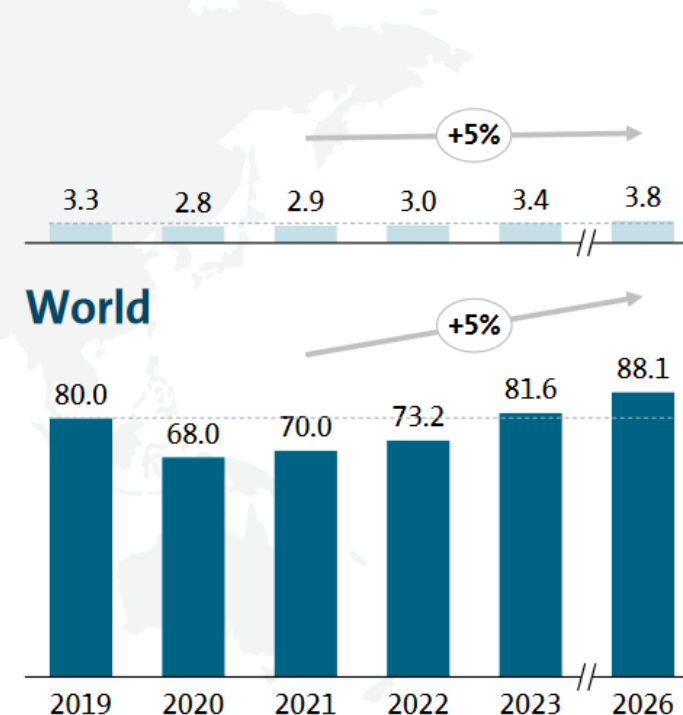
North America (incl. LCV)



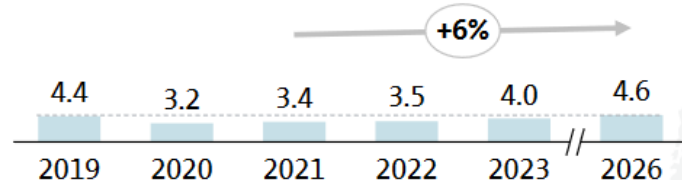
Western Europe



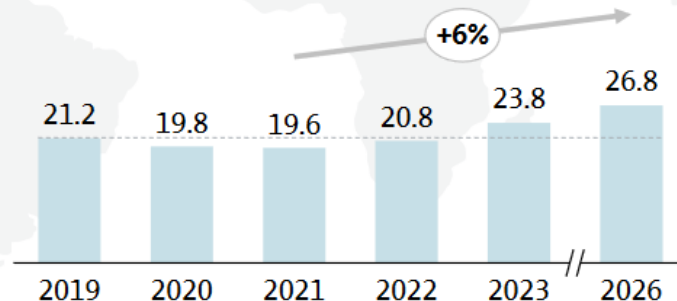
Central and Eastern Europe



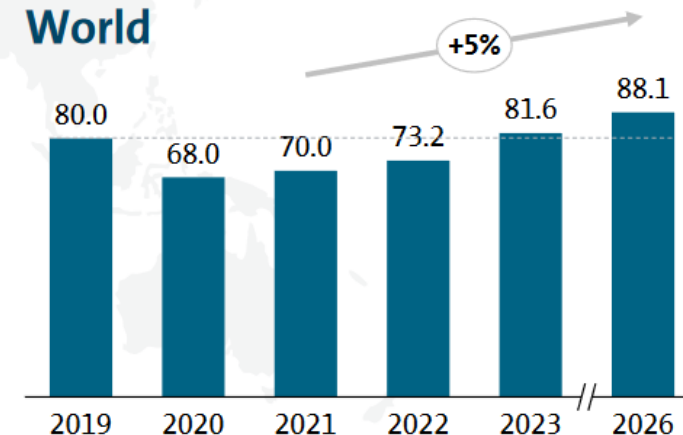
South America¹ (incl. LCV)



China



World



¹ South America includes Brazil, Argentina, Chile and Venezuela

Source: IHS Markit Automotive, MarketInsight New Registration data, 11/2021

Pressing issues for automotive supply chains

Covid has shown up supply chain fragilities in automotive. We look at current trends and supply chain issues for the sector.

By David Leggett



[Source](#)

1. Context and type of analyses

Company	Revenue (US\$m)	Employees	Market Cap (US\$m)	HQ Country
Volkswagen AG	295,850	668,012	86,881	Germany
Toyota Motor Corp	279,359	372,817	259,645	Japan
Mercedes-Benz Group AG	158,322	173,000	62,550	Germany
Bayerische Motoren Werke AG	131,535	118,909	53,375	Germany
Honda Motor Co Ltd	129,557	204,035	45,704	Japan
General Motors Co	127,004	157,000	52,111	United States of America
SAIC Motor Corp Ltd	120,908	207,246	28,038	China
Hyundai Motor Co	102,797	70,032	36,918	South Korea
China FAW Group Co Ltd	101,073	120,000		China
Nissan Motor Co Ltd	75,001	134,111	15,792	Japan
Renault SA	54,645	156,466	8,686	France
Tesla Inc	53,823	99,290	880,192	United States of America
AB Volvo	43,394	85,329	36,728	Sweden
Tata Motors Ltd	37,714	73,608	20,165	India
Mazda Motor Corp	27,779	48,750	5,251	Japan
Jaguar Land Rover Automotive Plc	25,306	36,531		United Kingdom
Subaru Corp	24,433	36,910	13,272	Japan
Great Wall Motor Co Ltd	21,148	77,934	36,303	China
Dongfeng Motor Group Co Ltd	17,521	122,061	5,949	China
Guangzhou Automobile Group Co Ltd	11,733	96,989	19,157	China
VDL Groep BV	5,187	15,734		Netherlands

[Source](#)

1. Context and type of analyses

Once we know about the industry, we move to know about the company:

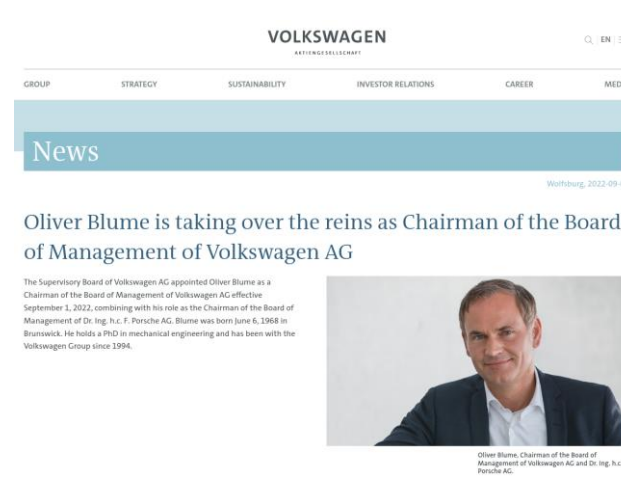
Who runs the company?

- Reputation
- Experience
- Connections or Human Capital
- Profile: tech, manager, seller.

What is the business strategy?

What are the main product lines?

Where are they located?



Member of the Board of Management of the Volkswagen brand with responsibility for Controlling and Accounting

Alexander Seitz was born on February 21, 1962, in Lahnstein, Germany.

Seitz studied business administration at the Saarland University in Saarbrücken, with a focus on auditing and trusts as well as commercial law.

After completing a Master of Business Administration degree, Seitz began his career at what was then Daimler-Benz AG. He assumed various positions in the Accounting, Controlling and Procurement departments, from 1995 onwards at Mercedes-Benz do Brasil in Brazil.

In 2000, Seitz moved to Auburn Hills, Michigan, where he held executive positions in Procurement for the then DaimlerChrysler AG and the Chrysler Corporation.

Alexander Seitz joined Volkswagen AG in 2005 and, based in Wolfsburg, headed Groupwide Procurement for powertrains, among others. In 2008, the manager returned to Brazil and joined the executive management of Volkswagen do Brasil.

In 2013, Alexander Seitz was appointed First Vice President & Commercial Executive Vice President of SAIC Volkswagen Automotive Co., Ltd. in Shanghai. As Co-General Manager of the Joint Venture, Seitz was responsible in his specialist function for Finance, IT, Procurement and Human Resources for the expatriates.

1. Context and type of analyses

Current situation of the company:

- Growing?
- Profits? Why? Where?
- Losses? Why? Where?
- Risks?
- Future projects?

... Good starting point: managerial reports and financial analysis of industry experts.



2021 Report:

- Increase in sales and operating result.
- Car+Financial Service.
- reduction of inventories (for sales) and new debt impacted "working capital".
- Less receivables.
- Acquisition of Navistar 3 Billion in Cash.
- High demand of financial service for used cars.
- Semiconductor shortage.

1. Context and type of analyses


Current situation of the company:

- Growing?
- Profits? Why? Where?
- Looses? Why? Where?
- risks?
- future projects?

... Good starting point: managerial reports and financial analysis of industry experts.

Volkswagen: A Structural Winner In The EV Transition Race

Jan. 01, 2022 11:54 PM ET | Volkswagen AG (VLKAF), VLKPF, VWAGY, VWAPY | QS, TSLA | 57 Comments | 25 Likes

 **Simple Investing**
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About this article

Ticker	Author rating	Price at publication	Last price	Change since publication	S&P 500 change since publication
VLKAF	Strong Buy	\$291.10	\$201.11	-30.91%	-13.25%

Summary

VW has the largest investment spend, among global automotive manufacturers, into EV and software.

With plans to build 6 gigafactories by 2030 as well as a unified cell strategy for its EV platform, VW is pushing ahead with high growth in its EV segment.

VW is ahead of the curve as it is building an in-house battery production capability and investing further upstream, securing battery supply and controlling battery costs.

Based on my 2025 forecasts, my estimate for VW's target price is EUR313, which implies a solid 75% upside potential.

1. Context and types of analyses

More recent info?

Search for news in reputable sources.

