

Global Automotive Outlook

The Race for Sales, Electric Cars, Profitability and Innovation

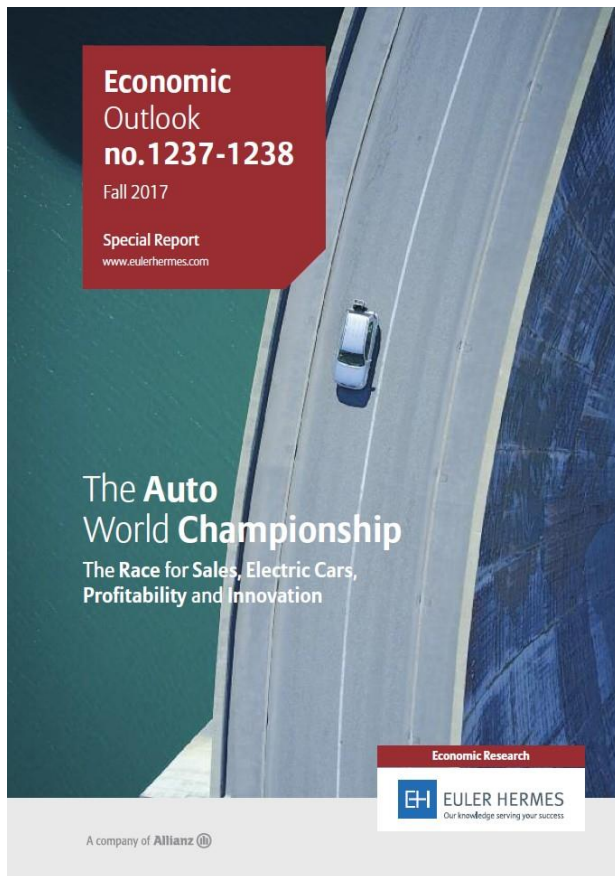
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*Economic Research
September 2017 Update*



The Seven Good Years?

After a healthy recovery since 2009, the auto market keeps growing at a global level. But the car industry is facing a slowdown and a major shift.



