CRISES IN MOTION: AN AUTOMOTIVE SUPPLIER OUTLOOK

Oliver Wyman Point-of-View

October 2022

A business of Marsh McLennan

CONTENT

THE AUTOMOTIVE SUPPLIER INDUSTRY IS IN MOTION AND CHALLENGED IN ITS FUNDAMENTALS

A

War in Ukraine & Covid-19-Effects

- Automotive industry directly impacted by war in Ukraine and late COVID-19 effects
- Key challenges include:
  - Cost inflation (commodities, energy)
  - Supply chain disruptions
  - Decline of consumer spending

B

Volume decline

- Production output further constraint by supply chain disruptions
- OEMs still with large order backlog and excess demand in late 2022
- New vehicle sales outlook has started to deteriorate due to recession fears

C

Ambiguity from new regulations and ESG

- Lack of clear regulations on emission standards
- Uncertainty makes strategic decisions for suppliers even harder
- Time to react is often too short (e.g., short-term regulatory impact)

D

Automotive supplier "Megastorm" and exit options

- Fundamentals of the industry are disrupted
- First signs are already visible, e.g.: Supplier consolidation, Buy-and-build in BEV technology, Automotive industry exits and insolvencies

Source: Oliver Wyman

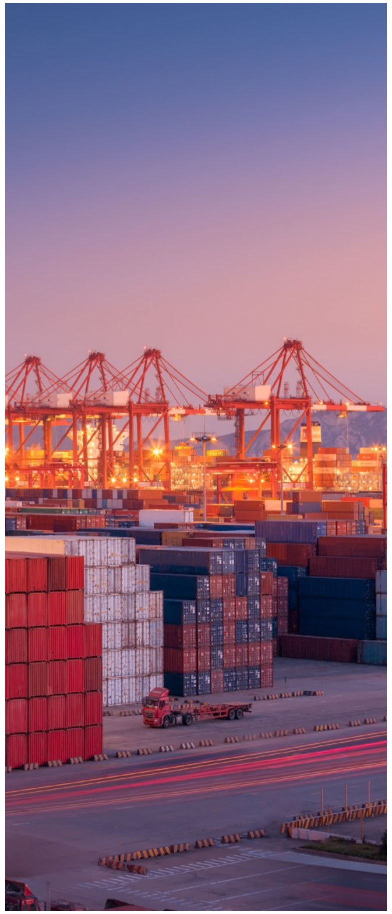
EUROPE AND ASIA HAVE BEEN PARTICULARLY AFFECTED BY THE WAR IN UKRAINE AND LATE COVID-19 EFFECTS

War in Ukraine

- Dramatically rising energy prices due to unavailability of Russian natural gas imports in Europe
- Russia and Ukraine combined produce ~27% of global wheat, which can no longer be exported without hindrances
- Supply chain problems due to lack of commodities and resources (e.g., titanium and palladium)
- Economic uncertainty causing decline of consumer spending. Firms retreat from war torn markets and postpone investment decisions
- Damaged long-term political and economic relations with Russia (formerly 11th highest global GDP)

Post-Covid-Effects

- Zero-Covid-Strategy in China leads to further interruptions in the supply chain (e.g. semiconductors)
- Reduced supply levels further increase inflationary price pressure
- Extreme increase in raw material costs, as well as logistics costs
- Storage is building up in warehouses, without being able to be delivered
- Blocked supply chain and transportation routes (especially waiting time in harbors) are binding capital and increasing lead times

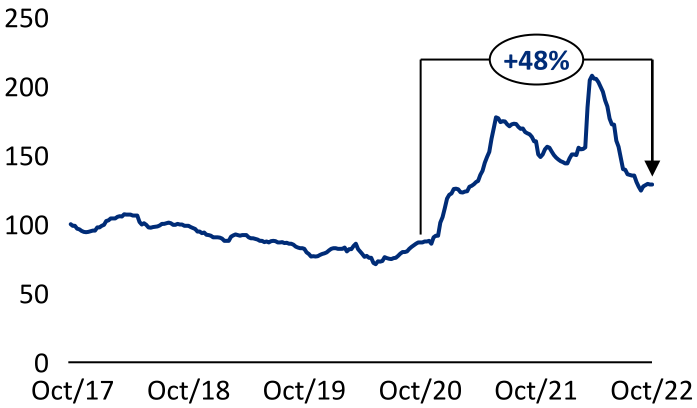


☐ Drivers directly impacting the automotive industry

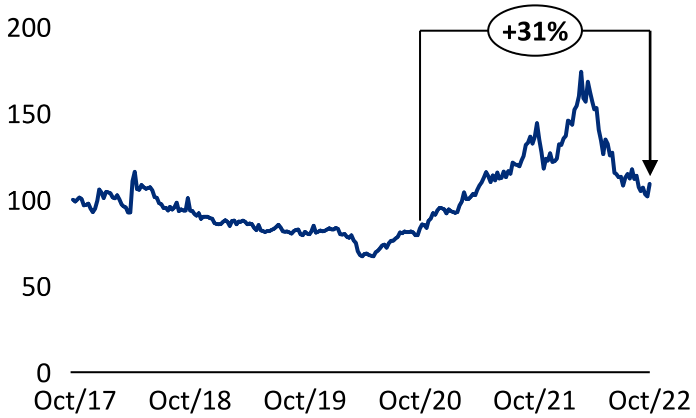
DRASTIC COST INCREASES ARE A BIG CHALLENGE FOR MAJOR AUTOMOTIVE SUPPLIERS

Data as of: 06-Oct-2022

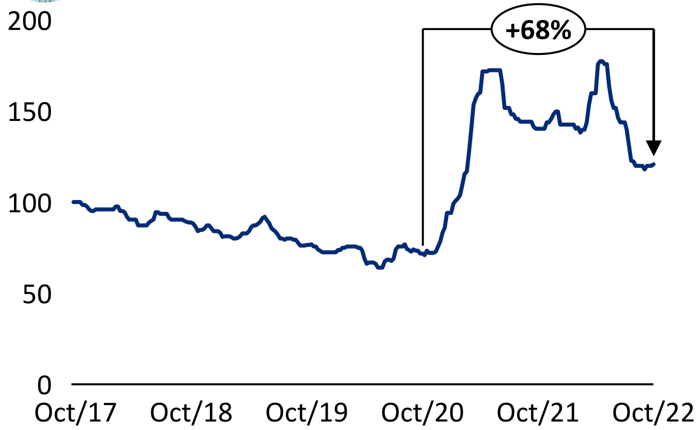
Steel
Steel Price Index Europe



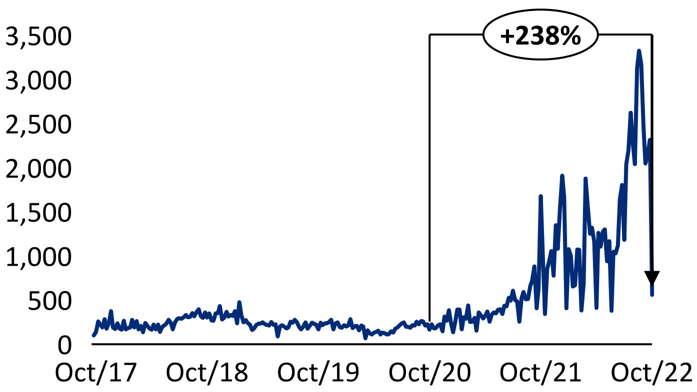
Aluminum
LME-Aluminum 99.7% Cash, indexed



