New Normal for the automotive industry

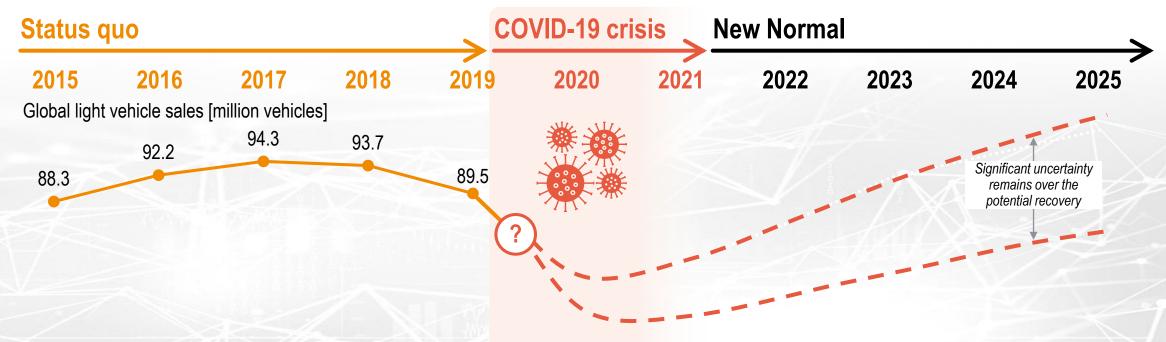
Understanding strategic implications of the crisis through scenarios







Existing industry pressures, shocks from the crisis, and the ensuing changes in policy, society and the economy will drive the New Normal



Automotive companies were feeling pressure from ongoing structural changes

- > Declining global volumes and margins falling by 1-2% pts on average
- > Overcapacities in the market and increasing price pressure
- > Upfront investments for electrification, autonomy and digitalization
- > Tightening emissions requirements and "Dieselgate" fallout
- > Changing customer behavior and expectations

The pandemic has impacted all facets of life

- > Industry shutdown
- > Global recession
- > Stimulus spending
- > Political fallout
- > Societal changes

Changes in policy, consumer behavior and the economy will affect the industry long after the crisis

- > The pace of economic recovery will drive global volumes
- > Stimulus and incentives will influence the market and the sales mix
- > Trade policy will alter global supply chains and capital investment
- > Political outcomes will steer environmental regulations
- > Consumer preferences and social norms will be altered

Source: IHS Markit; Capital IQ; Roland Berger



Ongoing policy debates and geopolitical dynamics indicate a wide range of plausible outcomes of the crisis

Examples of divergent policy stances regarding emissions regulations





"The [Fuel Economy and Greenhouse Gas] standards originally developed almost a decade ago are no longer appropriate in light of shifting market conditions and consumer preferences"

Alliance for Automotive Innovation, Mar 31

"We are delivering on President Trump's promise to correct the current fuel economy and greenhouse gas emissions standards"

EPA Administrator Andrew Wheeler, Mar 31

"We intend to make sure that the backsliding doesn't reach California's doorstep"

California attorney general Xavier Becerra, Mar 31





"We call on a global alliance [...] to support and implement the establishment **Green Recovery Investment Packages** as accelerators of the transition towards climate neutrality and healthy ecosystems"

European alliance for a green recovery with 180 ministers, MEPs, CEOs, NGOs & Trade Unions, Apr 14

"Politicians shouldn't impose requirements that were determined under different economic circumstances"

Former European Commissioner G. Oettinger, Mar 28

"Based on a mid-term review in 2025, the CO2 target for 2030 should be adapted upwards or downwards, depending on the registration of alternatively-powered vehicles [...]"

European Automobile Manufacturers Assoc., Mar 23





Subsidies and tax exemptions for New Energy Vehicles will be extended two years to "expand domestic demand, assist businesses reopening, sustain employment, and help all types of businesses"

Chinese state council, Mar 31

"China may help hard-hit carmakers by relaxing emission curbs"