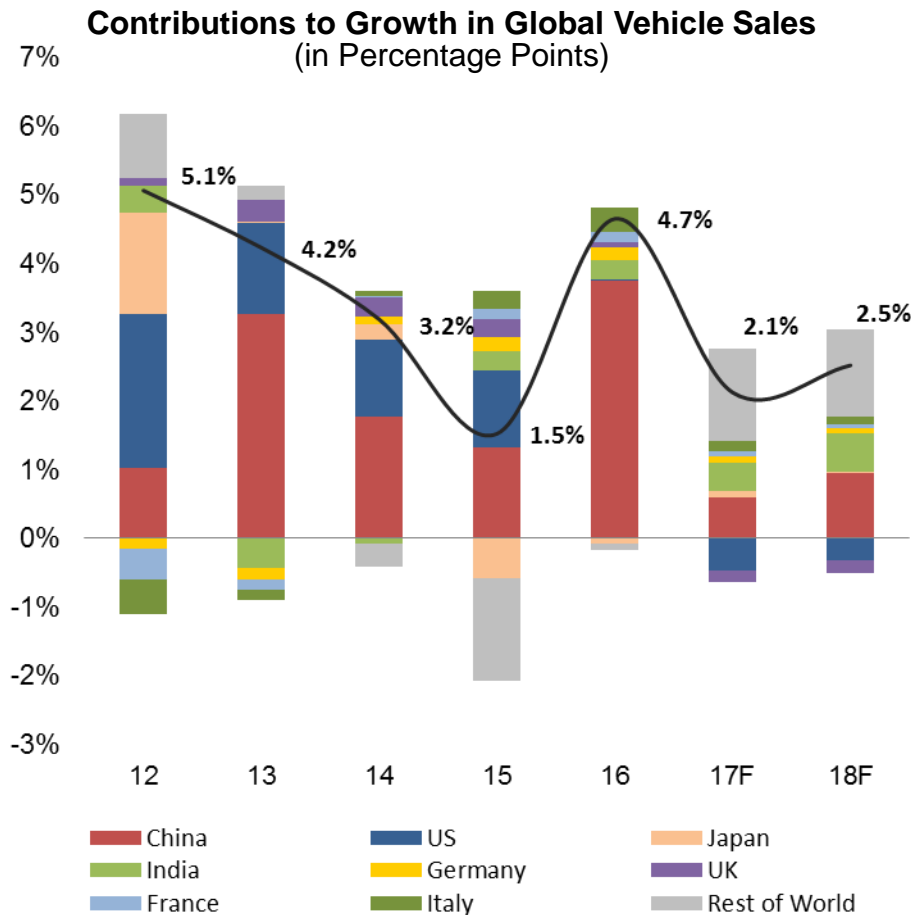
Four races to a new business model

- I. Sales
- II. Electric Vehicles
- III. Profitability
- IV. Innovation

Eight leading automotive markets

- China
- India
- Germany
- France
- US
- Japan
- UK
- Italy

I. Sales: Global Slowdown Despite Record Levels



- Global vehicle sales will reach 95.8 million in 2017, 98.2 million in 2018 and more than 100 million in 2019.
- Contraction in the US and UK; China and India will remain the largest contributor to sales growth.

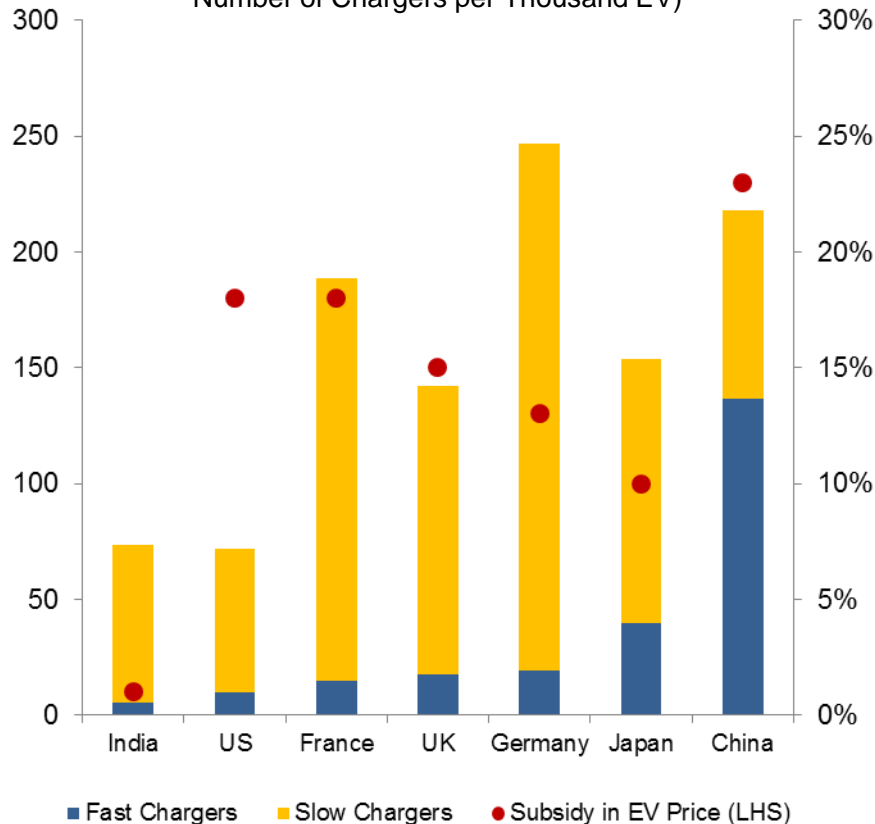
Slowdown despite economic recovery:

- Changing incentives and tightening of financial conditions will raise borrowing cost for households.
- Booming used-car market in the US and UK and burgeoning used-car market in China.