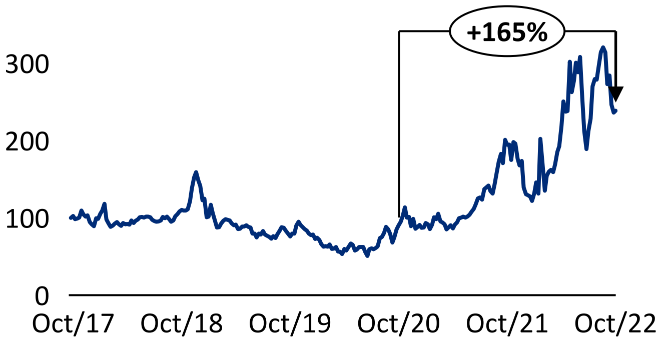
Plastic
LDPE FD Europe, indexed



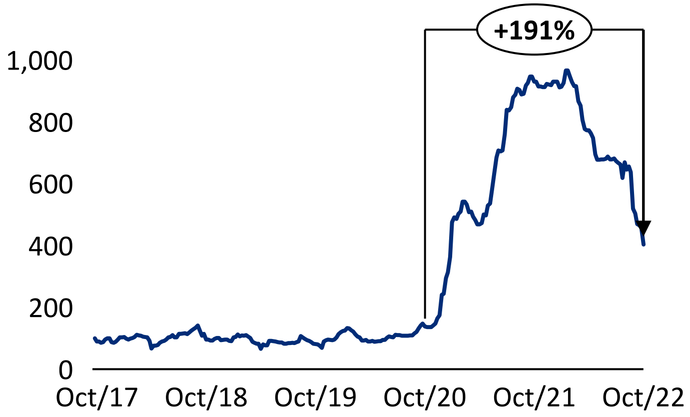
Electricity
EEX Phelix Base Hr.01-24, indexed (DE/AT)



Natural Gas
EEX EGIX, indexed



Oversea Container Rate
FBX CHN EA to N EUR Container Index, indexed

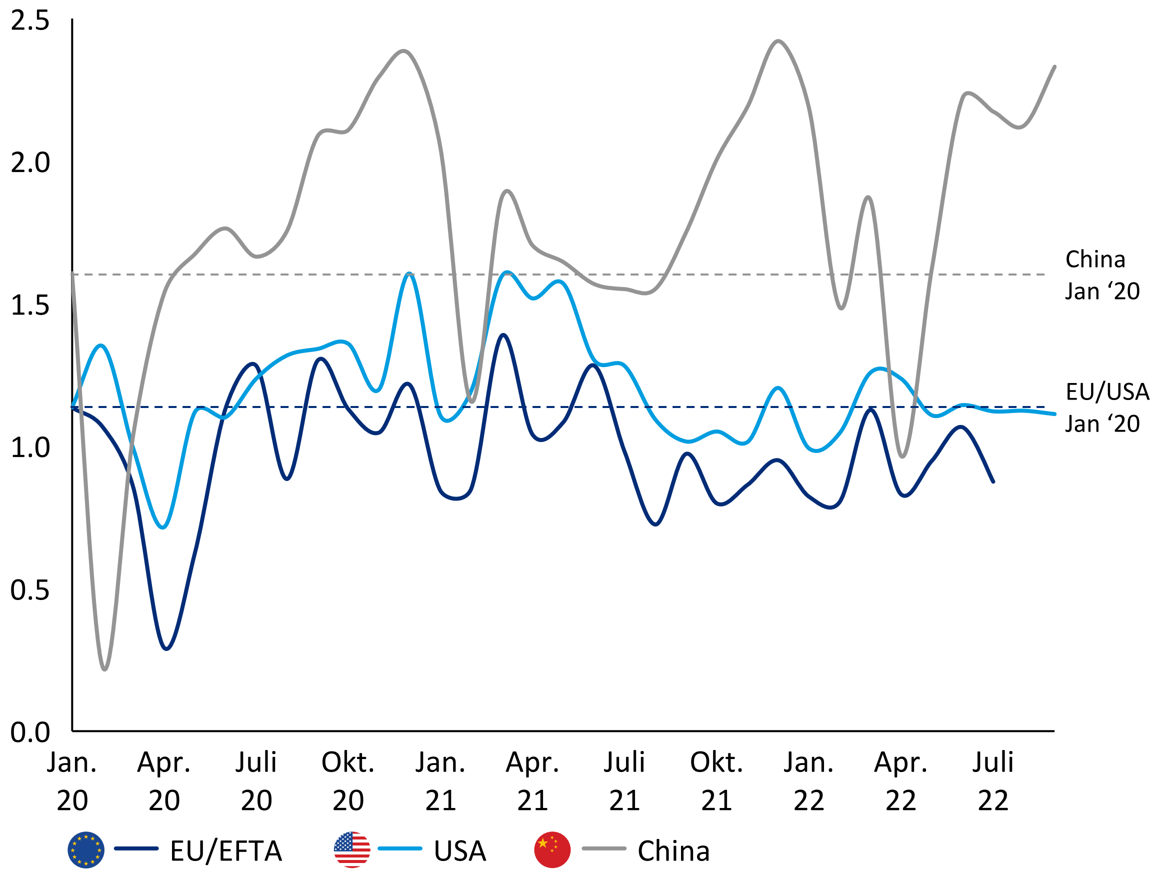


Source: Refinitiv, Oliver Wyman

DESPITE THE CHALLENGES FACED, NEW CAR SALES HAVE REMAINED ROBUST OVER THE LAST YEARS, BUT THE OUTLOOK HAS STARTED TO DETERIORATE

