

Financial Lines | Claims trends series

How the Transformation of the Automotive Industry Affects the Insurance Market

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Due to the nature and importance of the automotive industry and the increasing challenges surrounding it, it is important to highlight the latest developments in this industry. This article will discuss the industry's outlook, its trends and the challenges it faces and how that is relevant to the insurance market. This article is written from the perspective of an insurance company, but it is equally relevant for brokers, clients and other stakeholders of the automotive industry.

Overview

Exciting, but also challenging, times lies ahead of the automotive industry. There is an increasing pressure from governments concerning climate compensation, especially in Europe with the stricter emission caps. The future of driving is projected to be different with car sharing increasing and self-driving cars. This transition comes with huge costs and requires the industry to invest in research and development (R&D) and transform the business. At the same time, the US/China trade war and the economic downturn in many countries is challenging for the industry. Is it unreasonable to believe that we will see more mergers and acquisitions (M&A) activity but also increased bankruptcies within the industry? Cyber exposure will increase but who will bear the responsibility of what data that is captured, how it is used and whom it is shared with? What about responsibility of software errors in e.g. self-driving cars? **All these questions are yet relatively unanswered, but will need to be addressed along the way as the automotive industry is in transition.**

Industry Outlook

In the latest auto industry trend outlook for 2019, **Standard & Poor's mentions several issues to be concerned about within the automotive industry.** Although the industry's rating remains stable there are some considerable downside risks connected to the ongoing US/China trade war, a disruptive Brexit, strong competition and regulatory costs as well as somewhat lower than expected demand in China and emerging markets. With the increasing commodity costs and the pressure of environmental standards, which in turn require higher R&D costs, the auto industry faces some substantial hurdles going into 2020. Furthermore, the auto part manufacturers face challenges of optimizing their product offering and could face M&A and corporate restructuring scenarios in the future. Auto suppliers focusing on components such as turbochargers and power electronics solutions will likely take advantage of increased demand as vehicle electrification accelerates. There are also benefits for auto suppliers focusing on systems that provide the critical electrical and



electronic backbone supporting increased vehicle electrification, reduced emissions, and higher fuel economy through weight savings.

In March 2019, credit ratings institute Moody's downgraded the auto industry outlook from stable to negative on falling demand mainly due to the US/China trade war and Brexit. China is the largest market for newly registered vehicles but given the slower economic growth in China, which in addition has been negatively affected by the trade war, the overall sales numbers have decreased.

Global sales of passenger cars have decreased by around 3%, and in China car sales were down in the double digits range, in H1 2019 compared to the same period last year.

Trends of Driving

The car of the future is according to PwC **electrified, autonomous, shared, connected and yearly updated**. Today around 2% of the driving is made in shared vehicles i.e. the driver is not the owner of the vehicle but is using it as part of a car pool. By 2030 it is estimated that this number will have risen to 25% in Europe, 33% in the US and 45% in China. The reason China will have a higher adoption rate is due to the fact that some restrictions are already in place in some cities on the registration of new vehicles. Autonomous driving is also expected to dramatically increase by 2030; also here China will see the fastest implementation due to the high level of acceptance and demand for autonomous vehicles. It is

predicted that almost 50% of all miles travelled in China by 2030 will be in an autonomous vehicle. It is however very difficult to make any exact predictions as future forms of mobility is dependent on factors such as legal and technical conditions as well as customer acceptance of autonomous and shared vehicles.



Connected Vehicles and Cyber exposure

Attacks on cars are no longer only about carjacking but also about cyber-attacks. An increasing number of carjackings are done by hacking the signal between the keypad and the car.

Other attacks are potentially more critical such as taking over a vehicle's steering or braking systems, which we have seen by Chinese hackers taking control over a Tesla and US hackers taking control over a Jeep. With the increasing number of connected cars – and self-driving cars in the future – **such cyber-attacks could have devastating effects**. An integrated car could also mean that hackers who gain access through one part of the vehicle quickly can gain access to the vehicle's



entire network. Furthermore, automotive manufacturers' main focus is to make sure the quality and safety of the product are prioritized rather than the IT-security. Most automotive manufacturers do not allow over-the-air updates meaning that identified bugs cannot be addressed immediately but rather require the vehicle to be retrieved. All this raises some interesting questions around who should be held accountable in the event of a software glitch, unpredicted circumstances or a hack. Is it the hacker, the vehicle manufacturers, equipment suppliers, the driver etc.?