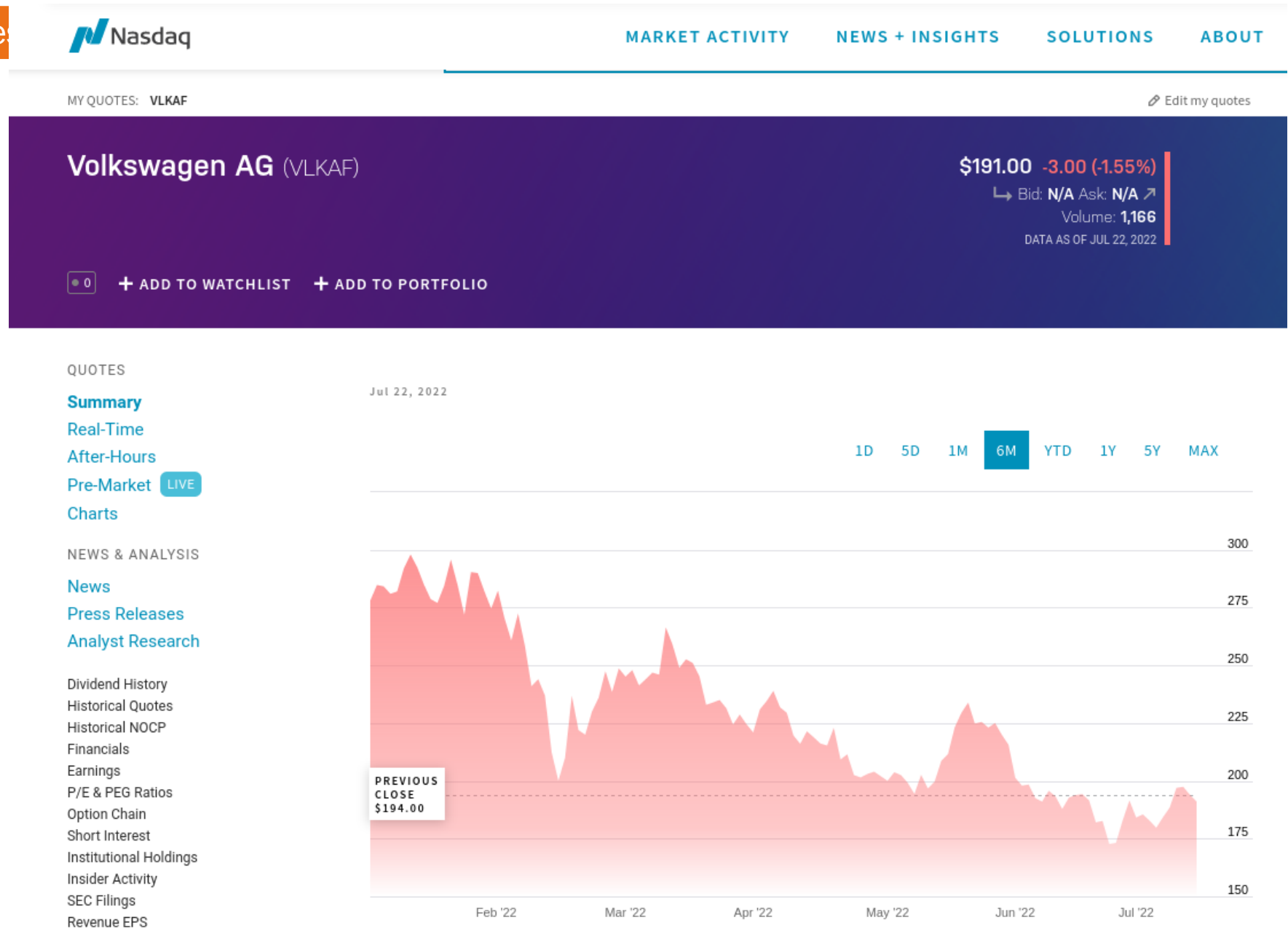
The main goal is to detect important events that moved the company's economic situation.

Latest News		+ More
Innoviz inks Volkswagen LiDAR contract	02 Aug 2022	^
Volkswagen Given a €230.00 Price Target by Analysts	02 Aug 2022	
Volkswagen Given a €316.00 Price Target by Royal Bank of Canada Analysts	01 Aug 2022	
Bugatti unveils new logo as it changes gear to become a luxury brand	31 Jul 2022	
Volkswagen launches campaign to enhance customer affinity	31 Jul 2022	
Brokerages Set Volkswagen Price Target at \$198.50	30 Jul 2022	
Volkswagen Group forecasts sales rebound in H2	28 Jul 2022	
Now comes more EV capacity - VW starts US ID.4 build	27 Jul 2022	
Volkswagen Group China unveils autonomous passenger drone prototype	27 Jul 2022	
Volkswagen starts US electric vehicle assembly in Tennessee	27 Jul 2022	
Volkswagen starts U.S. assembly of all-electric ID.4 flagship in Chattanooga, Tennessee	26 Jul 2022	▼

[Source](#)

1. Context and types of analyse

Did the stock-market react to these events? If so, it is likely an important economic event.



1. Context and type of analyses

After having a clear perspective of the context, we can move to the quantitative analysis (also called financial analysis).



1) Comparison across time:

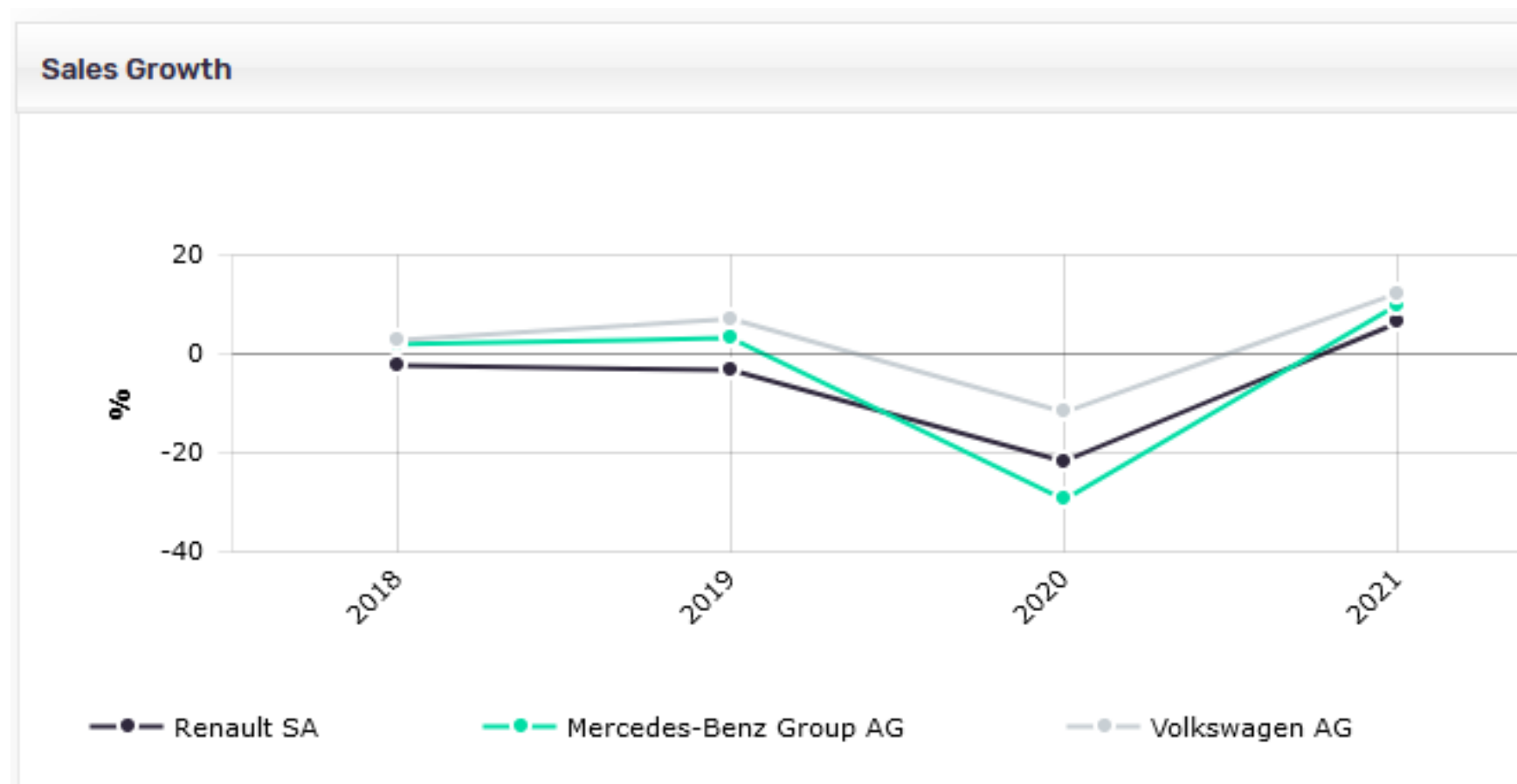
- How is the company doing relative to previous years?
- What has internally and externally changed?
 - internally: new CEO, new products, new production technology.
 - externally: changes in demand, stricter financing conditions.



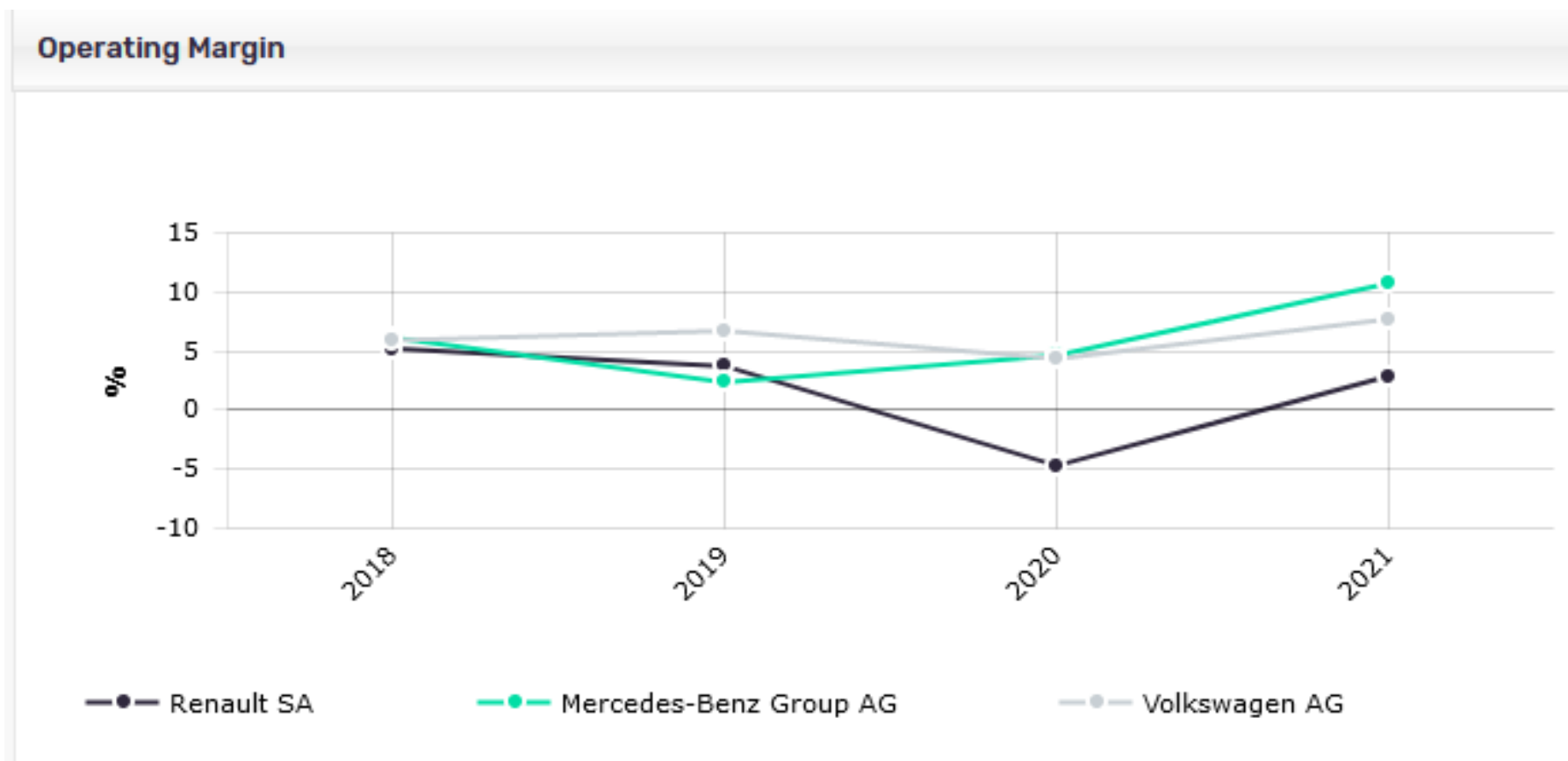
2) Comparison within industry peers:

- What explains cross-sectional differences?
 - different shocks
 - differences in efficiencies
 - differences in innovation or products

1. Context and type of analyses



1. Context and type of analyses



1. Context and type of analyses



Paid sources:

- MarketLine (UPF Subscription, check the link in Library's website)
- Bloomberg
- SeekingAlpha.com

Free sources:

- Yahoo Finance
- MarketWatch.com
- SeekingAlpha.com



1) Component

Balance sheet elements as a percentage of Total Assets.

- (1) Is the company growing? Total assets, Annual growth, CAGR.
- (2) How are current assets distributed? Is any new type of assets in the company?
- (3) How are current liabilities distributed? Is any new type of funding?
- (4) Equity: new emissions? Positive retained earnings?

2) Ratios and Measures

- (1) Liquidity: does the firm have enough liquidity to meet its financial obligations when they should be paid?
- (2) Debt level or Solvency: does the firm have too much debt? Can it pay it in the long-term?
- (3) Asset management: how efficient is the company in using its assets to produce sales/revenues?

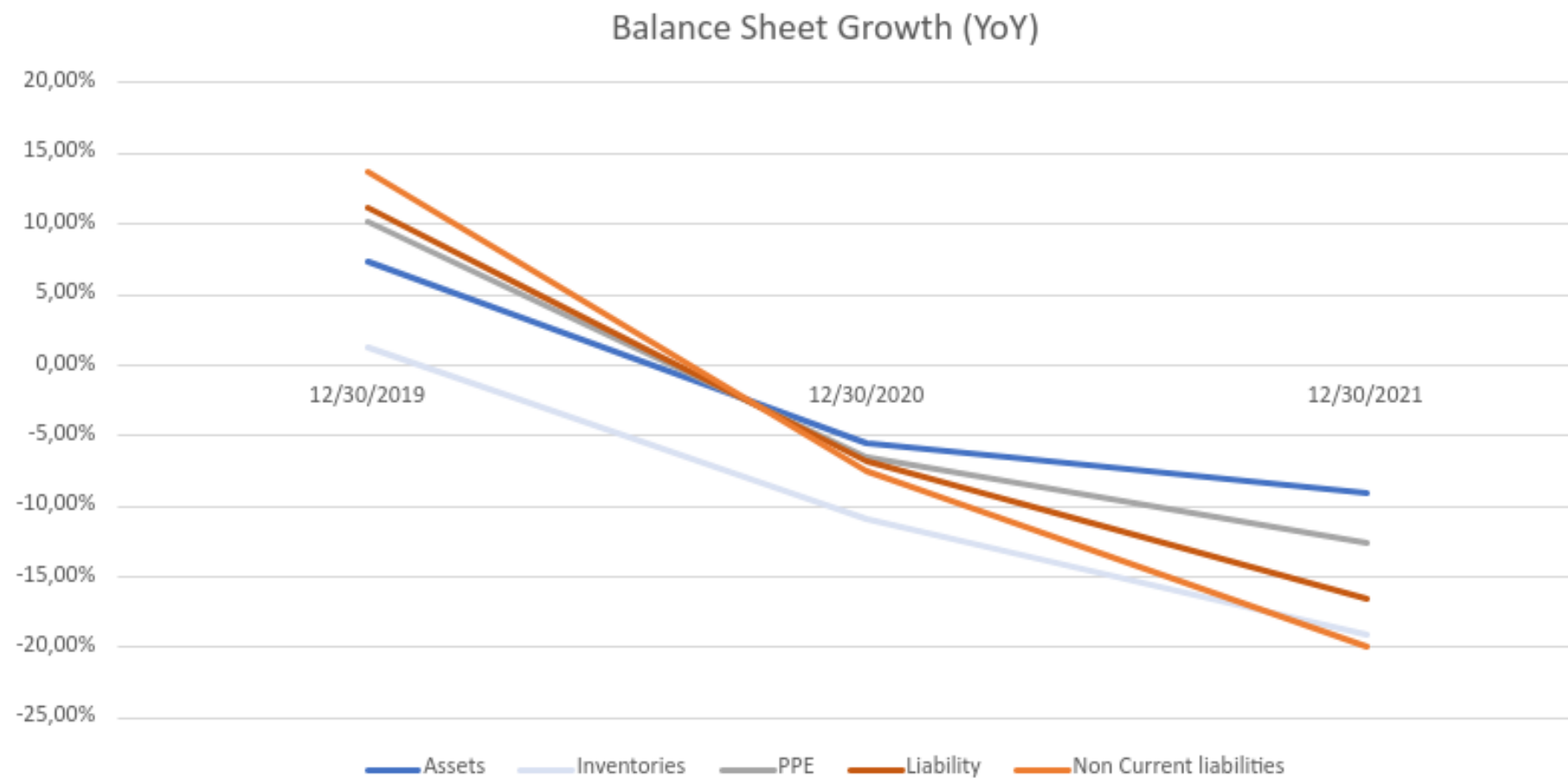
2) Ratios and Measures

Liquidity	Debt	Assets	Working Capital
Current R. $\frac{CA}{CL}$ Liquidity $\frac{CA - Inv.}{CL}$ Acid test $\frac{Cash}{CL}$	Debt $\frac{Liabilities}{Liabilities + Equity}$ Quality $\frac{CL}{Liabilities}$ ↓ Financial Expenses $\frac{Fin. expenses}{Sales}$ Return capacity $\frac{Cash flow}{Total Loans}$ ↑	FA turnover $\frac{Sales}{FA}$ ↑ CA turnover $\frac{Sales}{CA}$ ↑ <div>Days</div> <div> Stock days $\frac{Inventories}{Daily cost of sales}$ ↓ Days Rec. $\frac{Receivables.}{Daily Sales^2}$ ↓ Days Pay. $\frac{Payables.}{Daily COGS}$ ↑ Cash Cycle = DR+SD- DP </div>	WK: CA-CL WK needs/operative: WK - (Other CA-Other CL)

¹: for a growing firm, use the average value in the balance sheet items for ratios that also need info from the income statement.

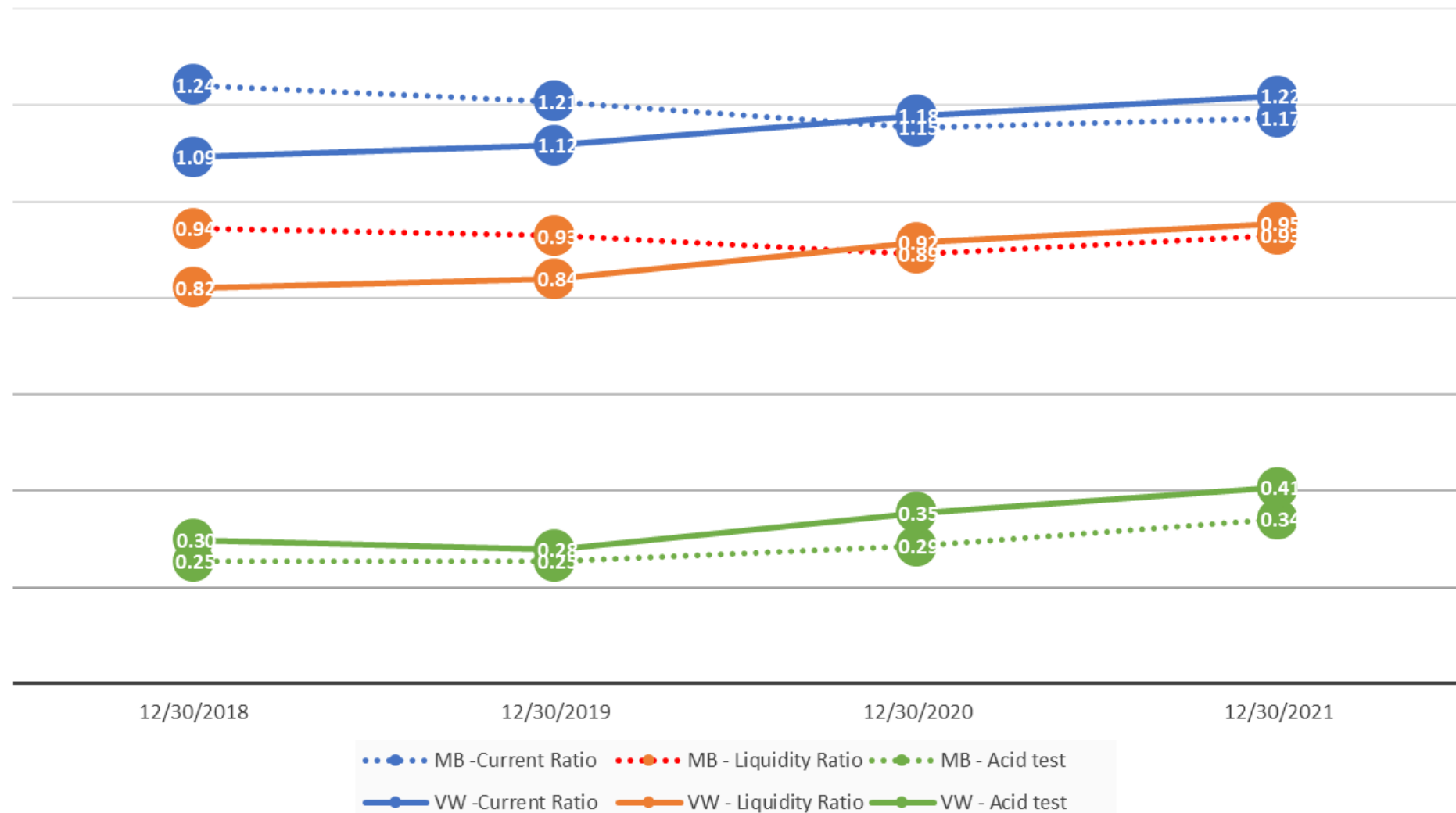
²: it is better to use "sales on credit", but this item is rarely reported.