II. Electric Vehicles: State Support Fuels Growth

Charging Infrastructure and Subsidies

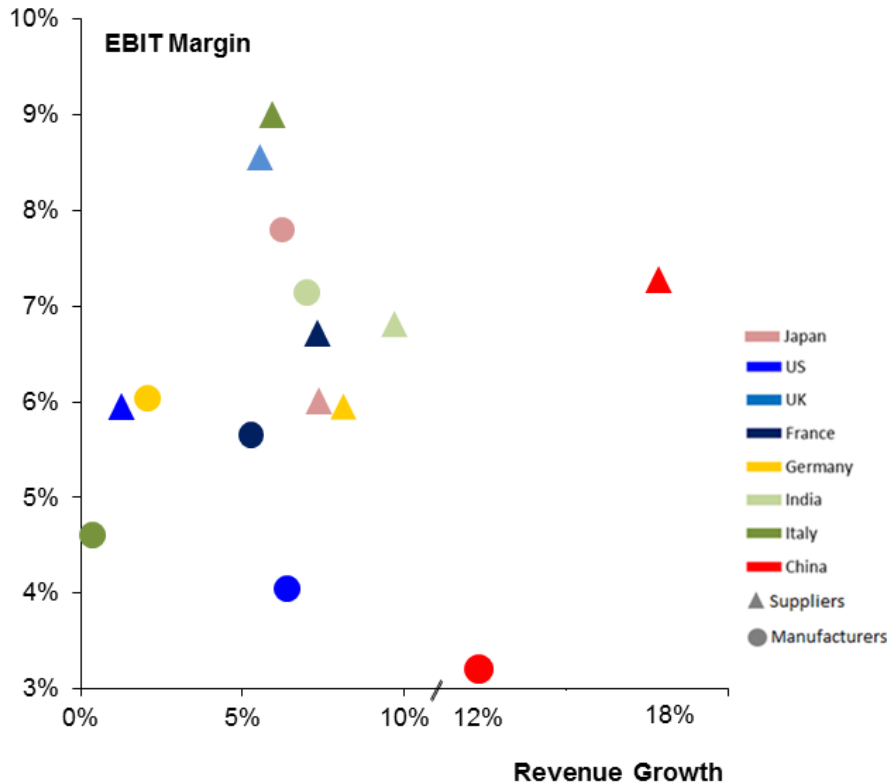
(Subsidy in % of Total EV Retail Price* and Number of Chargers per Thousand EV)



- Strong growth trajectory ahead (+58% in 2017).
- Strong growth momentum in China; the US and Japan face a slowdown.
- Financial incentives by governments in the *short-term*.
- Energy infrastructure and technological development in the *medium-term*.
- China has generous subsidies (23%) and high density of fast chargers (136 per thousand EV).

III. Profitability: Global Slowdown Despite Record Levels

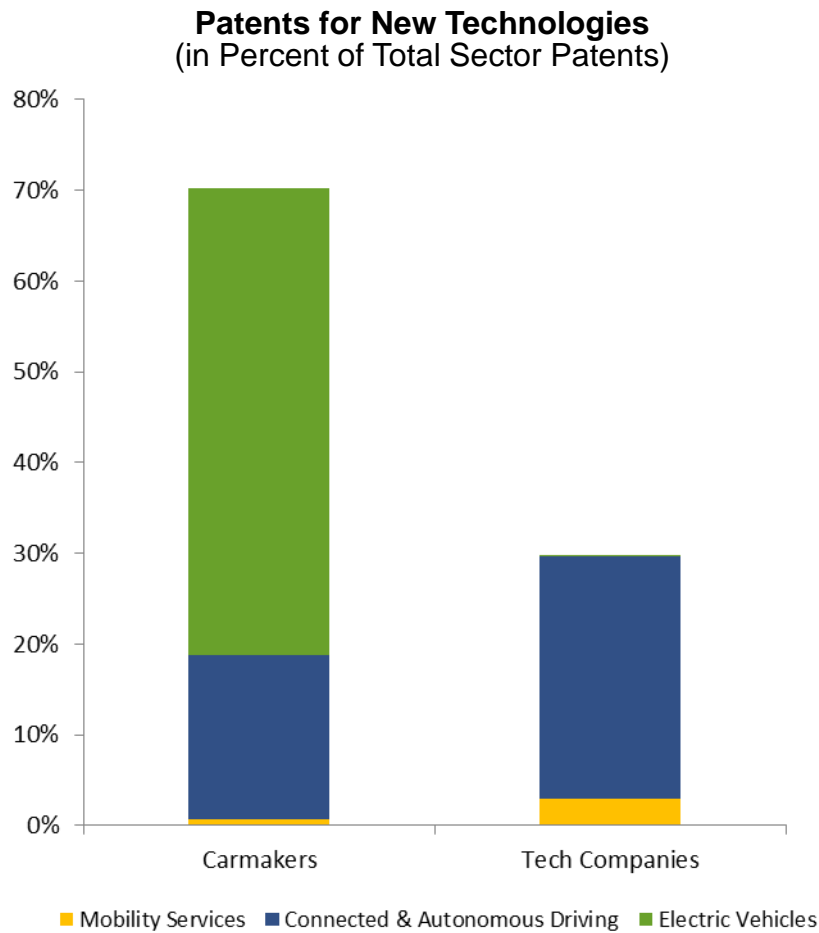
Financial Performance: Suppliers vs Manufacturers
(in Percent, 2016)