Consumer privacy questions are also a hot topic as many stakeholders, e.g. advertising companies and insurance companies, would be interested in obtaining car-related data. This could potentially create a high margin revenue stream for the auto manufacturers. However, questions still remain around consumer privacy and it could be a hot topic in the future around usage of this type of data.

Emission Guidelines

In Europe, emission issues are creating difficulties for auto manufacturers.

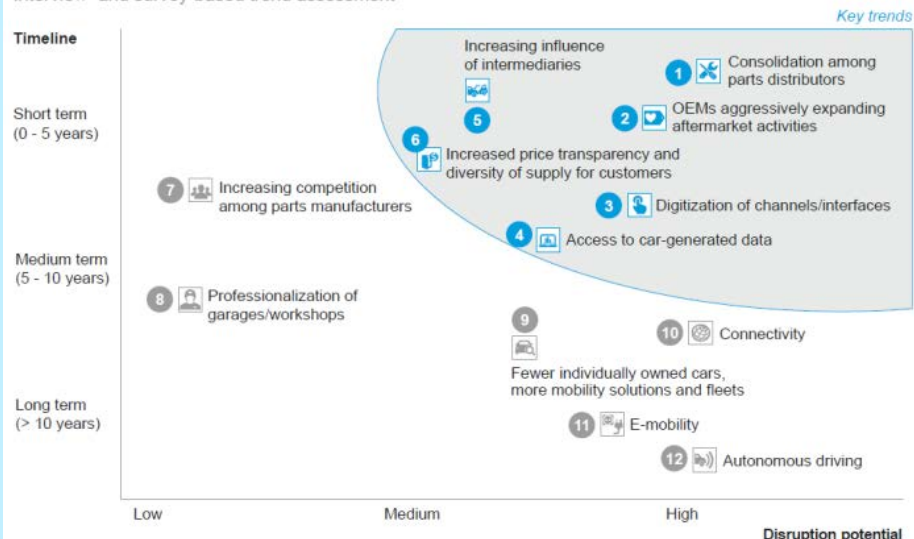
Concerns about air quality and taxation changes have led to diesel sales facing a big decline. Perhaps even more challenging is the introduction of the new CO2 emission standards, which make it more expensive to manufacture cars.

From 2021, auto manufacturers will face big fines in the EU if their fleets break agreed emissions limits, and these targets will get progressively tougher. If looking at the 2018 reported emission levels in Europe, and assuming no change until 2021, the total fine for the car manufacturers would be EUR 34 billion. German VW Group would be liable for around 9 billion of those and the French PSA for more than 5 billion.

By January 1, 2020 only 5% of the EU's car fleet can emit more than 95 grams of carbon dioxide per kilometer driven. In 2021, no new vehicles are allowed to emit more than that. This emission level corresponds to a fuel consumption of around 4.1 l/100 km of petrol or 3.6 l/100 km of diesel.

Experts believe that 6 trends specific to automotive suppliers have a high potential for disruption in the next 5 - 10 years

Interview- and survey-based trend assessment



SOURCE: Expert survey among CLEPA members (n = 27; February 2017), expert interviews with 20 aftermarket experts; McKinsey

Aftermarket Trends

The aftermarket refers to the market after a car has been sold and includes both the car manufacturers and the auto parts manufacturers, but also all the service providers and intermediaries. The automotive aftermarket industry as a whole is affected by several major disruptions, in particular digitization, shifting competitive dynamics, and changing consumer preferences.

Six of the twelve trends – consolidation, OEM (essentially a car manufacturer) expansion, digitization, data, intermediaries, and transparency – will have the biggest disruptive impact in the next 5 to 10 years. Depending on the region, market segment, and players, these trends may vary in importance but we have picked out three.

1. Consolidation among Parts Distributors

The biggest reason for the need of a consolidation is that parts distributors need to achieve critical mass to leverage economies of scale. Europe is expected to see a continued trend of consolidations in the market, following in the footsteps of the US market. Both private equity firms and US wholesalers aggressively seek growth opportunities in Europe.

2. OEMs and the Aftermarket

As the age of vehicles is increasing, the OEMs' aftermarket has gotten more important. While the number of vehicles serviced in the OEM network is around 50% during the first two years, the number drops dramatically for vehicles older than eight years. In emerging markets this number is even lower due to the higher average age of vehicles. One example of an OEM's strategic shift is French auto manufacturer PSA, known for the brands Peugeot and Citroen. PSA has taken strategic positions in the aftermarket through investments into distribution, workshops and the intermediary space. By doing this PSA will target all consumers regardless of their vehicle brand, age or distribution channel. Other OEMs have started to follow in the footsteps of PSA, both volume and premium

players.