2. Liquidity, Debt, and Asset Mgmt



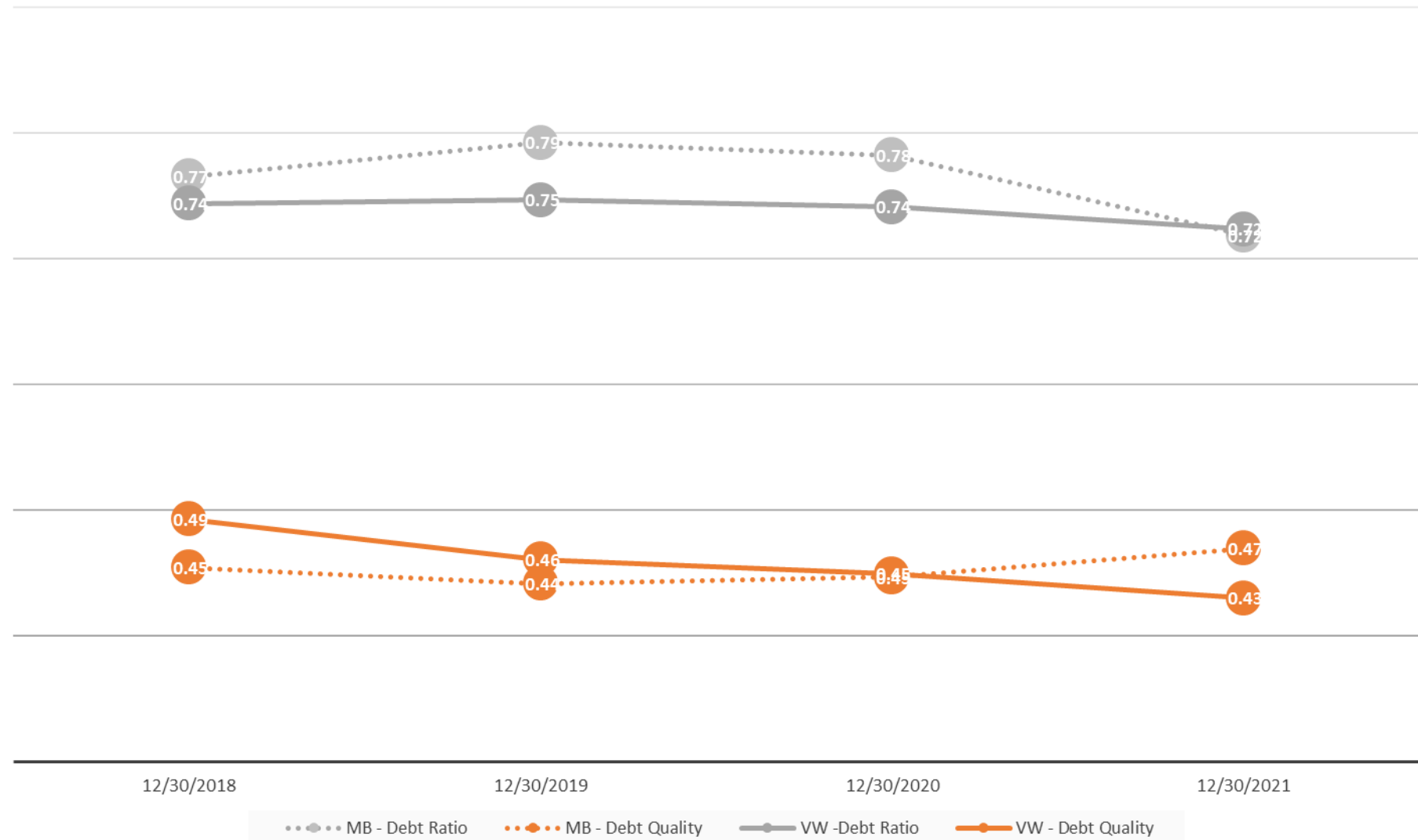
2. Liquidity, Debt, and Asset Mgmt

Liquidity

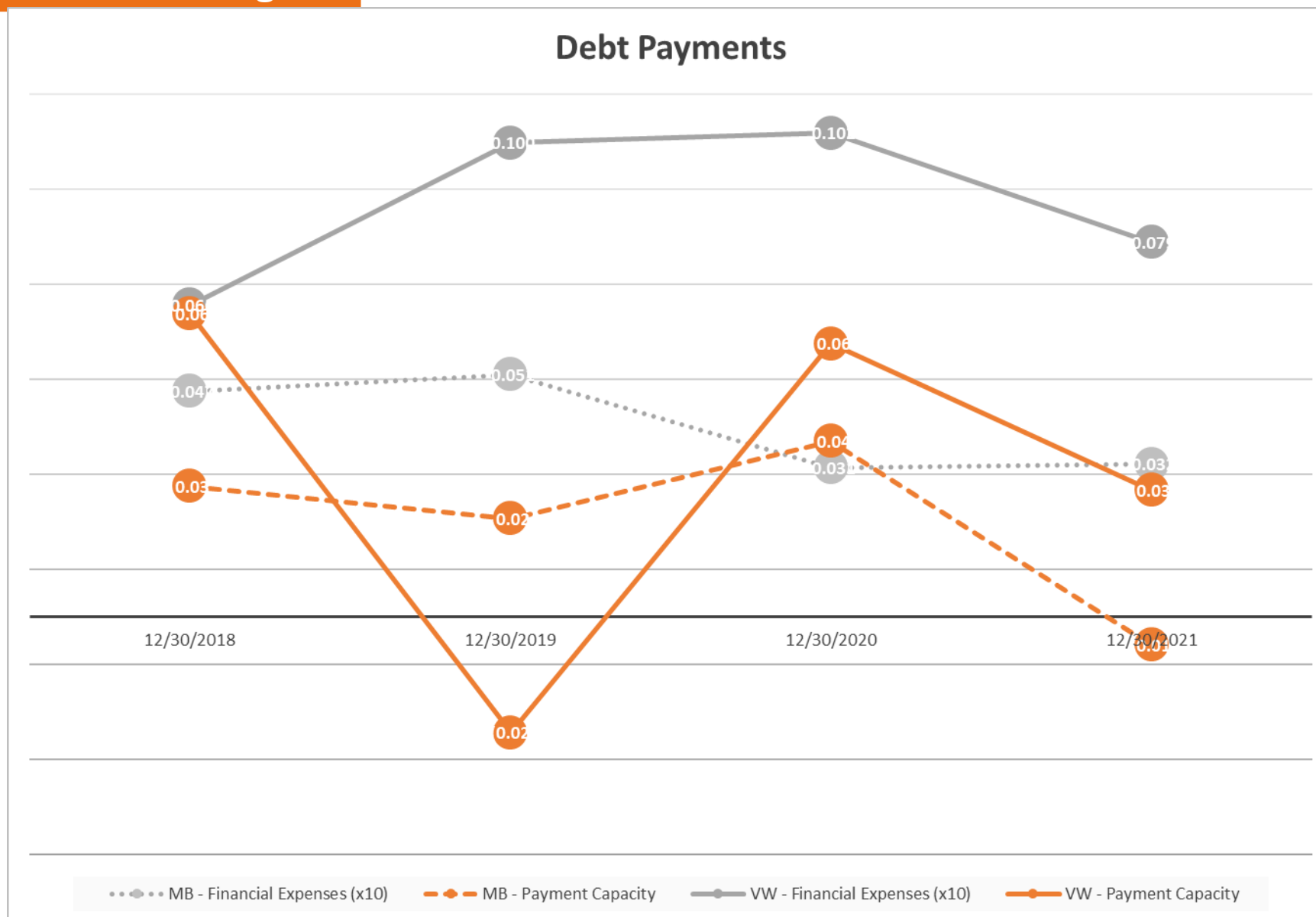


2. Liquidity, Debt, Asset Mgmt

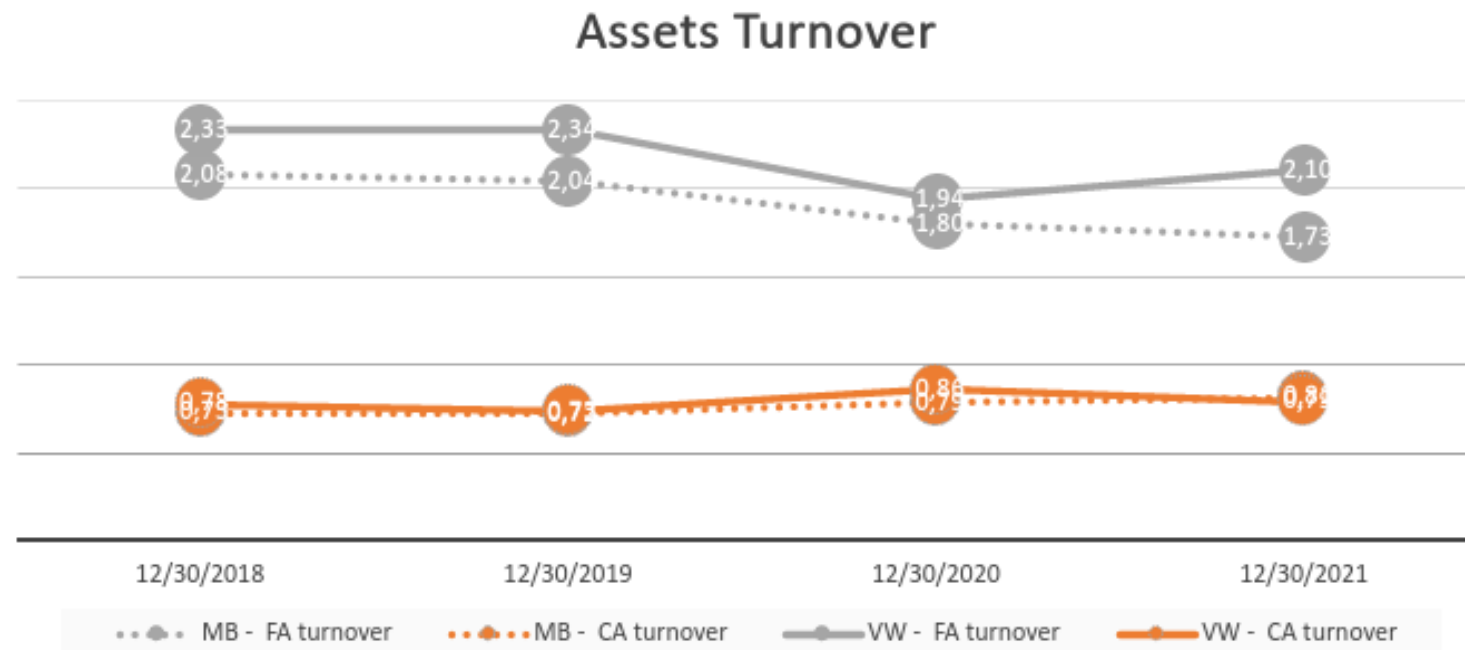
Debt Situation



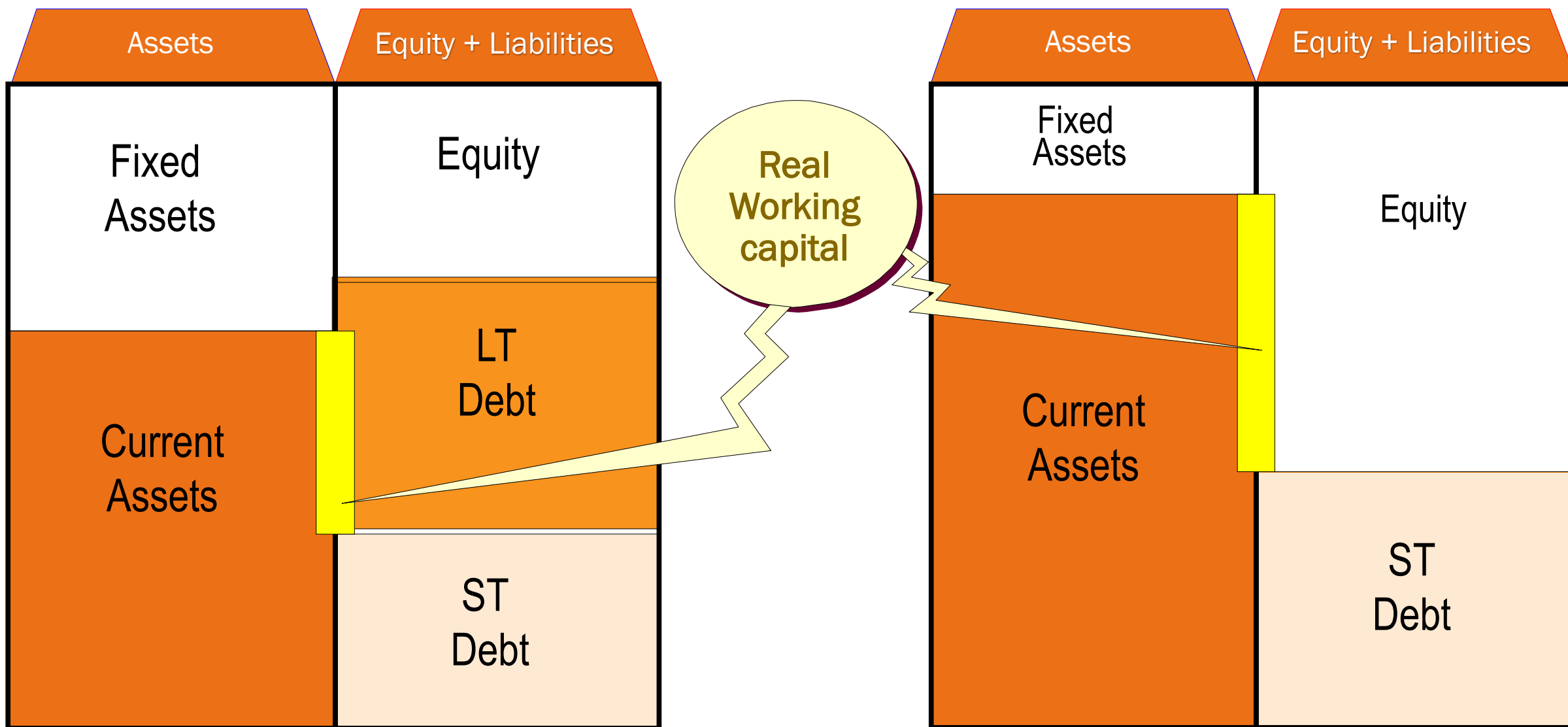
2. Liquidity, Debt, and Asset Mgmt



2. Liquidity, Debt, and Asset Mgmt



2. Liquidity, Debt, and Asset Mgmt



2. Liquidity, Debt, and Asset Mgmt

Working capital is a dimension of a company's operational efficiency and short-term financial health, so it mixes both liquidity and asset management.

- large WC: the potential to invest in expansion and grow the company.