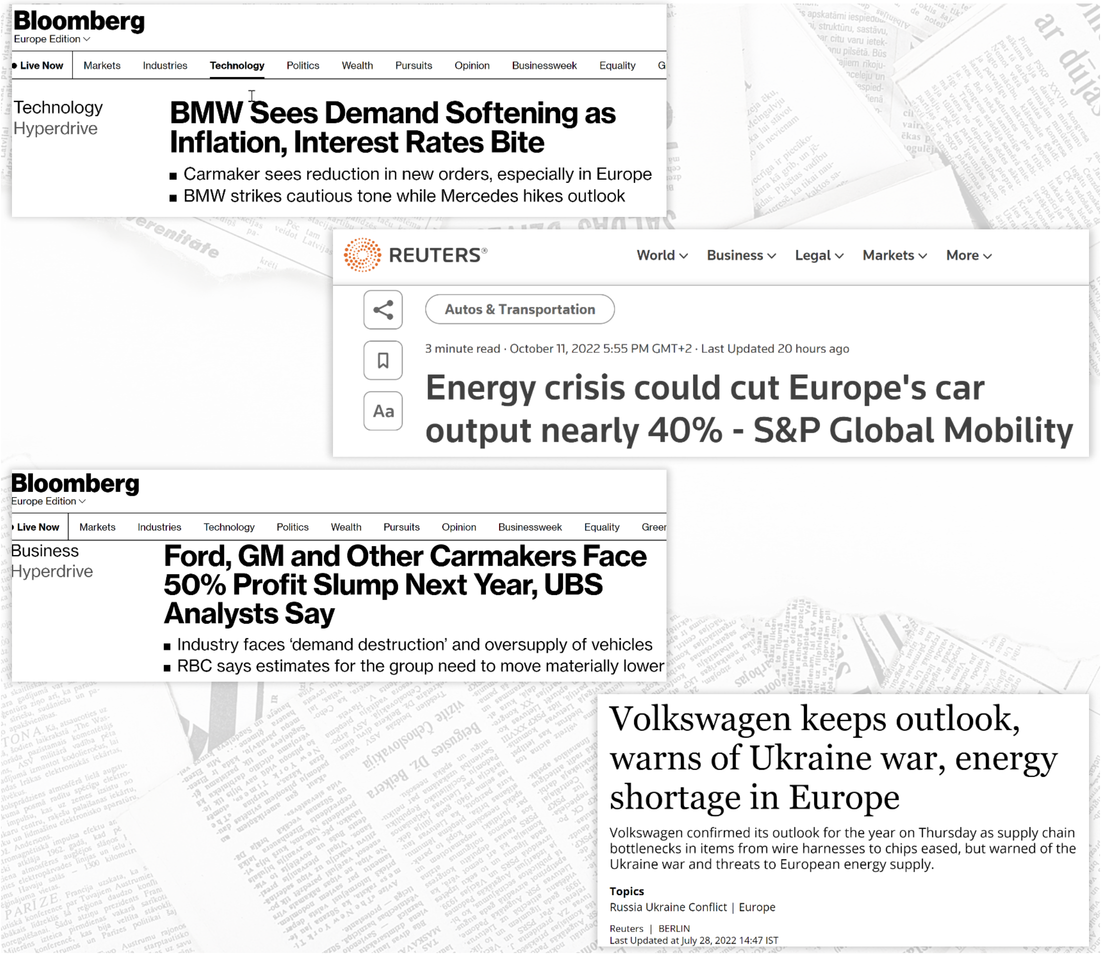
Monthly passenger car sales Europe, China, USA

2019-2022, in MN vehicles



Source: ACEA, FRED, CAAM, Bloomberg, Reuters, BMW investor relations, Oliver Wyman

Outlook on passenger car sales Europe



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Technology
Hyperdrive

BMW Sees Demand Softening as Inflation, Interest Rates Bite

- Carmaker sees reduction in new orders, especially in Europe
- BMW strikes cautious tone while Mercedes hikes outlook

REUTERS®

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Autos & Transportation

3 minute read · October 11, 2022 5:55 PM GMT+2 · Last Updated 20 hours ago

Energy crisis could cut Europe's car output nearly 40% - S&P Global Mobility

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Business
Hyperdrive

Ford, GM and Other Carmakers Face 50% Profit Slump Next Year, UBS Analysts Say

- Industry faces 'demand destruction' and oversupply of vehicles
- RBC says estimates for the group need to move materially lower

Volkswagen keeps outlook, warns of Ukraine war, energy shortage in Europe

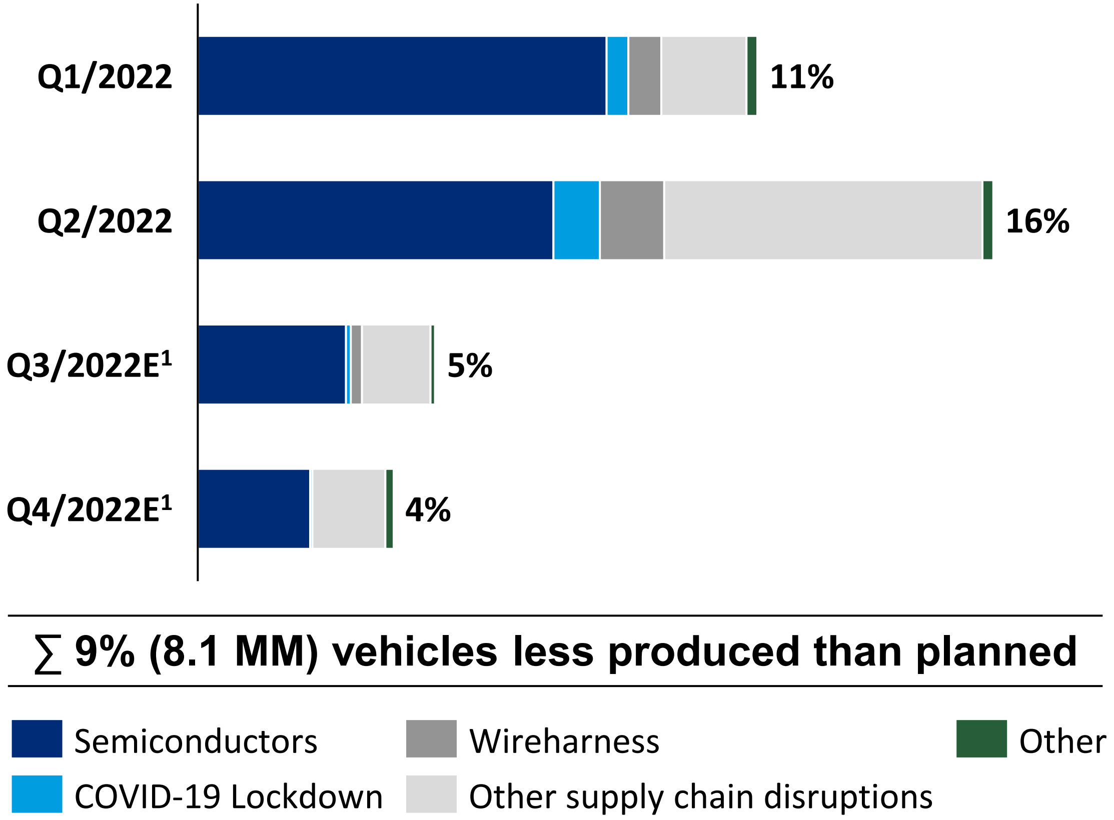
Volkswagen confirmed its outlook for the year on Thursday as supply chain bottlenecks in items from wire harnesses to chips eased, but warned of the Ukraine war and threats to European energy supply.