Bloomberg, Apr 1

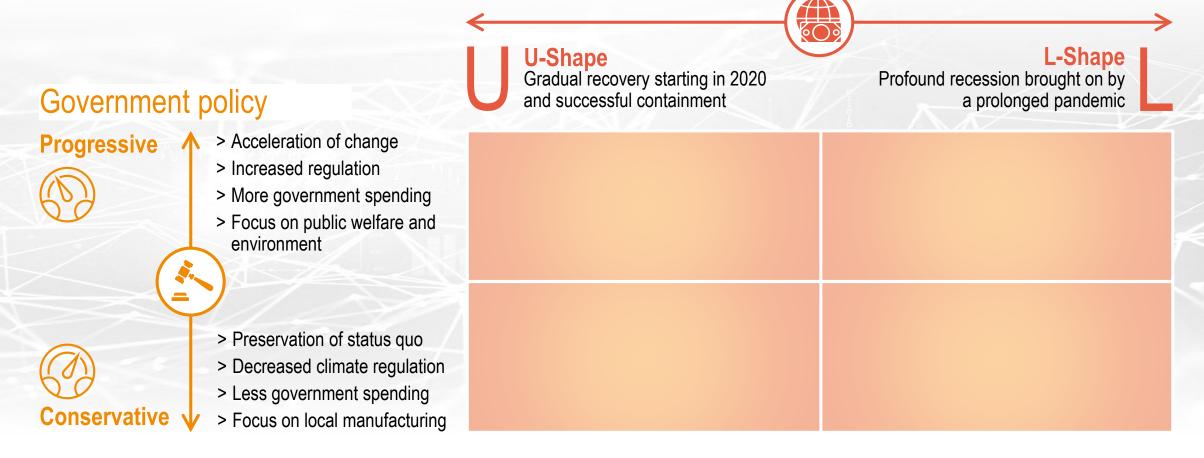


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1. Our scenarios are built along two main dimensions of uncertainty

Economic recovery

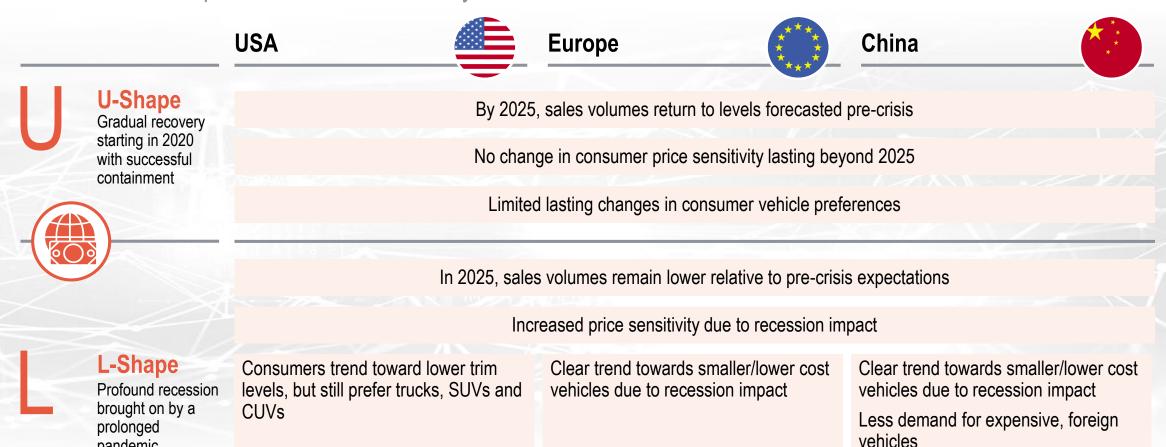




The speed and nature of the **economic recovery** will impact sales volumes, government spending and customer preferences

Dimension assumptions: Economic recovery

pandemic





2. Government policy will impact trade, fiscal spending and emissions regulations, with considerable variations across regions