- small or negative WK: current assets do not exceed its current liabilities. This may lead to trouble growing or paying back creditors.

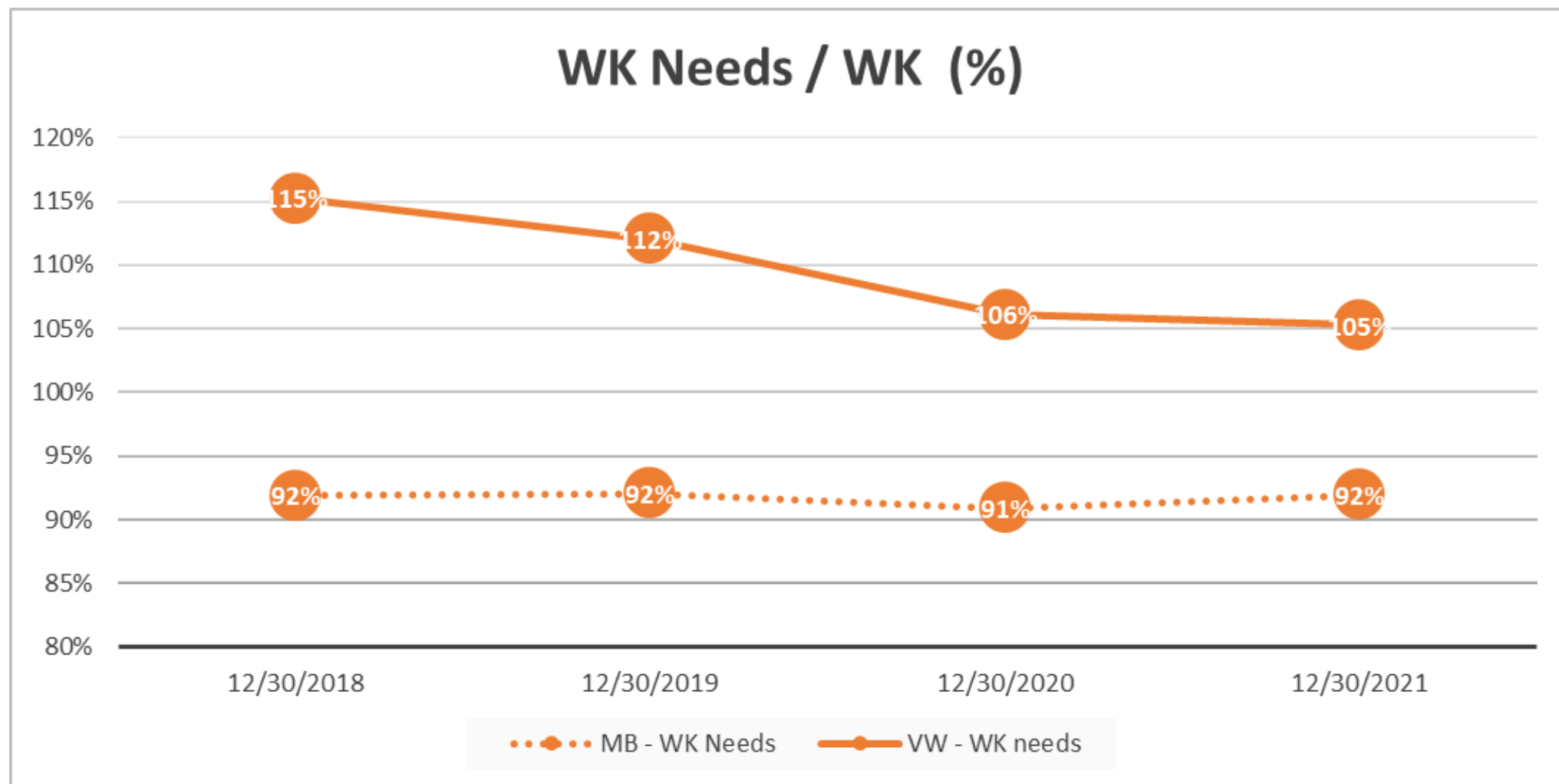
Longer production cycles require higher working capital needs: slow inventory turnover to generate cash on demand.

But how can we differentiate the observed working capital from the actual working capital needs?

Difficult, but we can proxy by removing non-essential current liabilities and assets.

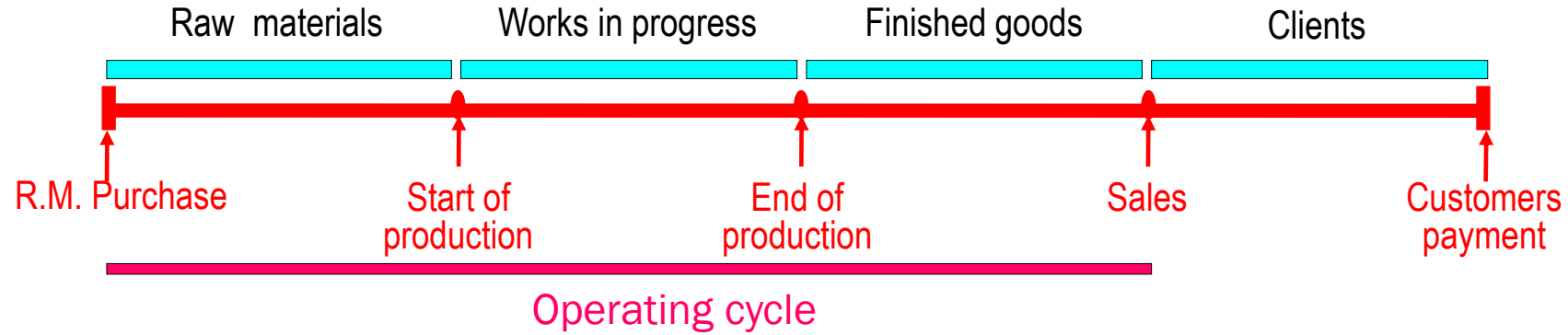
- be aware, in practice, not always these items are reported separately, so you can do the best you can with the data available.