Source: Bloomberg, Euler Hermes

- Profitability remains strong, while suppliers (EBIT margin of 7.0%) are better off than producers (5.5%).
- Manufacturers face more structural challenges than many suppliers.
- Electrification of cars turns the internal combustion engine (ICE) into a liability.
- The digital ecosystem around the autonomous car (*user experience*) will generate revenues in the future.

IV. Innovation: Tech Me If You Can

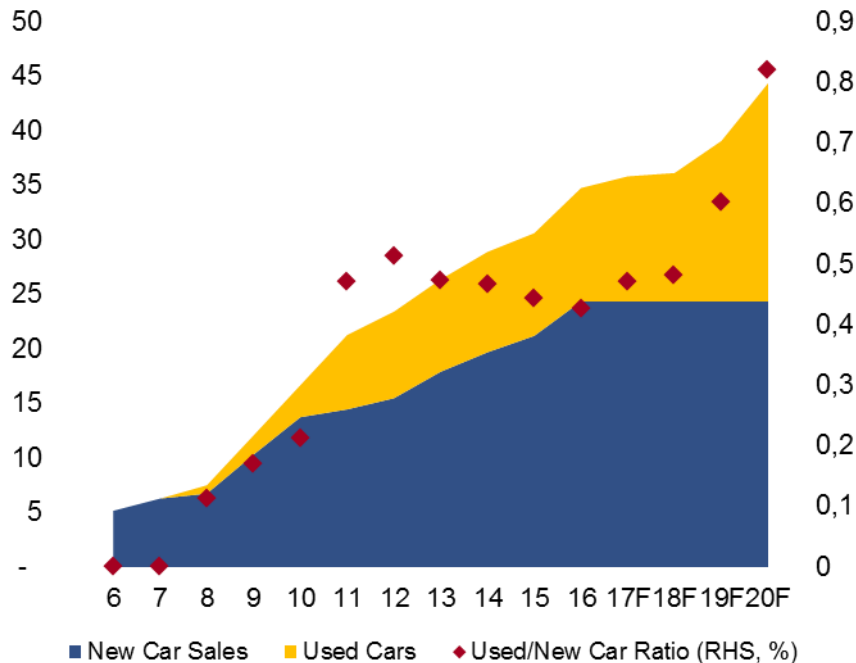


- **Challenges:** battery-powered vehicles, autonomous driving, new mobility services.
- **Three determinants:** R&D spending, delivery of patentable technology, strategic alliances.
- **Manufacturers face competition from tech start-ups in the field of connected and autonomous driving technologies.**
- **Manufacturers need to invest in software companies and forge strategic partnerships.**

Source: WIPO, Oliver Wyman, Euler Hermes

China: The largest car market will expand at a more moderate pace

The Used-Car Market in China
(in Million)



Source: China Automobile Dealers Association, FT, Wards Auto, Euler Hermes

- **Reduced tax incentives** and lifted restrictions: emerging used-car market.
- Manufacturers move from volume-based to **value-added growth**: new product portfolios.
- **Independent innovation remains weak**: producers rely on foreign technology via JV.
- Chinese companies remain **world leaders in ICT M&A** (USD6.2bn between 2012-2017).
- **Rapidly expanding network of fast chargers** and one of the **highest subsidies worldwide**.