			USA	Europe	China
	Pro-	(CO ₂)	Reinstatement and extension of CAFE standards, CARB mandates expand	Reinforcement of net-zero carbon target for 2050 with introduction of CO ₂ -based taxation and tariffs	No short-term reduction in CO ₂ targets
	gres- sive		Further stimulus carries environmental mandates with automotive subsidies favoring fuel efficiency and ZEV	Unified green recovery strategy with focus on overall emission reduction (not only xEV)	Incentives focused on smaller cars and NEV (prolonged subsidies)
			Engage in efforts to form broader international trade agreements	Strong unity among European countries in response to the recession (e.g. Euro bonds)	
	Common ground	(0)			Long term CO ₂ targets stay in place
			Stimulus packages favor projection of American jobs		Overall level of economic stimulus
			Tariffs protect certain sectors of the economy, with a focus on blue collar jobs		Increasing government backed moves to take over foreign companies to gain market shares and IP
	Con- serva- tive	(CO ₂)	CAFE standards remain rolled back, CARB loses enforcement powers	Reduction or delay of fleet emission penalties up to target postponement	Short term reduction in CO ₂ targets
			Stimulus packages do not include any significant environmental mandates or ZEV subsidies	Stimulus packages focus on preserving the industry and safeguarding jobs with increasing nationalization	Incentives target overall consumption
			Trade wars are leveraged heavily in international relations	Increasing national solo efforts (with potentially destroying the Euro zone in case of severe recession)	
Policy	variance		Medium differences Emission regulation differs, but fiscal economic policies will have similar outcomes for the industry	Major differences Unified green recovery strategy contrasted against individual national agendas	Minor differences Policy approach may vary slightly, but the underlying objectives are not expected to change

Source: Roland Berger

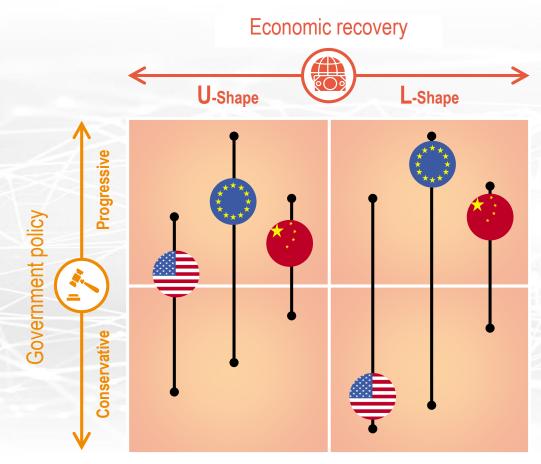
Emission regulation



A range of scenarios were evaluated for each region to understand potential implications for the automotive industry

Ranges in potential policy by region and economic recovery (example)

Illustrative scenarios shown



Explanation of policy ranges considered



U-Shape





The US has a relatively conservative range due to potential trade policies and the limited support for broad sweeping environmental policies



The EU has potential for the most progressive policies (e.g. green recovery strategy), as well as fairly conservative swings with additional exits from the EU and a regression in environmental policy

L-Shape

The profound recession opens the door for more slightly more expansive changes in either direction, though still skewed conservatively relative to the other regions

The profound recession further expands the range of plausible policy outcomes, creating room for more nationalist tendencies and even dissolution of the Euro zone in the worst case



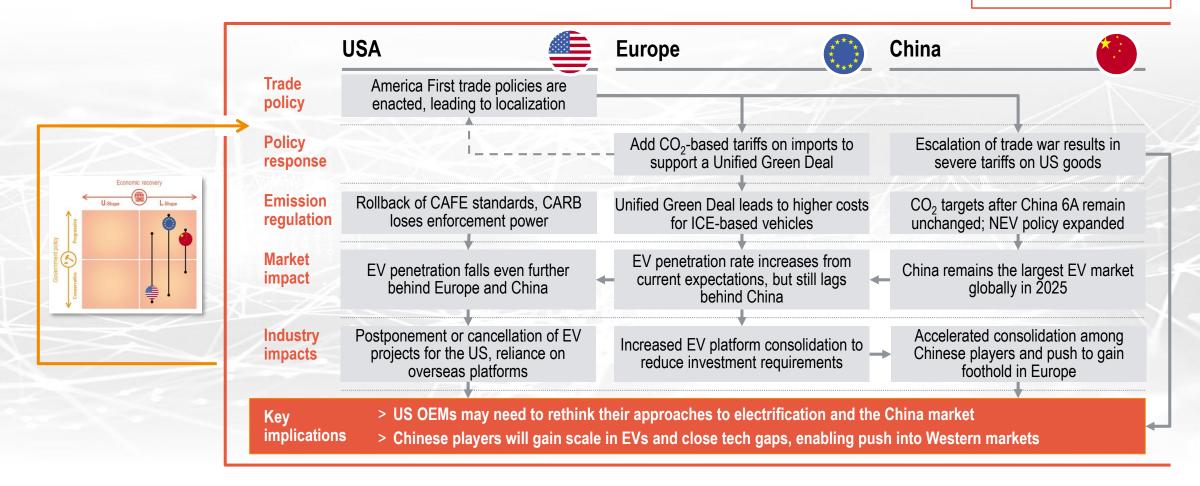
China's policy regime has the smallest range, as any changes will mainly be enacted to steer results towards desired outcomes, or in response to move by other players.