2. Liquidity, Debt, and Asset Mgmt

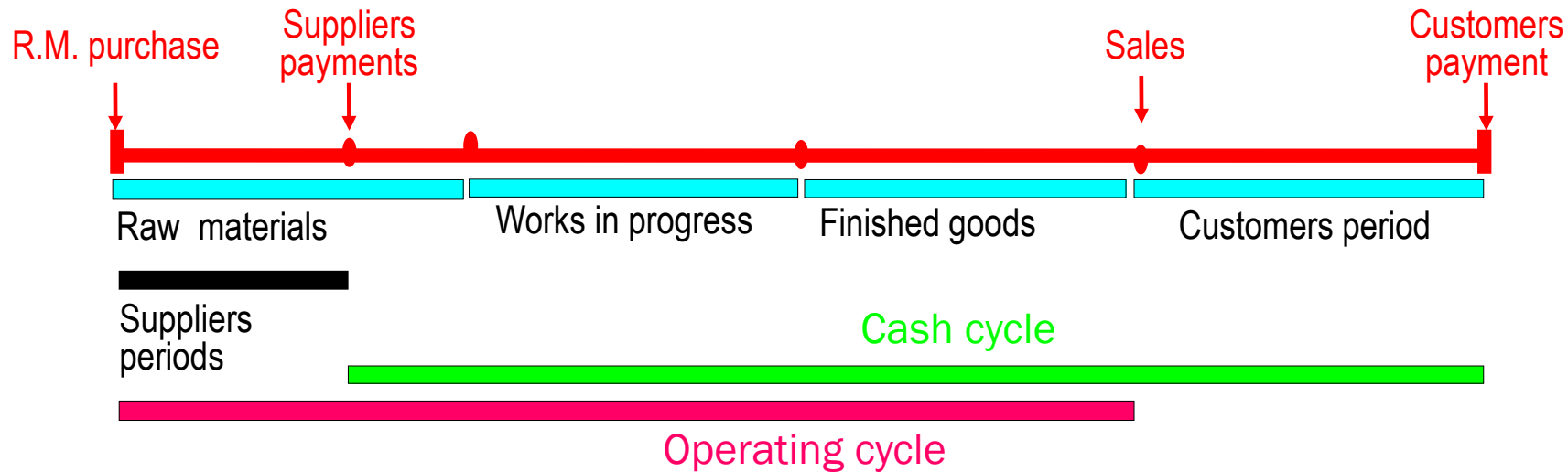


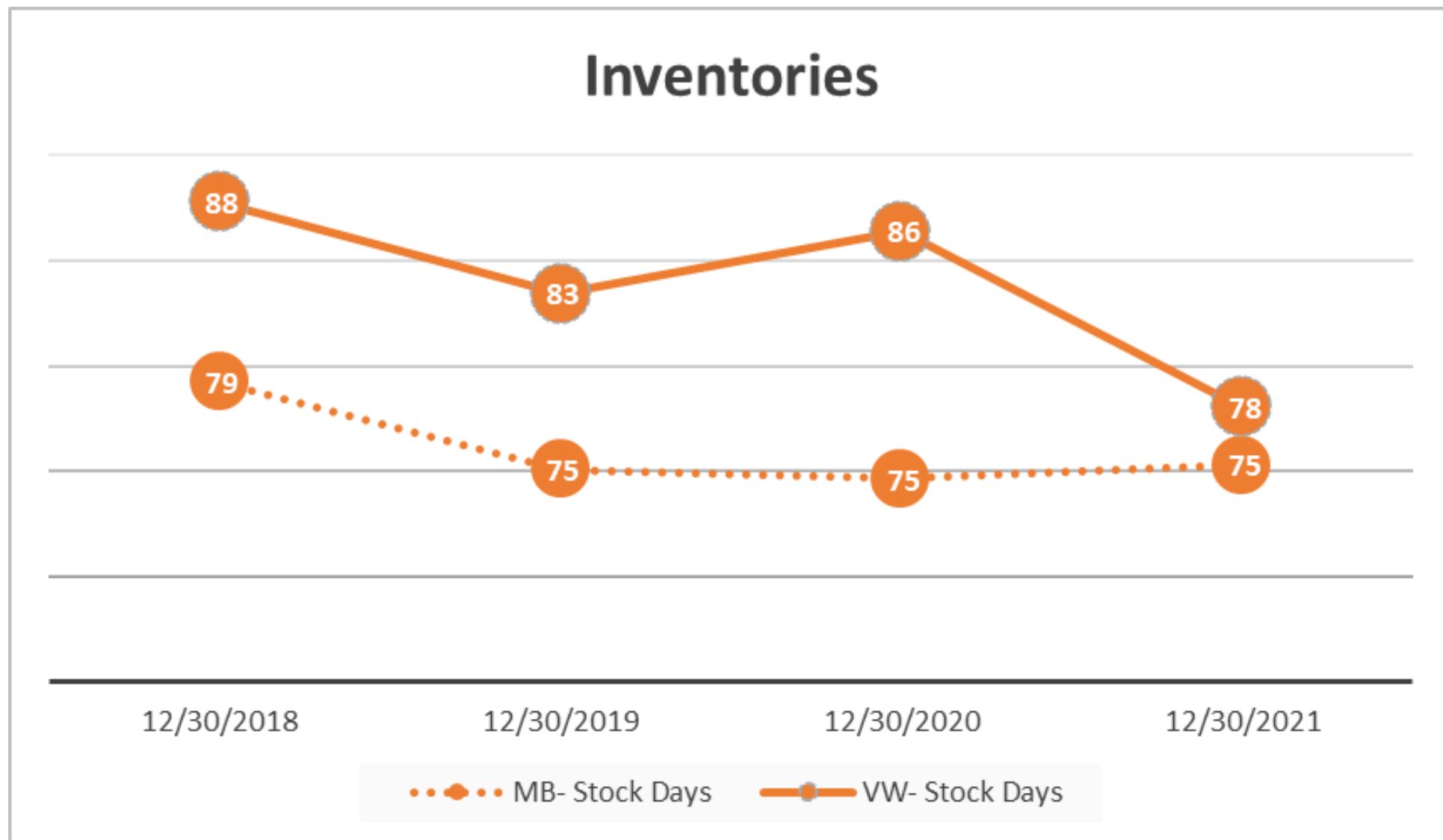
2. Liquidity, Debt, and Asset Mgmt

BUSINESS CYCLE

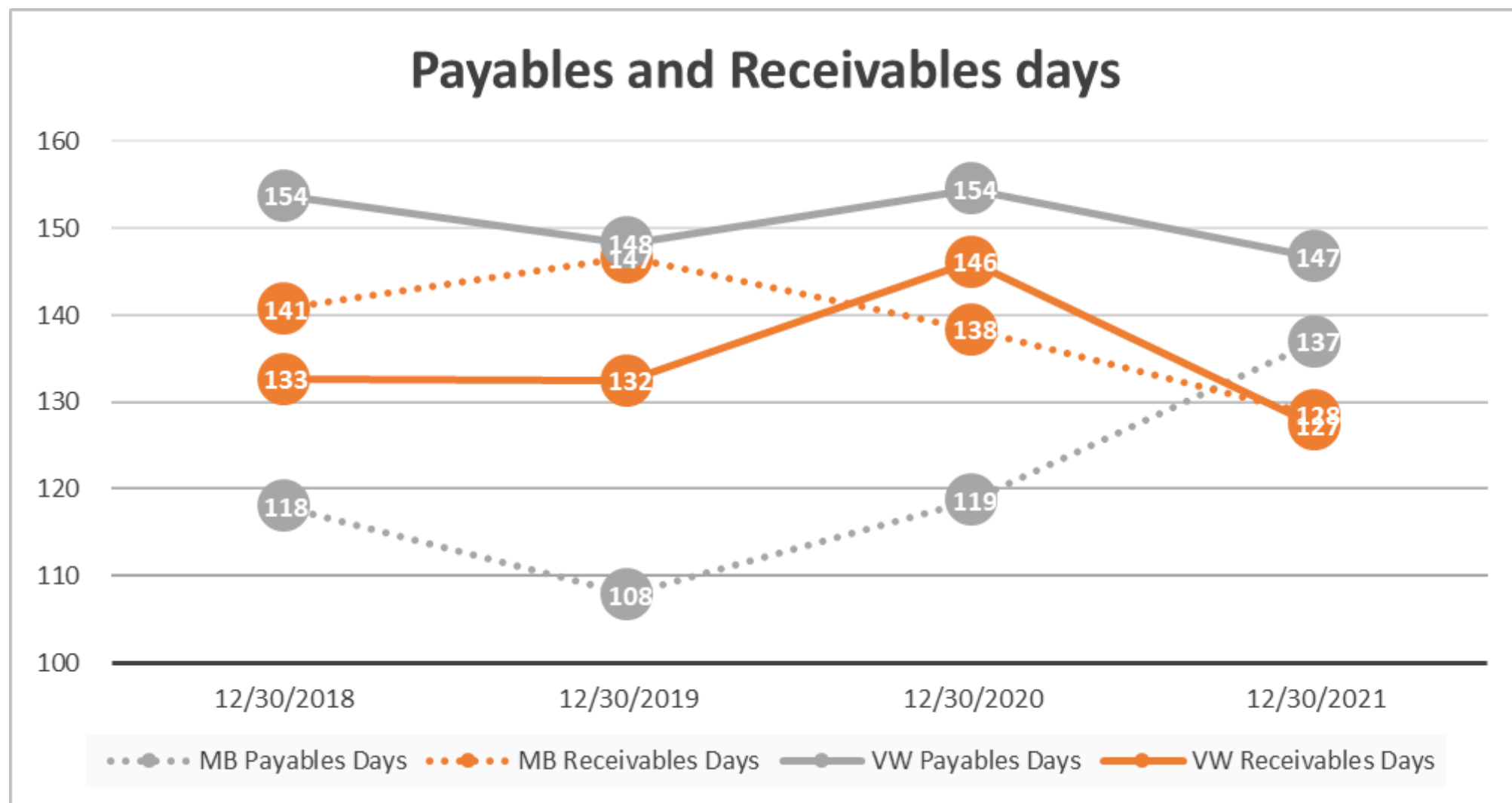


CASH CYCLE

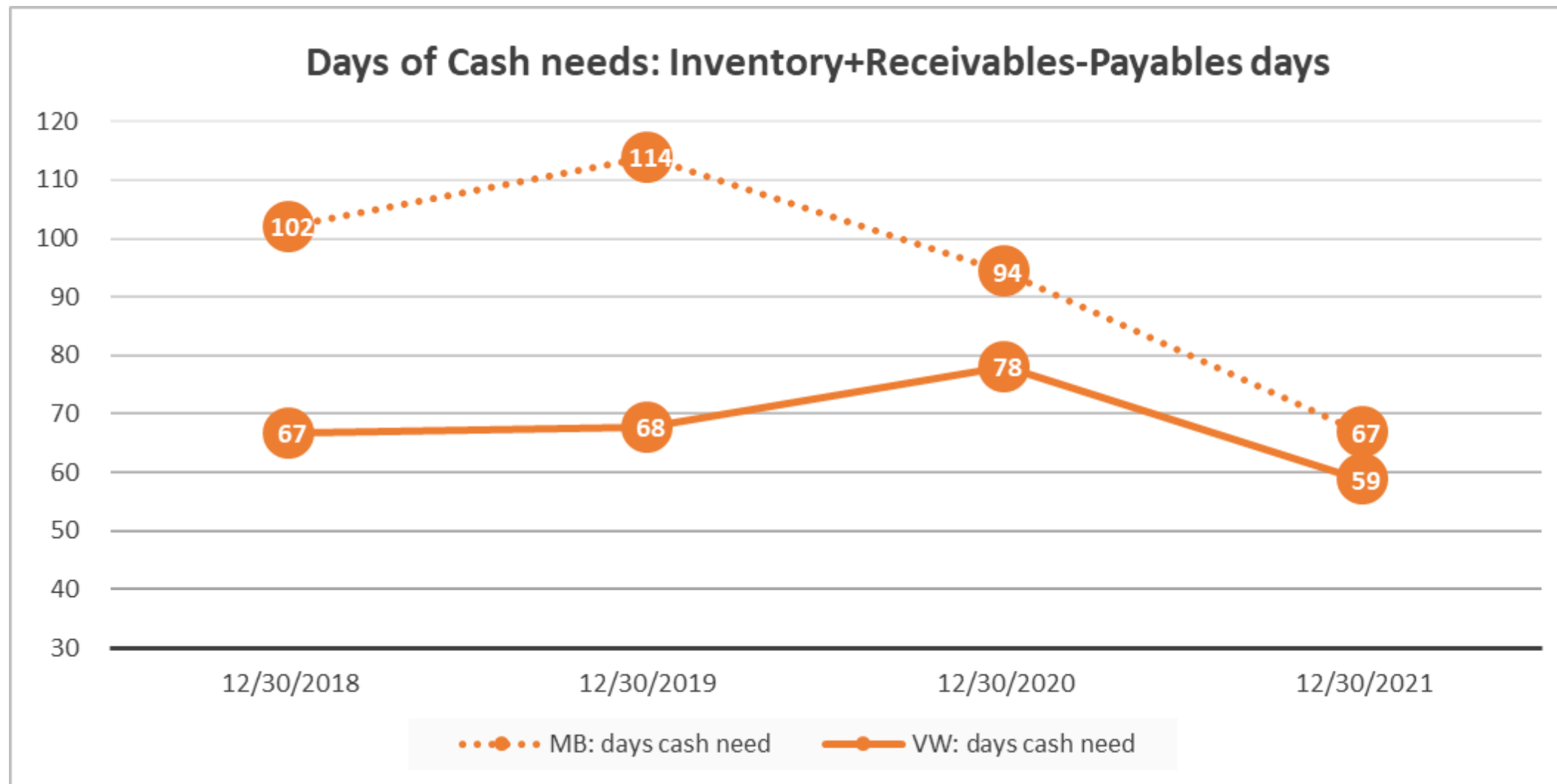




2. Liquidity, Debt, and Asset Mgmt



2. Liquidity, Debt, and Asset Mgmt



2. Liquidity, Debt, and Asset Mgmt

Main conclusions for 2020-2021:

Liquidity Management:

- Significant increase in most of the liquidity metrics.

Debt Management:

- Stable and moving to Long term.

Assets Management:

- Improves in Current efficiency, not in Fixed Assets efficiency.
- The competitor is more efficient with its Fixed assets.

Working Capital Management

- Faster cycles (inventories, payables, receivables), leading to shorter cash needs.
- Limited working capital surplus.

2. Liquidity, Debt, and Asset Mgmt

Practical Recommendations for pursuing your analysis:

Where should we start the analysis?

There is no rule of thumb, but in my experience, the analyses flow better with the following structure:

- 1) firm growth (and trend).
- 2) describe the assets triggering the growth (more inventories? more cash? New plants or equipment?)
 - 2.1) connect this point with the qualitative analysis done before: industry, trends, competitions, new products, change of strategy, etc.
- 3) describe how the growth is being funded (important changes in the funding structure?).
- 4) finally, explain the impacts on the ratios.

A good analysis does not describe only the trend or change, but also the reasons behind. Remember business background, MD&A.

But... there are multiple reasons!
Yes, but in many cases it is just one or two events driving most of the effect... and we should know them.

2. Liquidity, Debt, and Asset Mgmt

Practical Recommendations for pursuing your analysis:

Good:

“A further analysis of Apple and Samsung noted that Samsung showed a growth in their goodwill of 23.11% between 2014 and 2015. This increase of 23.11% increase was mainly due to Samsung's acquisition of YESCO Electronics LLD. This reflects the idea that it is not the number of companies acquired by a company that makes a difference, but the quality of these companies considering their intangible assets.”

Vague

Samsung's balance sheet indicates that total assets of the company have been growing for the last 5 years in a constant way: there was a growth peak in 2011 (24.9% increase), and since then there has been a gradual deacceleration of this growth (although there was never a decrease)

2. Liquidity, Debt, and Asset Mgmt

General Managerial Recommendations (not related to VW):

Liquidity Management:

- creditors policy and debt collection strategy.
- purchase agreements with providers.
- cash-oriented sales promotion... is it worth sacrificing profitability?
- renegotiation short-term debts

Debt Management:

- social capital.
- debt to equity conversión (... uf!)
- renegotiate debt contract (better interest rates now in the market?)
- promote long-term projects that are cash generators (even though no so profitable)

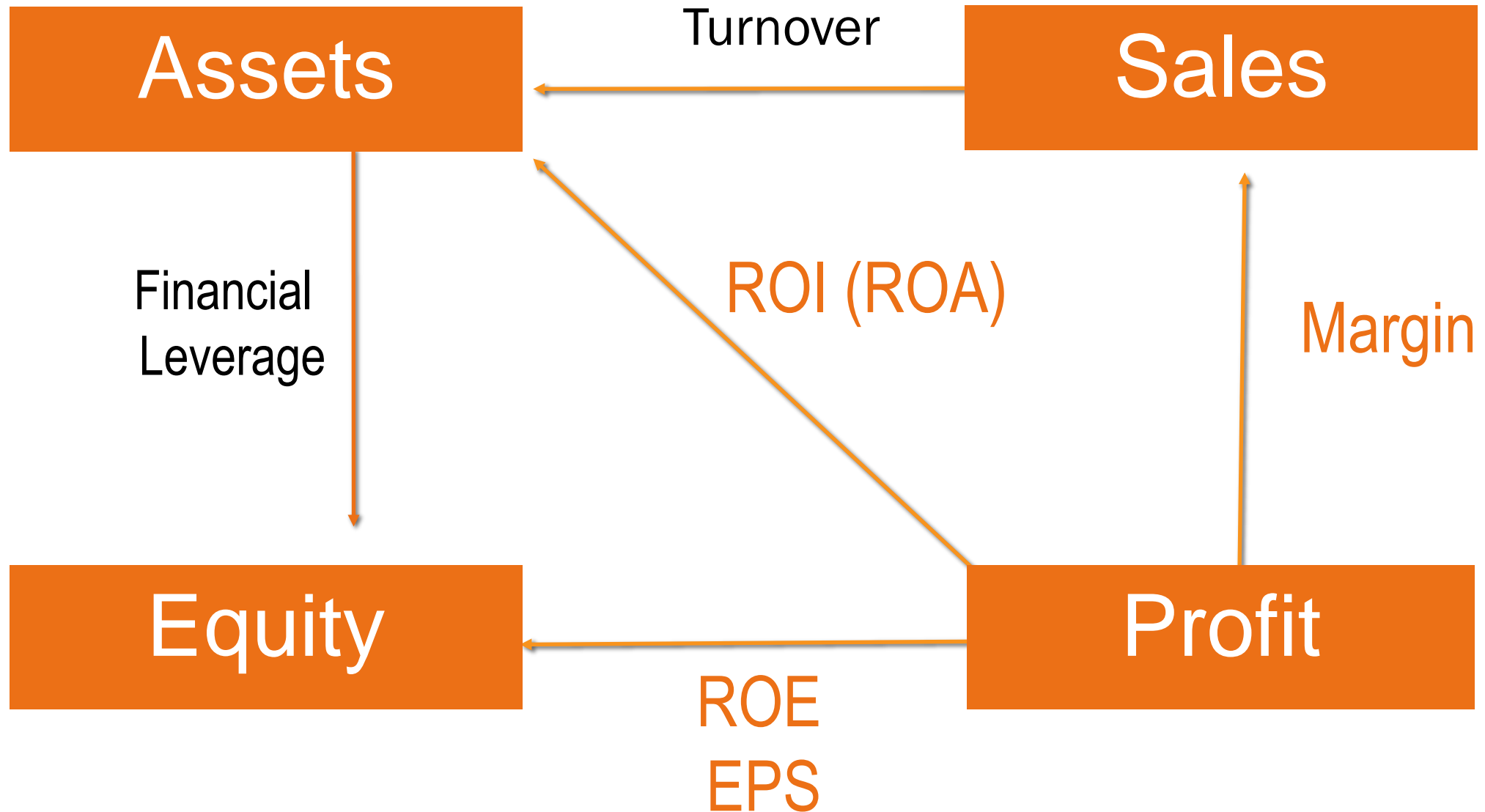
Assets

- Technology to improve information reporting
- Production and inventory strategies: JIT, Kaizen.
- Asset sales or offshoring

Working Capital Management

- Working capital needs: how much? How long?
- Closely related to liquidity and asset management.

3. Return and Profitability



3. Return and Profitability

The data for the profit analyses come from the income statement.

The general rule is to focus only on the results driven by ordinary activities: normal operations, and normal financing.

Important items to consider/clean:

- "extraordinary items" are unusual and infrequent events that might have generated gains or losses, for example, sale of fixed assets or asset re-evaluation.
- "Discontinued operations": operations that the company has sold or abandoned. Their profit/losses must be explicitly separated from the other items.