3. Access to Car Generated Data

Connected cars today generate about 25 GB of data per hour which includes driver behaviour and telematics. There are several opportunities for the players in the automotive industry to take advantage of this data, which provides deeper customer insights, response readiness and assistance, predictive maintenance and add-on digital services purchased inside the vehicle. This comes with great risks and raise questions around who the actual data owner is and with whom the data can be shared. These are interesting questions in light of the more stringent data protection laws nowadays in force.

Considerations for the Insurance Industry

As discussed above there are a number of existing and emerging exposures facing the automotive industry:

- 1) The future of driving is changing and will likely see quite dramatic changes in the coming ten years. Manufacturers and suppliers who continue to focus solely on the production and sale of automobiles will struggle to keep up in the changing automotive sector, those who can adapt will most likely gain market share. It will be important to link the hardware (i.e. the vehicle) with the software (i.e. the services). Inability to adapt and innovate will affect the more traditional manufacturers and suppliers in the coming years. Forecast states that they will have to manage with weaker margins while simultaneously increase R&D costs in electromobility and customer-oriented innovations. The combustion engine, which has been the heart of



the automobile industry, particularly in Germany, will become obsolete. At the same time, new players will enter the market increasing the competition, which will make life more difficult for the traditional players. Add to this a general slowdown in economic growth, especially in China which is the world's largest auto market, ongoing US/China trade wars and uncertainty around Brexit as well as pressure on emission levels and it becomes obvious that stakeholders of the automotive industry need to be even more diligent in their financial review of companies operating within this industry. It should not come as a surprise if the automotive industry experiences an increase in bankruptcies during the foreseeable future.

- 2) The emission cap implemented in Europe, which becomes tougher by 2021, will affect the large car manufacturers. As low-emission cars are less profitable than the diesel or gasoline driven cars there is a risk that margins will diminish and that profit warnings and "surprises" will increase.
- 3) Following the increasing number of connected cars, several stakeholders both within and outside the automotive industry will want to get their hands on data describing our driving patterns and whereabouts. This will likely create privacy concerns and emphasis will be put on how this data is used and how it is distributed. With increasingly tougher data protection laws, especially within the EU, it will be interesting to follow what the industry does with all the data given the strict legal landscape. From our perspective it would be sensible to follow any

developments and try to understand our insureds' data exposure and their work around data compliance to avoid breaching any privacy laws and having to face potential data protection fines.

- 4) Another risk associated with connected cars is that they have become a more desirable target for hackers. The fact that hackers can get control over the steering or brake systems is a terrifying reality. Currently IT-security is not the top priority when manufacturers develop these products but rather the safety and quality are. The question around who is accountable when a cyber-attack occurs will probably be discussed extensively in the years to come. From a cyber underwriting perspective the risks are evident and the costs associated can be substantial, but as we have seen on previous occasions cyber incidents can also lead to claims against directors and officers based on different topics such as e.g. failure to adequately address cyber exposures, failure to adequately report cyber exposures and incidents and/or failure to transfer cyber exposures by means of purchasing cyber insurance.
- 5) Examples of questions that we would consider asking clients operating in the automotive industry are:
 - a. *How does the company handle its own cyber exposures? Has it bought cyber insurance? Is it clearly stated in the Risk Factors section of the annual report how the company addresses cyber exposures and what the main exposures are?*



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- b. Does the company collect data of drivers? If yes, what is done with this data? Is the data shared with third parties? Is the customer aware the company is using the data and if so for what?*
 - c. How much does the company spend on R&D? How are Brexit and the US/China trade war affecting the company?*
 - d. For auto manufacturers, what is their progress in order to fulfil the emission cap? What is the advancement in manufacturing hybrids and electrical cars? What percentage of revenue is gained from non-electrical and non-hybrid vehicles? How will they shift their product offering to keep up with the market? Do they have the know-*

how? How will it affect margins? Will they diversify their business more into the aftermarket?

- e. For auto parts manufacturers, are they looking at M&A or restructuring? What types of parts are they focusing on? It is positive if it is turbochargers, power electronics, electronic backbone rather than combustion engines or exhaust parts. If they provide software for connectivity, are these tested for cyber security resilience? How many OEMs do they have as customers? A broad range of customers is obviously more positive.*





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