Indicative range of policies considered for each region under the types of economic recovery



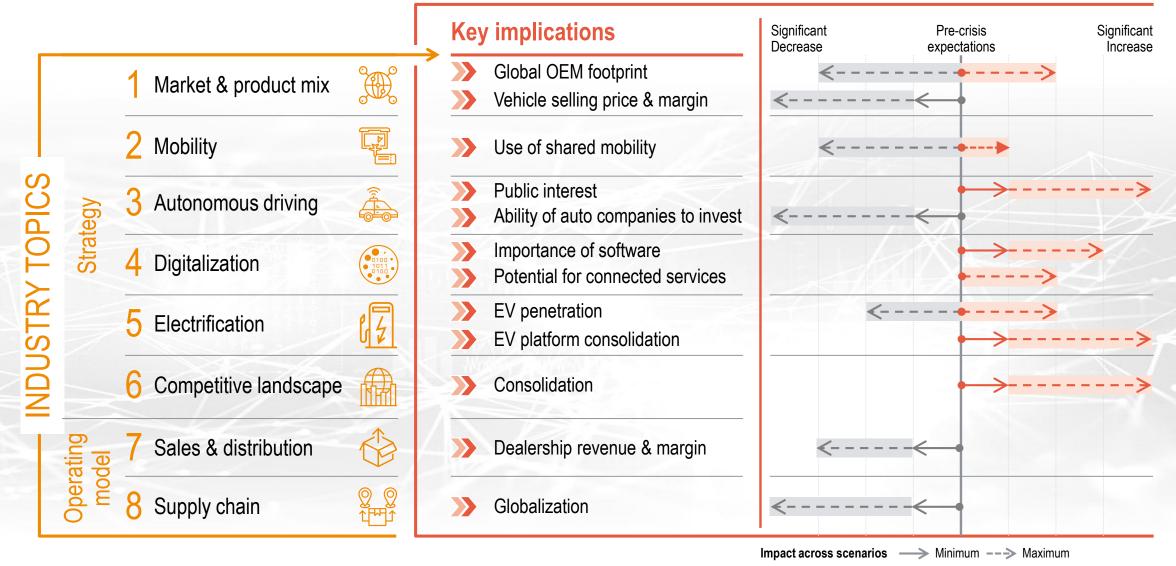
3. Example of scenario logic and selected implications showing potential interdependencies across regions

Illustrative scenario shown





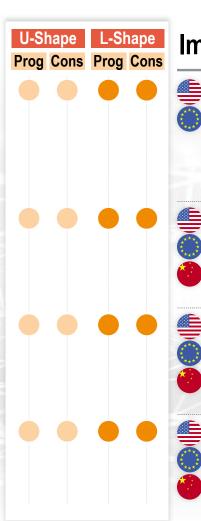
4. Key implications of coronavirus crisis and their impact, clustered by topic





Market & product mix





Highly relevant in the scenario

Implications



Changes in regional market developments and trade policies drive certain **OEMs** to rethink participation in specific regions



Reduced consumer sentiment and buying power force a shift towards smaller and less expensive vehicles and trims



To meet consumer demand for lower priced vehicles, OEMs are forced to drive out cost through reductions in product complexity and BOM cost



Suppliers see a corresponding impact on their portfolios due to shift to lower trim levels and take rates on higher margin components

Rationale

Due to profitability pressure and growing potential for protectionist trade policies that will elicit responses, OEMs have to rethink their global market participation as ability to compete successfully may shift. Some companies will be pressed to retrench from certain regions, particularly in a prolonged recession scenario. Many more will be compelled to look for profitable growth in their core markets, and will need to find ways to increase or protect competitiveness and find ways to increase value participation in those regions.

The more severe the recession, the more consumers, especially in the volume brand segment, shift their preferences to less expensive vehicles. In Europe & China, this primarily means purchasing smaller vehicles. In the US, consumers will maintain a preference for CUVs, SUVs and trucks, but seek to save money mainly by selecting fewer options and lower trim levels.