Net Revenue

- Cost of goods sold

= Gross margin

- Operating expenses

= Operating income (EBIT / Net margin)

- Interest expense + Interest income (or net)

= EBT (Income / earnings before taxes)

Other items (discontinued operations, extraordinary items)

-Income taxes

Net income (Income after taxes)

- Income for minority interests and preferred stockholders

Net income for shareholders

3. Return and Profitability

Point of view of an Investment performance:

Company → ROI, MARGIN

Shareholder → ROE, EPS

Return on equity (ROE) =

$$\frac{\text{Net Income}}{\text{Equity}}$$

Earnings per Share (EPS) =

$$\frac{\text{Net Income}}{\text{N}^{\circ} \text{ Common Shares O.}}$$

Return on investment (ROI) =

$$\frac{\text{EBIT}}{\text{Net total assets}}$$

Marging =

$$\frac{\text{Net Income}}{\text{Sales}}$$

Return breakdown

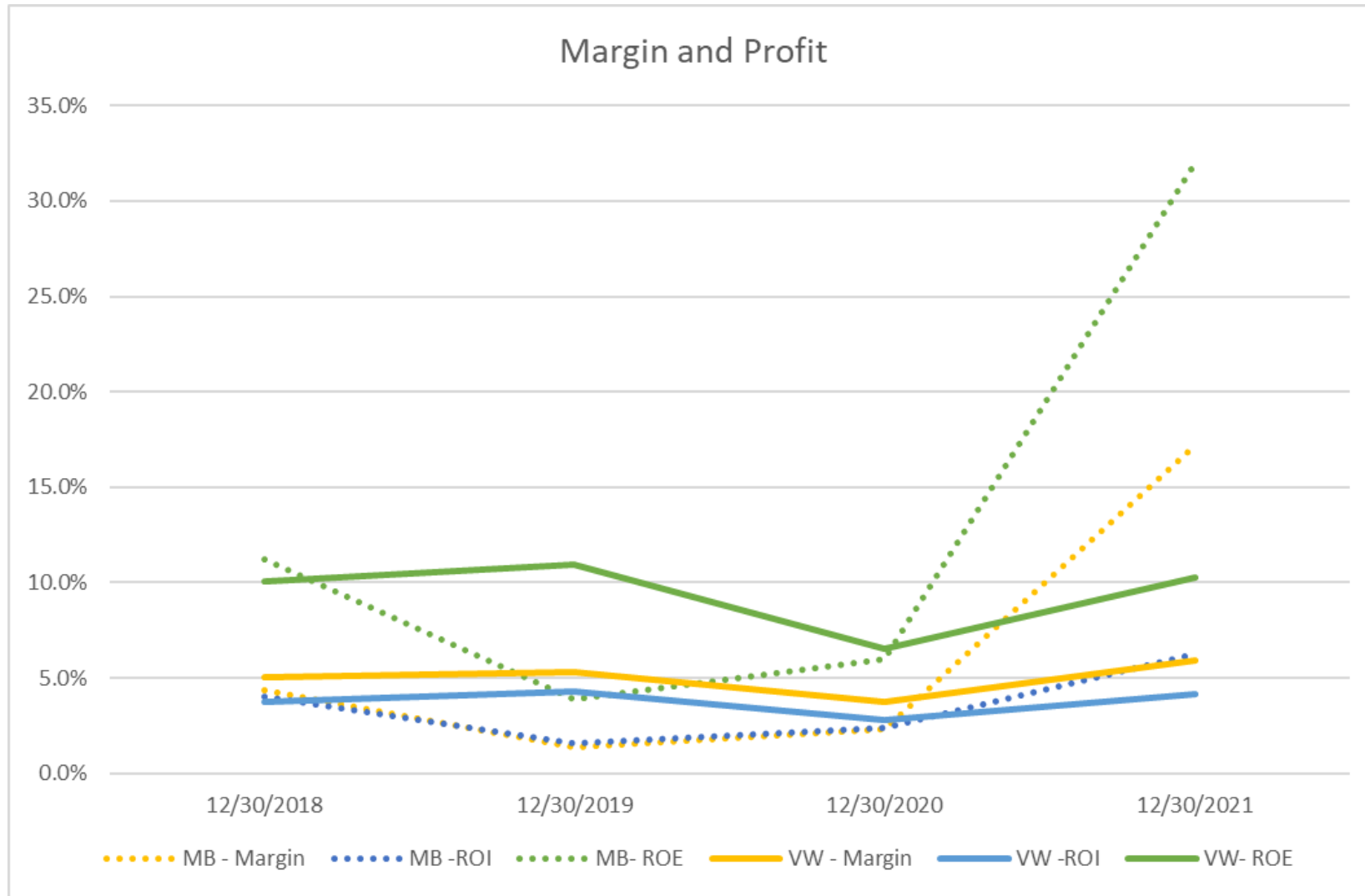
$$\text{ROE} = \frac{\text{Net profit}}{\text{Equity}} =$$

$$\text{ROE} = \frac{\text{Net profit}}{\text{Equity}} \times \frac{\text{Sales}}{\text{Sales}} \times \frac{\text{Assets}}{\text{Assets}} =$$

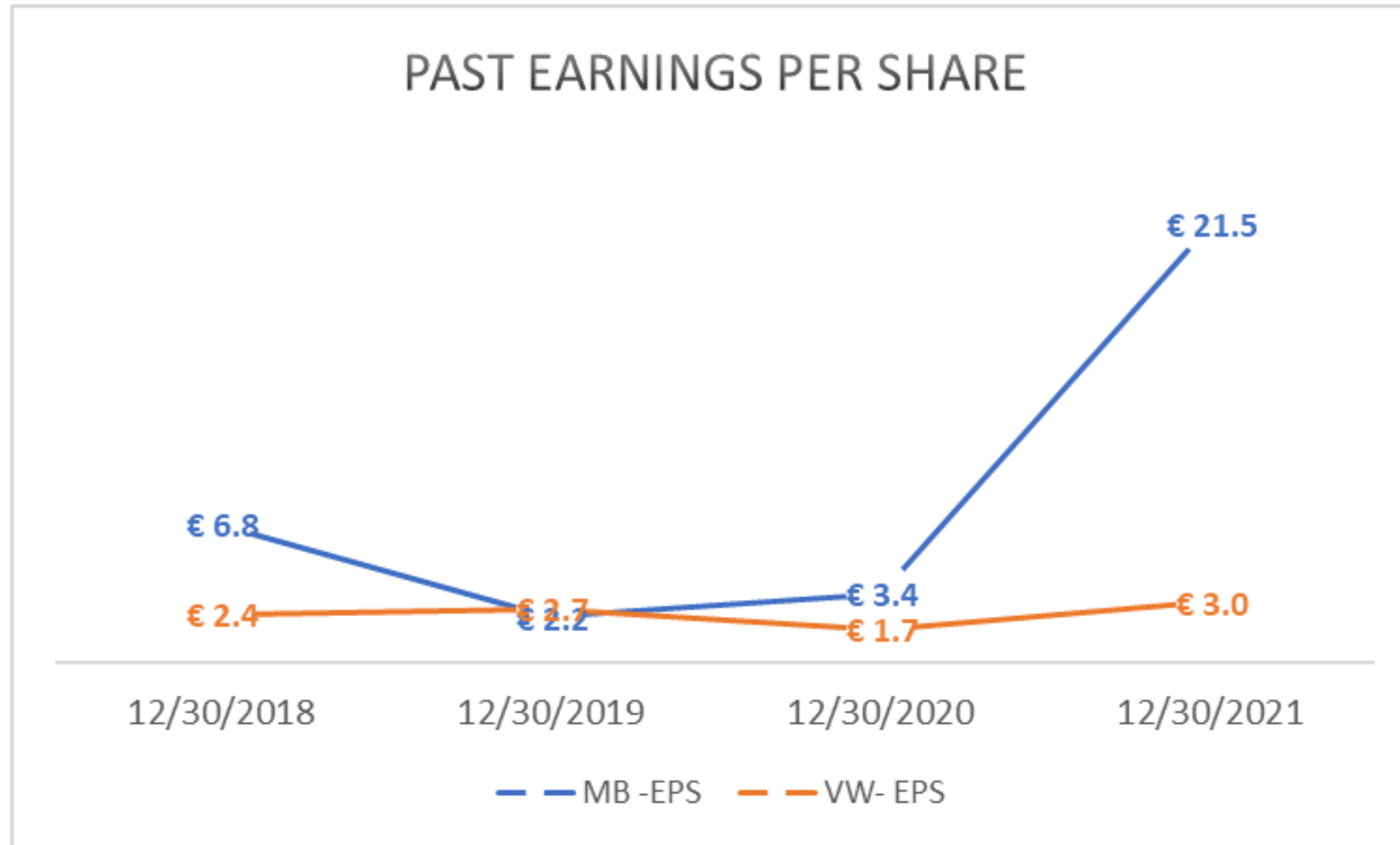
$$\text{ROE} = \frac{\text{Net profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}} =$$

$$\text{ROE} = \text{Margin} \times \text{Turnover} \times \text{Financial leverage}$$

3. Return and Profitability



3. Return and Profitability



3. Return and Profitability



Search for news, symbols or companies



EPS Trend	Current Qtr. (Mar 2022)	Next Qtr. (Jun 2022)	Current Year (2022)	Next Year (2023)
Current Estimate	0	0	0	0
7 Days Ago	0	0	3.78	3.58
30 Days Ago	0	0	3.78	3.58
60 Days Ago	0	0	3.78	3.58
90 Days Ago	0	0	3.78	3.58

3. Return and Profitability



Price/Earnings (PE) Ratio: (Market Price per share) / (Earnings per share)

- The value of a stock is determined by calculating the present value of the company's future earnings.
- A high ratio indicates that earnings are expected to grow rapidly.
- While a high P/E ratio and good growth prospects are considered favorable, there are risks.

Dividend Yield Ratio: (Dividend per share) / (Market Price per share)

- Remember 2 sources of gains for investors:
 - Dividends and stock price appreciation.
- Companies with growth prospects can provide more gains to investors by re-investing (R&D) profits rather than distributing dividends.

4. Stock Market

Precio/Earnings (PE) Ratio: Market Price per share / Earnings per share

Dividend Yield Ratio: Dividend per share / Market Price per share



PE (LTM)	5.80
Div Yield	8.51%



PE (LTM)	2.65
Div Yield	3.90%

Profitability

- Stable margin and returns in the last years.
 - Competitor had a significant increase in most of the metrics.
- EPS increased to above 3% and the forecast does not seem show big changes

Stock Market valuations

- PE ratio suggests that the market is expecting some growth,
 - but less than the competitor. Consistent with its improved margins and returns.