+2.0% in 2017
to 28.6 million new vehicles
+3.2% in 2018

The US: Major shifts ahead, amid a growing used-car market

Used-Car Sales and Inventories
(in Million)



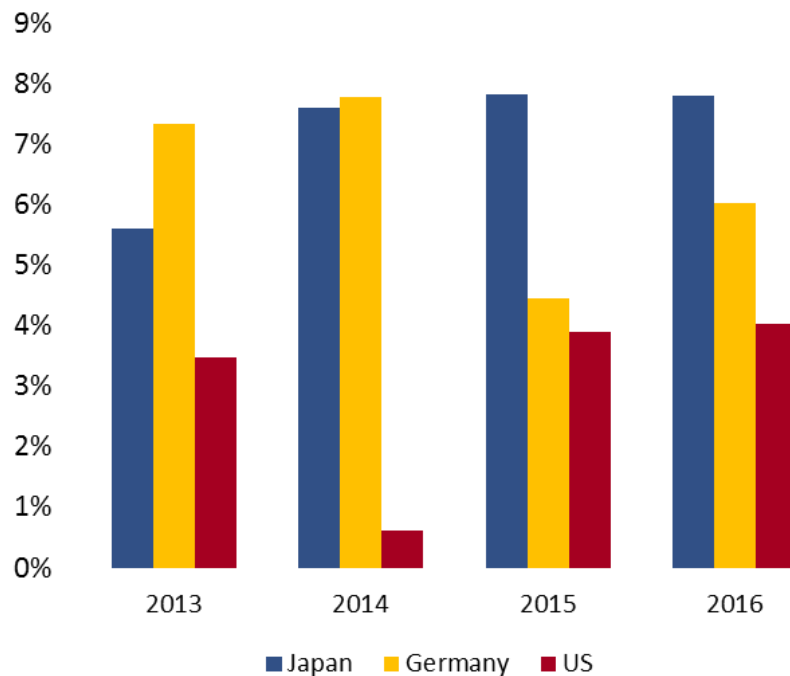
Source: Edmunds Media, US Bureau of Economic Analysis, Euler Hermes

- **Tighter monetary policy.** Growing volumes of off-lease vehicles: lower prices of used-cars.
- **The inventory glut of manufacturers will eat into profits.** Pressure on production capacity.
- One of the **leaders in innovation and strategic investments.** In 2015, R&D spending was at EUR16.8bn.
- US industry players **lead the field in battery technology** (29% of worldwide patents).
- Government support for EV is below average and adoption varies greatly across states.

-2.5% in 2017
to 17.4 million new vehicles
-1.8% in 2018

Japan: Safe and sound

Car Manufacturer EBIT Margin
(in Percentage, 2016)