OEMs can respond to growing consumer price sensitivity in a number of ways. In the near term, they will focus production and incentives on high margin vehicles, even if at lower trim levels. Longer term, product development will focus more on BOM cost. If the economic effects are prolonged, new low-cost models will be introduced, leveraging existing platforms.

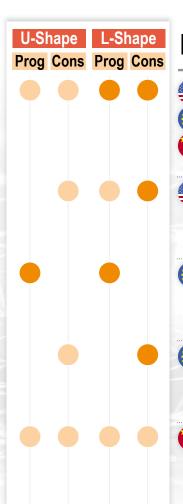
Shift towards smaller and less expensive vehicles and trims reduces product complexity and number of components. Combined with overall lower vehicle sales, this will affect the business of certain component suppliers dramatically

Somewhat relevant in the scenario



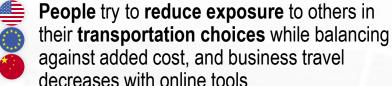
2 Mobility

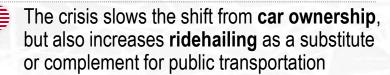




Highly relevant in the scenario

Implications







- Slower shift from individual mobility to shared services and significant consolidation of mobility service providers
- In all scenarios, China's policies counteract the change in public behavior by improving public transportation and making individual mobility less attractive

Somewhat relevant in the scenario

Rationale

The COVID-19 crisis, esp. in case of a 2nd global infection wave, will sensitize the global population in regard of their exposure to pathogenic agents. Weighing health risks in addition to convenience and cost will now become a central part of the decision-making process. The longer the crisis, the more profound and lasting the phenomenon. Reduced business travel will strongly affect not only air traffic, but rental car demand as well.

The effect of ridehailing services chipping away at vehicle ownership in major cities will be slowed by health concerns arising from the crisis. However, ridehailing will continue to grow as people increasingly switch from public transportation, and as private mobility services are more connected into more public transportation systems.

In order to help reach climate goals in the EU, progressive policies would improve public transportation and make shared mobility services part of the public transit to create an overall more attractive offering. Other improvements might include revised cleaning procedures, reduced passenger density, new interior concepts and subsidies.

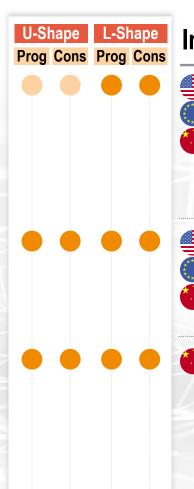
Without concerted efforts to bolster public transportation, individual mobility will remain the primary choice in much of Europe. Mobility service providers, which were already struggling with profitability, experience greater insolvencies and consolidation. Fleets and OEMs, will significantly scale down or ramp down Mobility-as-a-Service businesses.

Policies will adjust the relative attractiveness of mobility modes to achieve the same desired outcomes. Improvements to public transportation might include revised cleaning procedures, reduced passenger density, new interior concepts and subsidies. Personal vehicles can be disincentivized through registration restrictions and taxes. Consequently, no net change is expected in use of public transportation and mobility services.



Autonomous Driving





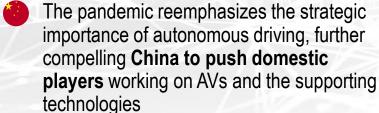
Implications



Health concerns create renewed societal interest in autonomous vehicle (AV) technologies that reduce face-to-face interaction



With cash reserves depleted by the crisis, automotive companies place added emphasis on partnerships and sharing investment requirements related to AVs



Rationale

The pandemic has highlighted society's reliance on, and the vulnerability of, retail and delivery workers. Health and safety concerns exacerbate the shortage of truck drivers, creating additional strain on vital supply chains. A prolonged crisis is also likely to cause consumers to avoid certain types of face-to-face interactions. These factors will create new opportunities, especially in logistic use cases such as autonomous trucking and last mile delivery. Increased public interest in testing & development will lead to an inflow of investment (from VCs and other industries) and an attractive regulatory environment.

The crisis will impact automotive companies disproportionately compared to other industries, lowing their ability to make the high upfront investments required for AV development. This will further accelerate the consolidation of OEM efforts and the establishment of collaborations. Technology giants and startups, relatively unscathed from the crisis, will become even more important partners to automotive companies.