Topics
Russia Ukraine Conflict | Europe

Reuters | BERLIN
Last Updated at July 28, 2022 14:47 IST

2022 PRODUCTION OUTPUT IS FURTHER CONSTRAINT BY SUPPLY CHAIN DISRUPTIONS ARISING FROM LATE COVID-19 EFFECTS AND THE WAR IN UKRAINE

Light vehicles not produced in 2022 vs. original plan
In %, vs. unconstrained/ planned production output



Implications

- **New deliveries**: Extended delivery times with customers queuing to receive their cars
- **Production**: Significant backlog into early 2023 "protects" OEMs in the short term from demand fluctuations
- **Pricing power**: Excess demand situation enables OEMs to maximize margins
  - OEMs adapt their production plans to focus on high-margin vehicles
  - OEMs cease discounts to dealers/ customers

"Real" impact of cost increases will only become visible once excess demand situation has resolved

1. Expected
Source: LMC Automotive as of Q2/2022, OEM quarterly reports, OEM press statements, Oliver Wyman

DUE TO LACK OF CLEAR REGULATIONS, IT BECOMES MORE AND MORE DIFFICULT FOR THE AUTOMOTIVE INDUSTRY TO PLAN AHEAD

Example: Emission standards in Europe

- **After repeated delays, causing further uncertainty for OEMs, EURO 7 emission standard regulations are expected to be released in November 2022[1]**
  – Regulation is planned to come into effect in 2025 – lead time too short for new technology development
  – Applies to both passenger vehicles and commercial trucks
  – Carmakers raised worries that the proposed amendments to EURO 6/VI could be unfeasible within the given timeframe
- **For passenger vehicles, EURO 7 rules are likely to apply only to a single generation of models starting 2026 with the EU planning to move towards zero emission targets by 2035**
  – OEMs start to phase out diesel engines in selected markets [e.g., Fiat, Mitsubishi, Toyota, etc.]
  – Short lead times for regulation puts pressure on the automotive industry, as it thinks in completely different time dimensions (typical lead times of 5–8 years)

Expert opinions

AGVES

"[T]here is still no clear indication from the Commission of what the Euro 7/VII proposals will look like."
Advisory Group on Vehicle Emission Standards (AGVES)

"For the industry to innovate, we need a clear roadmap and timetable from policy makers on what regulations are approaching in coming years. (…) knowing and understanding the Euro VII regulation in full detail is critical to our business and that of our customers."
Vice President – Product Compliance and Regulatory Affairs at Cummins

"The top priority in drafting Euro 7/VII is no longer to achieve unified across-the-board reductions in emission levels, but to make the legislation clearer and more streamlined and to align it with new technological developments."
German Automotive Industry Association (VDA)

"If Euro 7/VII is more complex than it needs to be, then more time will be needed and this will start to encroach on OEMs' de-fossilization plans and could completely change the way they approach Euro 7/VII for ICE vehicles compared to an earlier timetable."
Association des Constructeurs Européens d'Automobiles (ACEA)

1. Publication of EU proposal currently expected for November 9th, 2022
Source: Factiva, European Commission, Automotive News Europe, Oliver Wyman

AS A RESULT, STRATEGIC DECISIONS BECOME EVEN HARDER AS (REGULATORY) UNCERTAINTY FACTORS IN

WHERE TO FOCUS

- **The transitionary nature** of the current period and the switch from ICE to E-vehicles means **both must co-exist**
- **ICEs will still be manufactured until 2035 (in EU, even longer in other markets)**, leaving significant potential to further increase their efficiency to meet emission targets
- Focus of automotive players should not solely be on E-vehicles, but **must incorporate all opportunities ICEs still have to offer**
- **Other technologies**, such as hydrogen vehicles, may become more relevant in the future, but **are currently not viable for mass-markets**

THE RIGHT R&D BALANCE

- Because ICEs are the current source of cash inflows to fund the transition to EVs, R&D expenses have to be **plausibly divided between both**, as well as alternatives (e.g., hydrogen), **which can become extremely costly**
- **Resources are already constrained**, thus achieving the right mix between legacy technologies and future platforms is key
- **Securing sufficient capital becomes increasingly difficult**, as the current underlying market-uncertainty makes it harder to convince financiers about promising strategic action plans

Source: Oliver Wyman

ALL FACTORS CONSIDERED, AUTOMOTIVE SUPPLIERS ARE FACING A "MEGASTORM" AND INSOLVENCIES HAVE ALREADY STARTED TO INCREASE

Key challenges faced by the automotive industry…

- **Drastic cost increases** for key raw materials, transport and energy
- Continued **supply chain disruptions**/ shortages
- **Weakening vehicle sales** in face of market disruptions, inflationary pressure and a looming recession risk
- **Lack of clear regulations** and limited time to react
- **ESG investment regulations** limit investments into many automotive companies
- **Transition from ICE to BEV** constraining resources

… have started to drive up insolvency cases …

F+ BEDROHTE EXISTENZEN

Die Zahl der Insolvenzen steigt

AKTUALISIERT AM 10.10.2022 - 20:19

… the number of insolvencies of partnerships and corporations increased by 34 percent (to 762 new cases) compared to the same month last year.

… and result in increased friction between OEMs and their suppliers

WiWo+ GEFÄHRDETE AUTOZULIEFERER

„So eine Frustration habe ich noch nicht erlebt"

von Annina Reimann
07. Oktober 2022

Rising costs are threatening the existence of many automotive suppliers. Contrary to official assurances, major OEMs are showing little leniency. Insights into a secretive scene in which both sides are increasingly finding themselves in court negotiations.

Note: Translated from German text to English
Source: Frankfurter Allgemeine Zeitung, Wirtschaftswoche, Institut für Wirtschaftsforschung Halle, Oliver Wyman

FOR MANY PLAYERS, CONSOLIDATION WILL BE THE ANSWER

Recent signs of consolidation and exits in the automotive supplier industry

Supplier (mega) consolidation

(Large-scale) mergers and acquisitions between suppliers are seen as an instrument to increase negotiation power towards OEMs, compensate for potentially declining volumes or tap into new technologies

FORVIA
faurecia HELLA
Scale:
Creation of the 7th largest global automotive supplier

Qualcomm
veoneer
Invest in new technologies

Cummins | MERITOR
Invest in growing BEV segment

BEV technology buy-and-build

Players with substantial financial power and positive outlooks will try to consolidate BEV suppliers or technology specialists to secure a front-running position in the BEV industry

Examples

Insolvencies will increase, and some suppliers may prefer structured insolvencies, e.g., to reduce indebtedness or to avoid high pension liabilities

BORGERS
~6,000 HC

DR. SCHNEIDER UNTERNEHMENSGRUPPE
~4,000 HC

(Structured) Insolvencies

ebmpapst
Prices demanded by OEMs do not generate sufficient margins

Companies or industry groups with a more diversified product portfolio even choose a structured exit from the automotive industry – accepting high revenue losses in favor of overall profitability