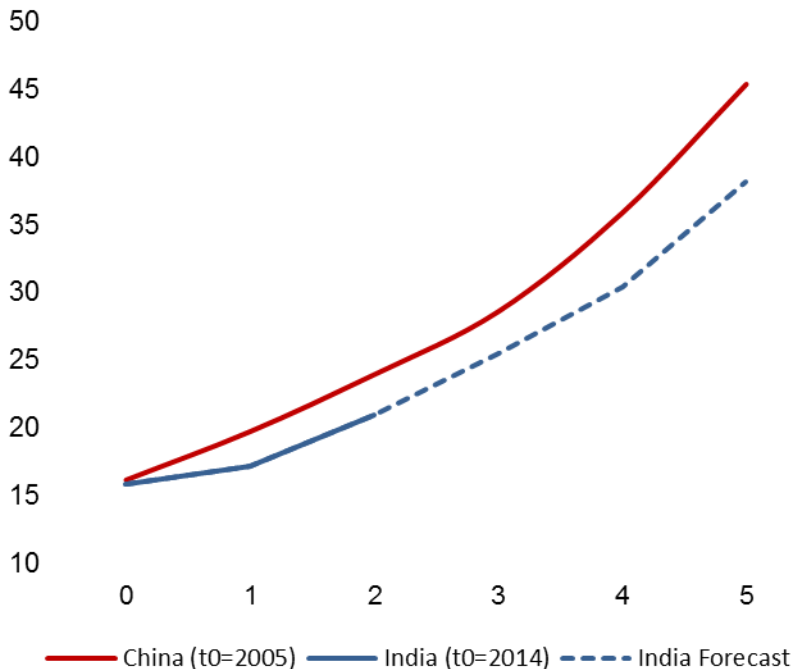
Source: Bloomberg, Euler Hermes

- Japanese manufacturers enjoy the highest EBIT margins. However, **weaker sales in the US will impinge on profit margins.**
- Japanese manufacturers and suppliers spent EUR29.4bn on R&D in 2015. **1854 patents were filed** in 2016.
- Car producers are **less aggressive in ICT M&A**, with only USD1.7bn between 2012 and 2017.
- The Japanese government has followed a **hybrid strategy in promoting altern. technologies**, with subsidies for competing technologies.

+2.0% in 2017
to 5.0 million new vehicles
+0.2% in 2018

India: Long-term growth hinges on government initiatives and investment

Penetration Rate Over Time
(Vehicles per 1,000 Driving Population)



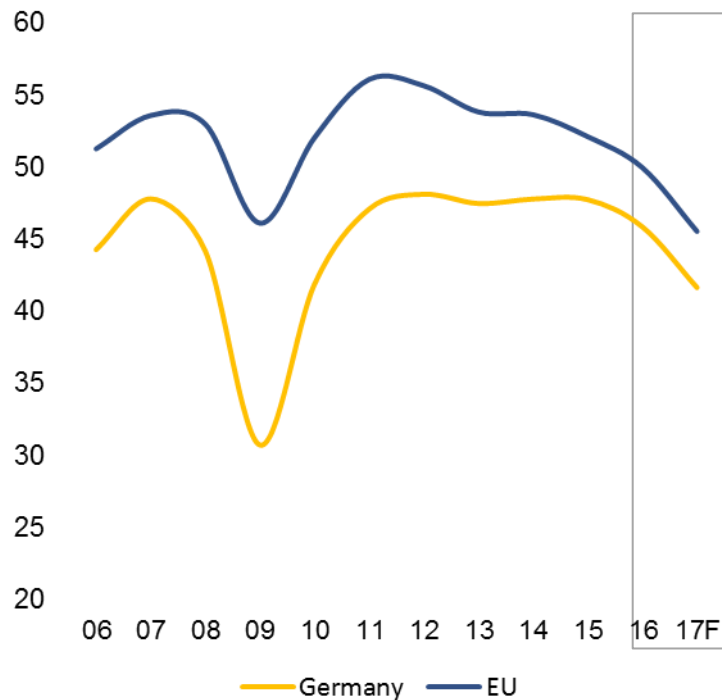
Source: IHS, Euler Hermes

- The new **Global Sales Tax (GST)** removed the cascading effect of taxes: lower car prices.
- Favorable outlook: sustained FDI, government support, and **rising demand from a large and young population** (low penetration rate).
- **Revenues and profitability are estimated to grow due to the GST rollout.**
- **Technological innovation is still weak.** R&D spending and ICT M&A are comparatively low.
- Energy and transport infrastructure deficiencies and low subsidies hinder greater EV adoption.

+10.5% in 2017
to 4.1 million new vehicles
+13.5% in 2018

Germany: Down with diesel, long live R&D

Share of Diesel Sales
(Percentage of Total New Vehicle Registrations)