China has thus far tried to encourage foreign companies seeking to work on autonomous driving as long as they are willing to operate within its data access requirements. With an increased perspective on the strategic importance of autonomous driving, China is likely to boost infrastructure investments (e.g. DSRC) and support for domestic technology companies (private as well as state owned).

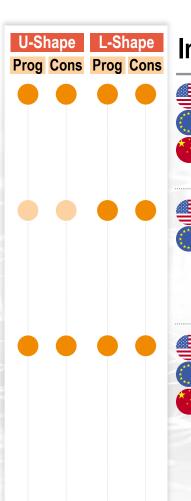
Somewhat relevant in the scenario

Highly relevant in the scenario

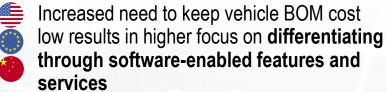


4 Digitalization





Implications





New opportunities in connected services emerge as consumers look to reduce human-to-human interaction and embrace solutions that improve health and safety (e.g. in-vehicle contactless payment and touchless controls, contactless car delivery)

Rationale

The lower vehicle sales levels and trend towards smaller and less expensive vehicles creates margin pressure on OEMs and suppliers to increase economies of scale and reduce product complexity. Software content is increasingly used as a lever to create differentiation while lowering component costs, or even replace hardware functions altogether (as demonstrated with software updates ensuring compliance of Diesel cars).

While OEMs will place a greater emphasis on software to differentiate the customer experience. Much of the proprietary development of applications, software platforms and backend infrastructure requires high upfront investment yet provides limited (positive) differentiation. Examples include voice command features and infotainment middleware. In order to and alleviate cash and investment constraints, OEMs will rely more on suppliers and technology companies able to leverage greater economies of scale.

The COVID-19 crisis showed the potential for reduction of direct human-to-human interaction in everyday life through digital processes and tools (e.g. rise of remote working models). Combined with the rapid expansion of high bandwidth telecommunication infrastructure (5G) and the trends towards differentiation through software-enabled features and services will create business opportunities for new and innovative digital solutions (though these will not necessarily be captured by OEMs or suppliers).

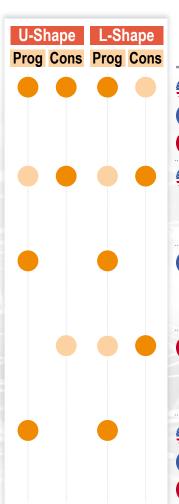
Highly relevant in the scenario

Somewhat relevant in the scenario



Electrification





Implications



The crisis will increase OEM cooperation/ coopetition and accelerate EV platform consolidation



EV penetration in the US will fall even further behind EU and China - US OEMs at risk to become regional niche players



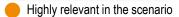
A progressive policy shift in the EU would mean a noticeably accelerated transition away from ICE technologies



China will become even more important as a market and provider for EVs, especially if the US or EU reduce targets and subsidies



Progressive policies promote investment facilitating development of the hydrogen economy and infrastructure, setting the stage for more fuel cell vehicles



Somewhat relevant in the scenario

Rationale

Reduced cash flows will make investments in electrification even more onerous. Especially for low cost segments, OEMs will increase cooperation/coopetition on electrified vehicle platforms and technology in order to leverage greater economies of scale. This will also likely cause a reduction in the number of powertrain variants available.

Reduction of CO2 targets and EV subsidies by US will lead to significant lower xEV penetration compared to EU and CN. Risk for US OEMs to not be able to compete in highly CO2 regulated markets (esp. China and EU) and therefore forced to rely on EV platforms by overseas OEMs, combine with global players, or leave certain markets.

A progressive policy agenda in Europe (e.g. green deal recovery strategy) could have a profound impact on EV penetration. Policies would focus on economic stimuli favoring emission reduction, for example increasing or extending xEV subsidies. Plausible policy swings in China and the US would not impact global EV penetration to the same extent.