Automotive Exit

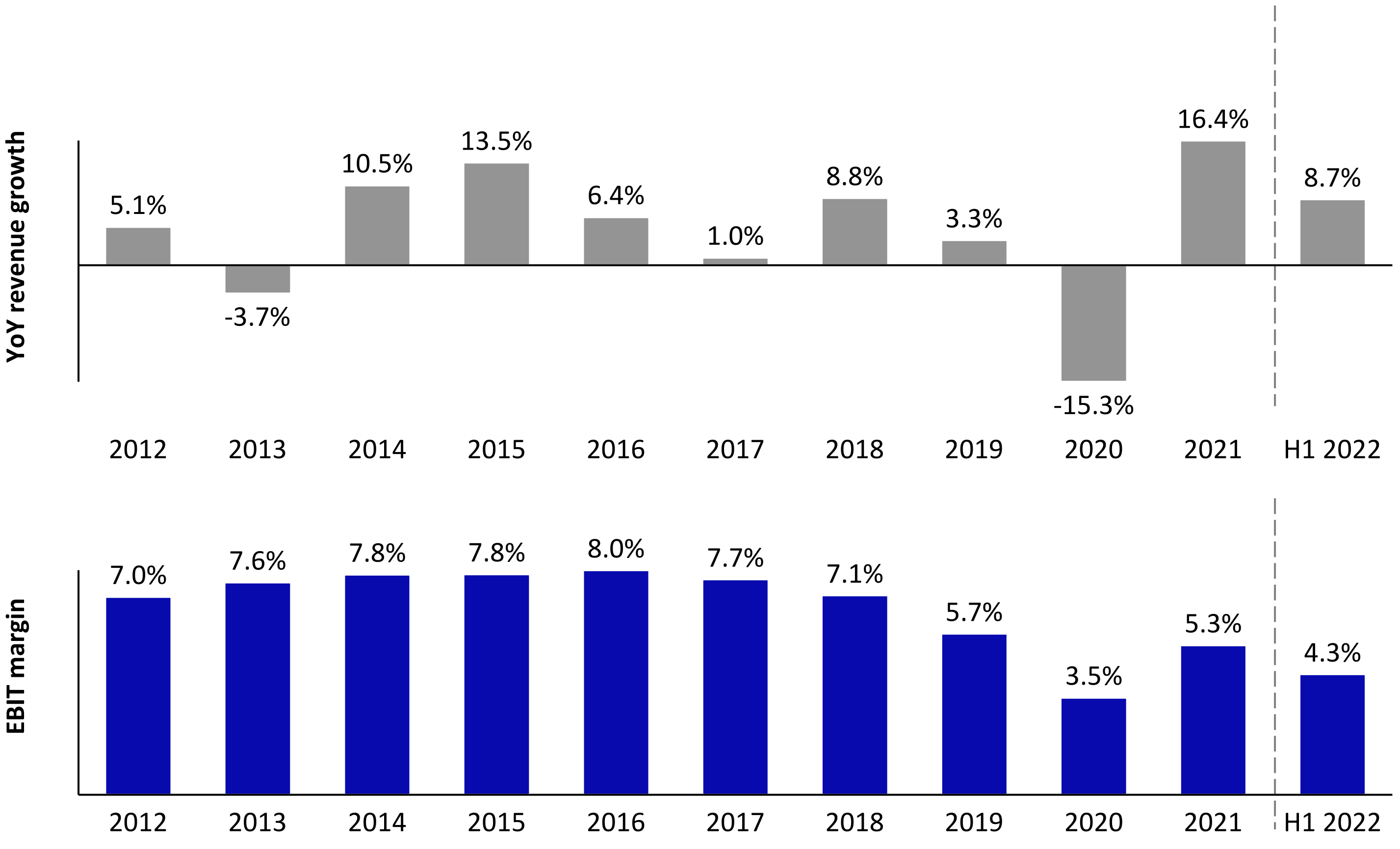
Source: Mergermarket, Falkensteg, Eurostat, Destatis, Company Websites, Handelsblatt, Oliver Wyman

CONTENT OF THIS DOCUMENT

AUTOMOTIVE SUPPLIER MARGINS CAME (AGAIN) UNDER PRESSURE IN THE FIRST HALF OF 2022 IN LIGHT OF SIGNIFICANTLY INCREASED RAW MATERIAL COSTS

Automotive supplier performance development

Suppliers globally[1], in %, 2012 – H1 2022



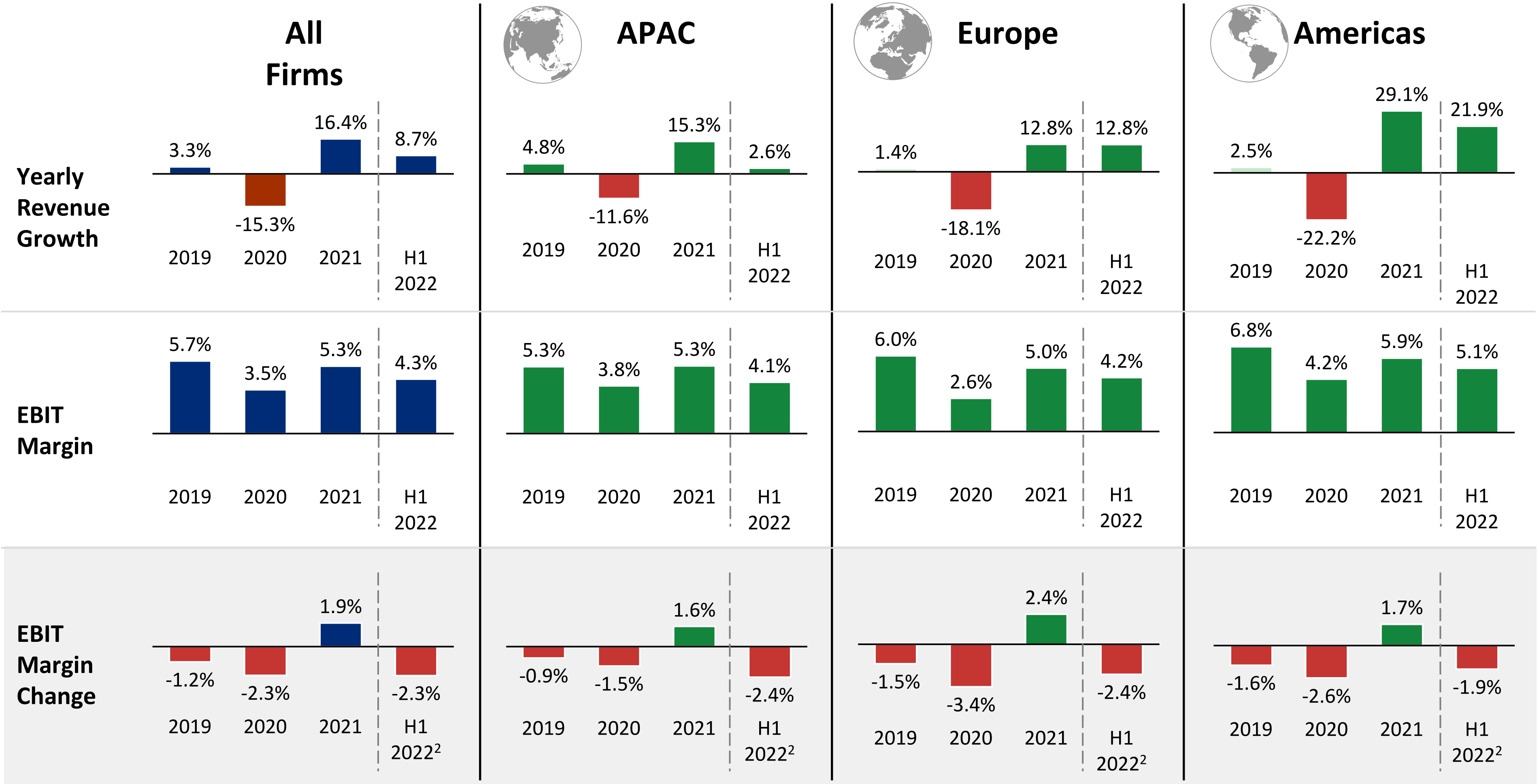
1. 171 automotive suppliers with > 1bn in revenues. Revenue weighted average; composition of panel changes 2019 due to data availability. Data status as of October 11th, 2022

Source: Wirtschaftswoche, Oliver Wyman case experience, Oliver Wyman Supplier Financial Benchmarking 2022, CapitalIQ, Oliver Wyman

Key insights

- Supplier margins have started to decline again in 2022 after a short recovery close to 2019 levels in 2021
  - Impact of material/ energy cost increases in H1 2022
  - OEMs often do not accept cost pass-through beyond contractually agreed terms (which are limited)
  - Cost pressure further accelerated as OEMs typically only award lifetime extensions with further discounts on parts on pre-crisis material costs levels
- As a result, an increase in the number of cases of legal disputes between OEMs and suppliers can be observed
- First suppliers seek their last resort in a structured insolvency or even in an exit from the automotive industry

GLOBALLY, MARGINS FOR AUTOMOTIVE SUPPLIERS HAVE DETERIORATED IN 2022, ASIA AND EUROPE ARE PARTICULARLY IMPACTED

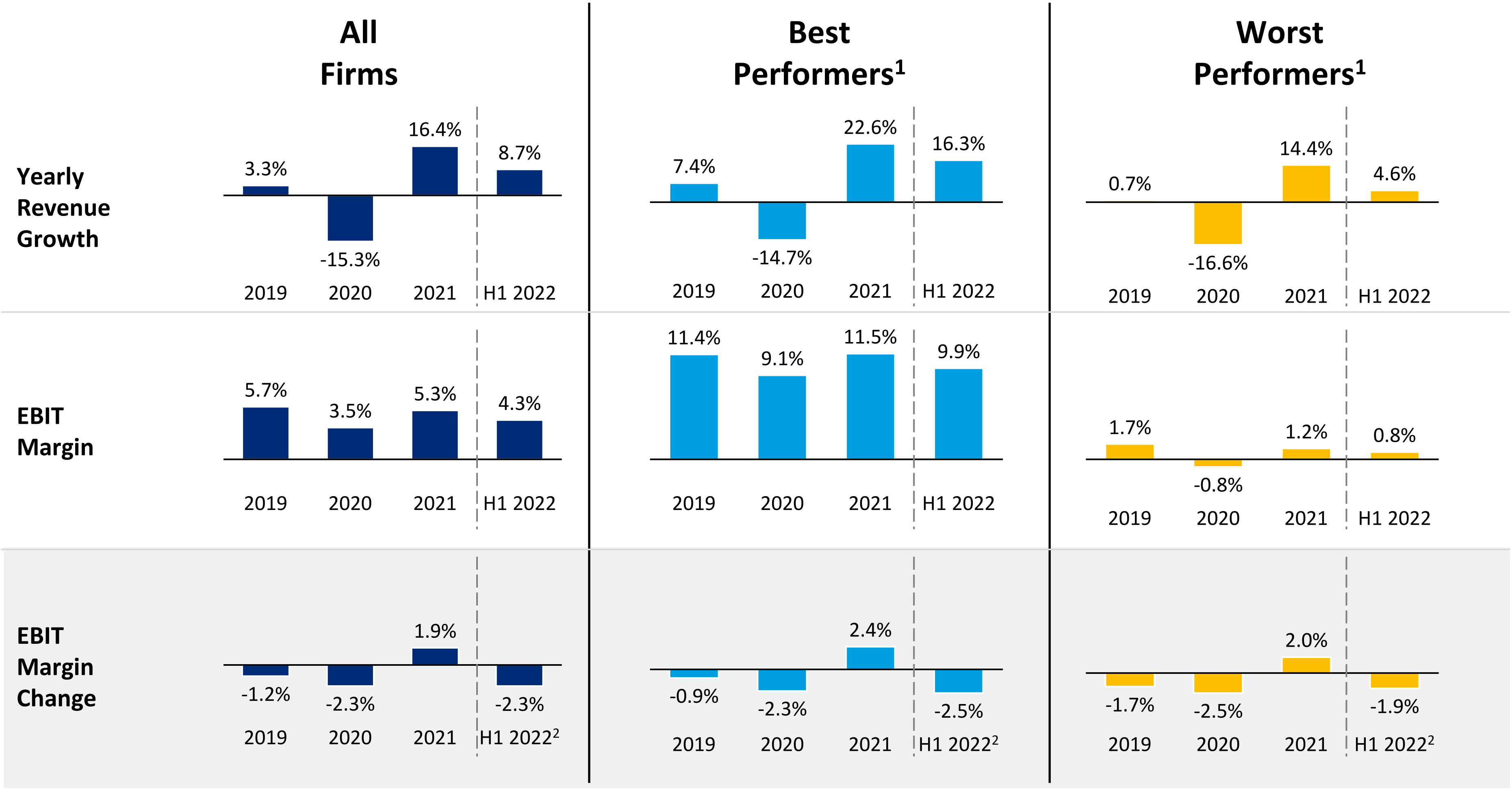


Key insights

- Asian suppliers experienced a smaller COVID impact at the beginning of the crisis
- Cost increases impacted all regions in H1 2022, somewhat weaker impact on Americas

Note: Suppliers with missing years excluded, volume weighted average values; 1. 171 automotive suppliers with > 1bn in revenues; 2. Change vs. H1/2021
Source: Oliver Wyman Supplier Financial Benchmarking 2022

MARGIN CONTRACTION IS NOT LIMITED TO SUPPLIERS WITH LOW PERFORMANCE BUT HAS ALSO IMPACTED THE PERFORMANCE OF INDUSTRY LEADERS