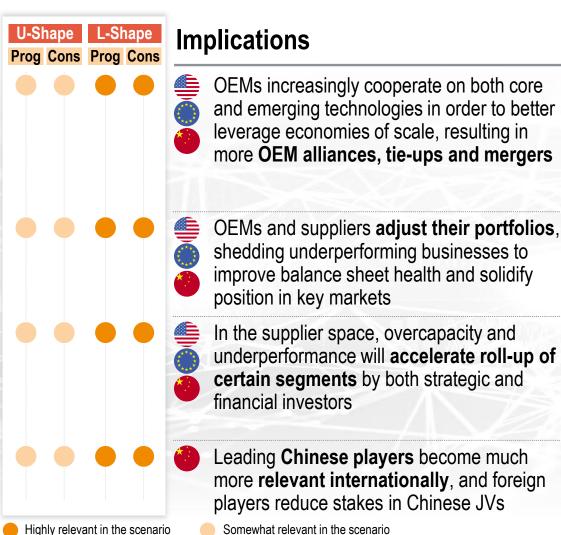
China is broadly intent on staying the course with its CO₂ targets and EV subsidies, and could become even more dominant as the key market for EVs in certain scenarios (if Europe or the US reduce their electrification push). This home market advantage is likely to accelerate the emergence of domestic OEMs in major international markets.

Fuel cell vehicle technology is currently highly limited by high system cost, lack of infrastructure (for production, distribution and fueling), and model availability. Progressive policy agendas will push more for decarbonization and could lead to greater investment in the technology and infrastructure to support a hydrogen economy. While fuel cell cars will remain niche past 2025, commercial vehicles applications will garner more attention.



Competitive landscape





Rationale

Cash drain from the crisis, reduced overall vehicle sales and cheaper sales mix will place pressure on OEMs to seek further ways to share and spread capital investment. This will result in increased platform consolidation, engine purchases, and co-development of electric and hybrid vehicle technologies. Mergers, tie-ups and alliances will be used to accelerate the process and also help retain global strength as some OEMs are forced to trim their portfolios. Hardware sharing will also increase pressure to differentiate the customer experience and brand through software, functionalities and services.

The sustained margin pressure will push automotive companies to reduce their portfolios, ramping down non-core businesses, exiting from some markets, and selling off underperforming businesses. These efforts will refocus companies and provide more room to invest in core businesses. OEMs will rethink their regional coverage, while suppliers will adjust product participation.

The financial impact of the crisis, compounded with prolonged lower market volumes, will create conditions conducive to M&A. Takeovers of financially unstable suppliers may be actively directed or supported by OEMs. With a less severe recession, well-capitalized suppliers will be positioned to make strategic acquisitions. A more profound recession might reduce the ability of automotive players to make strategic acquisitions, but it will also increase attractiveness for financial investors, whose capital is less impacted.

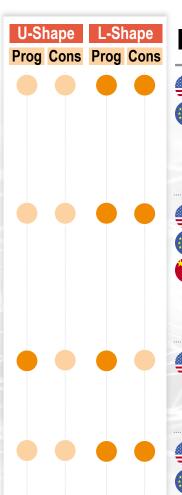
A faster recovery in China relative to Europe and the US could accelerate the emergence of strong Chinese players in international markets. Meanwhile, foreign players will reduce stakes in Chinese JVs as they adjust investment strategies and rethink participation.

Somewhat relevant in the scenario



7 Sales & Distribution





Highly relevant in the scenario

Implications



Lower vehicle sales and trim levels lead to decreasing revenue per dealer and compel some OEMs to scale down or reoptimize dealership networks in EU & US



Financial and behavior changes lead to increased usage of new sales channels and approaches such as **online sales** (all regions), **direct sales** (EU and China), and **Car-as-a-Service** and subscription models



Dealer franchise laws remain mostly unchanged, but are **relaxed in some states** to facilitate **sales of EVs** from new players



Consumer price sensitivity shifts demand toward independent aftermarket, causing further challenges for dealership profitability



Supported by stimulus packages as well as the continuation of service and parts sales, most dealerships will weather the crisis. However, longer term reduction in vehicle sales levels will call for scale down of dealership networks. In order to preserve aftersales and service coverage, OEMs might emphasize having fewer dealers from the same brand in large metropolitan areas. China's dealership landscape, which is currently underdeveloped, will continue to grow

Physical contact points to the end customer will be reduced as consumers shift more of the shopping process online. Consequently, omni-channel sales will increase in importance and a growing portion of vehicle sales will be conducted completely online. In Europe and China, B2C direct sales offer opportunities for OEMs to reduce intra-brand competition and improve the omni-channel experience, though in the US, direct sales will remain restricted due to dealer franchise laws. Designed right, Car-as-a-Service models could be an attractive alternative, especially for consumers with less buying power.