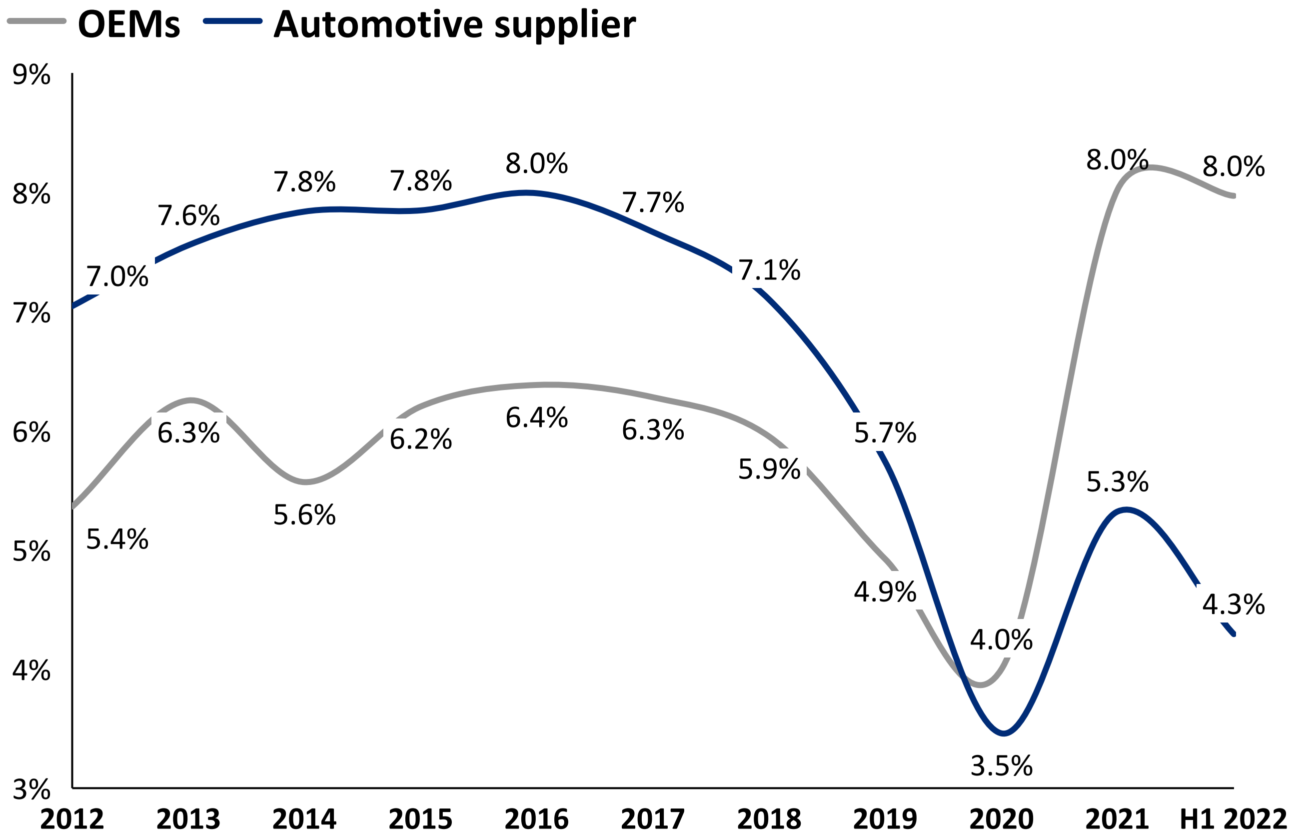
Key insights

- Margin impact in H1 2022 not linked to performance of suppliers in previous years
- Majority of suppliers without any material cost pass-through agreements besides steel – thus, margin erosion rather a result of increasing energy prices, logistic prices or other components
- Next months will show, if companies with higher negotiation power and/ or better margins are capable of passing through a higher shares of costs

Note: Suppliers with missing years excluded, volume weighted average values
1. Best and worst performing firms (top/bottom quartile) have been identified based on average EBIT margin in 2019-21 period; 2. Change vs. H1/2021
Source: Oliver Wyman Supplier Financial Benchmarking 2022

OEM MARGINS HAVE INCREASED SINCE THE COVID CRISIS WHILE SUPPLIER MARGINS HAVE COME UNDER PRESSURE AGAIN

EBIT margins of OEMs[1] and automotive suppliers
In %, 2012-H1 2022



1. Top-15 OEMs by global unit sales
Source: Capital IQ , Wirtschaftswoche, Factiva, Oliver Wyman Supplier Financial Benchmarking 2022

Key insights

- After having been more profitable than OEMs for years, suppliers experienced declining profits beginning in 2019
- Since 2020, OEM margins have recovered above previous levels
  – OEMs experience excess demand and are widely able to pass cost increases on to end-customers and have removed dealer/ customer discounts
  – OEMs have refocused their portfolio on high-margin vehicles vs. volume models
- Automotive supplier margins temporarily recovered in 2021 but are under pressure again due to cost increases
  – Raw material costs are regularly not hedged while prices with OEMs are contractually fixed
  – OEMs sometimes show little acceptance for sharing cost increases and disputes are increasingly resolved only in court

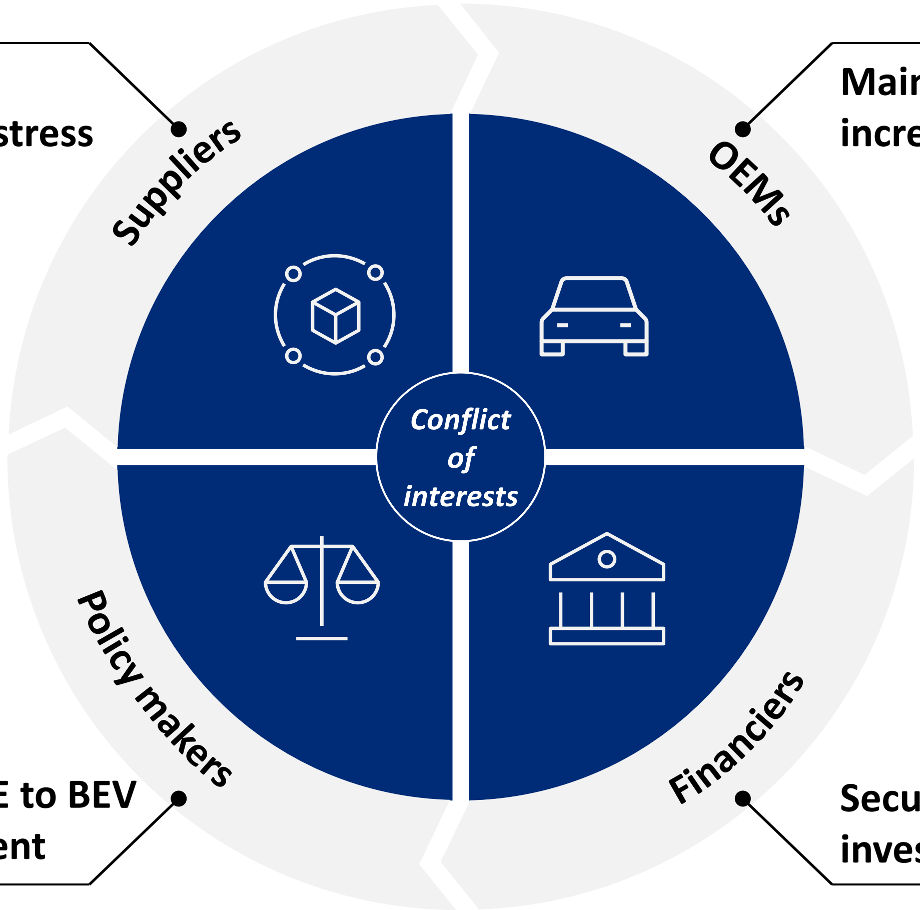
CONTENT OF THIS DOCUMENT

CONFLICTS OF INTERESTS/ AGENDA BETWEEN THE DIFFERENT STAKEHOLDERS IN THE AUTOMOTIVE INDUSTRY

Main interests of key stakeholders in the automotive industry

Recover cost increases from OEMs to stabilize margins, avoiding financial distress

Maintain strong margins and minimize price increases to avoid hurting sales



Incentivize accelerated switch from ICE to BEV while minimizing impact on employment

Secure loans provided and ensure investments align to ESG requirements

Source: Stakeholder interviews, Oliver Wyman

STAKEHOLDER VIEWPOINTS – SUPPLIERS (1/4)