Continued pressure from EV startup advocates as well as CARB mandates (in relevant states) will lead to more states relaxing dealer franchise laws. Expected changes would enable direct sales or online sales for EVs, or more broadly ZEVs. Direct sales of vehicles with conventional powertrains would still be prohibited.

Reduced consumer buying power will increase average vehicle holding time and accelerate the shift toward independent aftermarket. With reduced vehicle sales volumes, dealerships, which derive a significant portion of profitability from service and parts, will need to find ways to attract and retain service customers

Somewhat relevant in the scenario



Supply chain





Highly relevant in the scenario

Implications



There will be a push to regionalize supply chains with a particular emphasis on reducing global industry dependence on China



With conservative policies, regionalization will be even more important due to protectionism and risk of tariffs or trade wars



China will further develop its local supply chain for strategic technology areas (e.g. semiconductors), push to control much of the global supply of critical materials (e.g. rare earth) and focus more on emerging markets for vehicle and component exports



OEMs will place an increased focus on supplier risk management, putting greater emphasis on supplier financial stability and improving robustness through multi-sourcing



Continued government support might lead to stipulations, equity stakes or even nationalization for bailed out companies



With the experience of a pandemic disrupting global supply chains fresh in the collective memory of the industry, sourcing will move toward regionalization (region-for-region production). From the US perspective, this will be exacerbated by risk of trade wars, and by policies aimed at protecting American jobs, which are part of both conservative and progressive platforms. From the EU perspective, the prospect of tariffs and spillover effects from the US-Sino trade war will also further compel regionalization. Given the geopolitical dynamics, all foreign OEMs will look to reduce dependence on China for supply of strategically important components (e.g. ECUs, semiconductors, rare earths).

Declining manufacturing exports to the US and EU (as well as Japan and Korea) due to trade policies and regionalization of supply chains will force the government to push its alternatives. China's belt-and-road initiative positions it well to control critical inputs for new technology areas (cobalt, rare earth materials, etc.) and offers unprecedented access to emerging markets.

OEMs and larger suppliers will have learned much about their supply chains during the crisis. Fresh off the crisis, they will place a greater emphasis on financial stability of their suppliers and look to improving robustness through multi-sourcing, spreading CapEx to across locations while reducing potential points of critical failure.

Particularly in a profound recession, there will a need for further government support, leading to greater public interests and increased resistance to foreign takeover. In China, there may be a gradual wash out of foreign JV shares due to reduced foreign investment.

Somewhat relevant in the scenario



Today most automotive leaders are understandably focused on near-term crisis management...

... but the **New Normal** is around the corner, and it requires **rethinking strategy**...

- Changes in market dynamics and consumer behavior call for reevaluation of market/segment participation and product/service offerings
- Technology bets and make-vs-buy decisions should be reconsidered in the light of new capital constraints, competitive dynamics and regulations
- Proactive M&A and partnership approaches are needed to play a role in reshaping the competitive landscape and industry consolidation



- Adjustments to the strategy will **shift the priorities** of every function in the organization and could impact company culture
- The New Normal calls for a change in how companies should interact with customers, both online and at the dealerships
- Capital investment and footprint decisions must consider potential geopolitical dynamics and regionalization of supply chains

... and redesigning the operating model to overcome challenges and seize opportunities

Our commitment



At Roland Berger, we have made the conscious decision to continue focusing on what we do best because recovery relies on resilient and capable contributors keeping the ship afloat, then carrying that determination and focus into the New Normal.

Far from taking the view that "this too shall pass", we maintain a healthy neutrality to face such plights head-on and with a level head. We empathically recognize that leaders already in crisis management mode are doing their best. Making sure your best is enough is where we hope to be of counsel.

We too are still deciphering this dynamic situation, but with the benefit of channeling Roland Berger's learnings from supporting past transformations around the world and our own expertise supporting companies and organizations on their journeys. We are not offering a universal panacea to make all your worries disappear, we instead offer the institutional knowledge and proven tools to address strategic, corporate, and operational challenges.

We have shown repeatedly that we have the discipline, dependability, and dedication to help our clients through their biggest challenges with a tailored course of action. Whether you need additional troops, structure, and analytical firepower or simply a "does my thinking make sense?" discussion, we are happy to help you put things into perspective and act as your sounding board or sparring partner. We are one call or email away, so please do get in touch.

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