Main interest

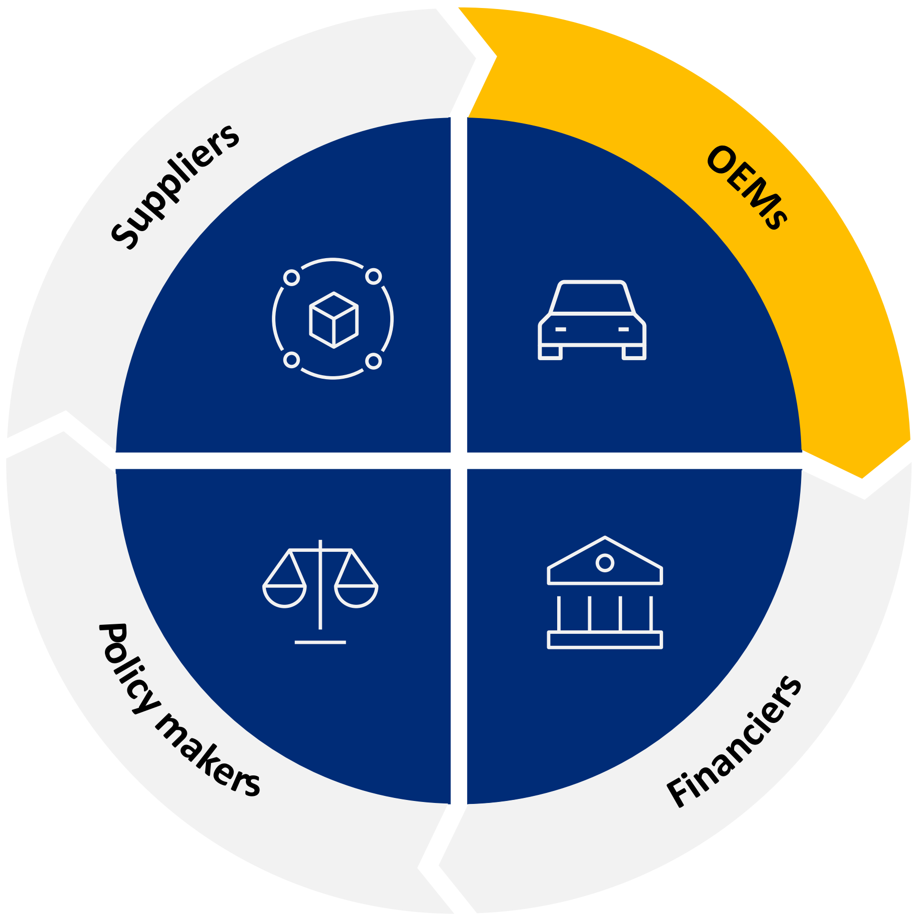
- Passing inflation cost increases onto OEMs to regain profitable product margins and manage transformation

Conflict potentials

- Lacking leverage for suppliers vis à vis OEMs, especially small and medium suppliers faces greater challenges:
  - Products are often interchangeable/ in more direct competition and thus have even lower leverage with OEMs
  - Lack of resources to coordinate new sales contracts negotiations as resources are tied-up in cost disputes
  - Less inflation-hedging in place prior to the crises
- Additional complexity and investment requirements during conversion from ICE to BEV while margins get more and more under pressure
- Risk of suppliers lacking traction in following the industry trends due to resource constraints
- Challenge to fulfill ESG requirements

Source: Stakeholder interviews, Oliver Wyman

STAKEHOLDER VIEWPOINTS – OEMS (2/4)



Main interest

- Maintaining their currently strong profit margins, while keeping the supply chain stable. Prepare for recession

Conflict potentials

- Dependency on some suppliers could force OEMs to take on some additional costs to mitigate risks to their own production plan (actively manage supplier consolidation)
- OEMs know ICE technology is a finite one in some core markets, and thus have to adapt to maximize their profit until the switch to EVs is complete
- OEMs are tapping new business models (e.g., subscription model)
- More e-mobility aspects will have to be covered by the OEMs through in-house resources – some OEMs are actively splitting their ICE vs. BEV organizations
- Lack of regulatory guidance especially on ICEs (e.g., emission standards) hamper further innovations

Source: Stakeholder interviews, Oliver Wyman

STAKEHOLDER VIEWPOINTS – FINANCIERS (3/4)

Main interest

- Secure financial investments and ensure adherence to climate goal obligations

Conflict potentials

- With the looming switch to BEVs in some key markets, financiers increasingly consider the industry-risk too high to still provide funding
- ESG investment regulations can push investors to avoid high-emission clients, such as ICE players, or energy-intense businesses, such as foundries
- In case of distress, financiers must make sure their clients have enough securities or other downside protection in case of default, if this is not the case, they may be reluctant to supply more liquidity to recuperate their credit through the client's cash flows

Source: Stakeholder interviews, Oliver Wyman

STAKEHOLDER VIEWPOINTS – POLICY MAKERS (4/4)

Main interest

- Shifting the automotive industry away from combustion engines to electric vehicles to achieve climate goals – while safeguarding employment

Conflict potentials

- Policy makers must push to effectively shift the ICE market, with all its stakeholders, while also minimizing effects for the involved workers
- Challenges with regard to the effect of involved workers are:
  - Preparing a large shifts of workers to other industries or
  - Enabling them to ensure different employment opportunities (reskilling)
- Developing countries with a lack of EV infrastructure will likely have to rely on ICEs for longer time period

Source: Stakeholder interviews, Oliver Wyman

OUR HYPOTHESES (1/2): SUPPLIERS WILL NEED TO UNDERGO A MASSIVE TRANSFORMATION IN ORDER TO SURVIVE

01 **Conflicts of interests** between the affected stakeholders **will become a driving force.** Accordingly, a solution for mitigating the challenges at the level of the entire industry will be hard to find

02 Financial distress and investment requirements will drive **(further) consolidation** of the **supplier landscape.** As a result, an increase **of automotive supplier M&A activities** is to be expected

03 The pool of automotive suppliers will significantly reduce, posing a long-term risk to OEMs. **Strong players** will consider a **full exit of the automotive industry** while **financially constrained** players will increasingly **face the risk of insolvency**

04 **Leading automotive suppliers** will increase their **pricing power** at a certain point of time and margins will recover. This is the case if they are **systemically relevant** to **OEMs** and/or **leverage their bargaining position**

Source: Oliver Wyman

OUR HYPOTHESES (2/2): COMBUSTION ENGINE RELIANT SUPPLIERS ARE LEFT WITH FEW STRATEGIC OPTIONS

Strategic options for ICE-reliant automotive suppliers

Strategic solutions at industry level

01 Special purpose vehicles (SPV)

- Transfer of suppliers whose products will still be critical for future production of OEMs to a special purpose vehicle to share the burden of a continued production against stakeholders

02 Temporary investment fund

- Fund aimed at acquiring automotive suppliers with ICE focus. Profits come from operations while no new investments will be made (finite time horizon)
- Will continue to operate medium-sized companies and parts of large suppliers acquired by the fund for many years and then liquidate them in a controlled manner

Strategic solutions on a supplier-by-supplier level

01 Regional shift

- Move into markets that will be reliant on ICEs for longer, e.g., developing countries with no EV infrastructure in place or with longer transition phases

02 Last man standing

- Establish ICE platforms to generate scale and eventually becoming the only remaining supplier for several carmakers

03 Exit

- Exit from the automotive industry completely and re-focus on alternative/ more attractive markets

Source: Oliver Wyman

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