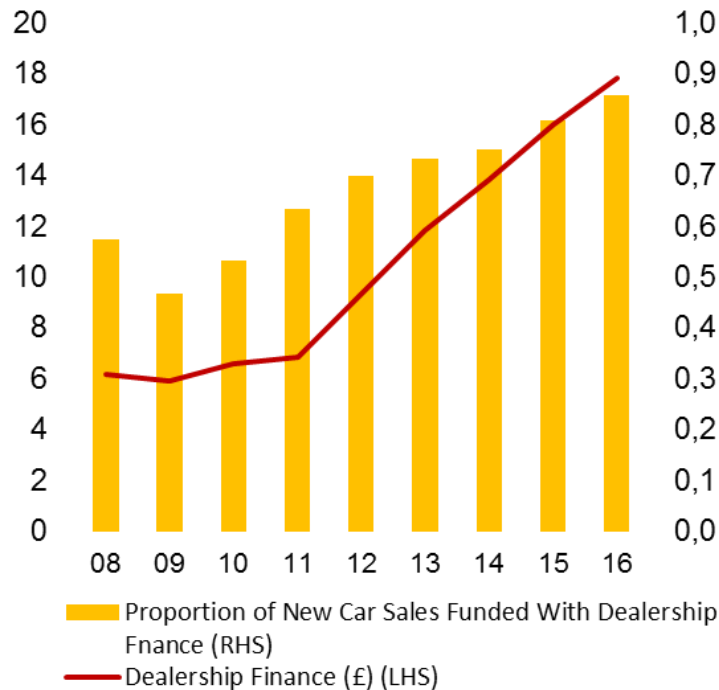
Source: ACEA, Euler Hermes

- Flexibility to shift to alternative technologies; **loss of consumer confidence** and tarnished brand.
- **Financial performance of manufacturers is strong**: EBIT margin of 6.0% in 2016.
- Global leaders in **R&D spending** (EUR37.0bn in 2015). Global leaders in **engine patents**.
- One of the **top strategic investors in ICT** after China, with an M&A volume of USD4.5bn.
- **Strong growth momentum of EV sales** since the scandal; they are set to remain strong in 2018.

+2.2% in 2017
to 3.8 million new vehicles
+1.7% in 2018

The UK: Brexit brakes

Annual Dealership Finance for New Car Purchases
(in Billion)



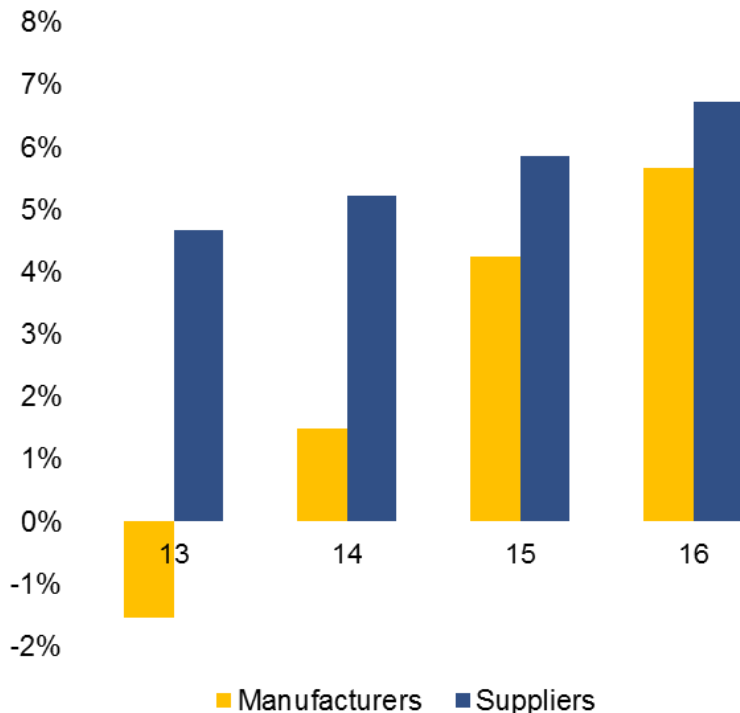
Source: Bank of England, Finance & Leasing Association, Euler Hermes

- Less auto financing; important used-car market.
- Persistent uncertainty of **Brexit**, weak exchange rate, waning business and consumer confidence.
- Rising import costs and heightened uncertainty to act as headwinds to growth and profit.
- R&D of EUR1.8bn. Brexit: impact on **industry funding**, a bulk of which comes from the EU.
- The government announced a **ban on Diesel and petrol vehicles by 2040**: customers to **shift demand towards EV**.

-5.0% in 2017
to 3.0 million new vehicles
-6.0% in 2018

France: Revving up

Financial Performance of French Industry Players
(EBIT Margin, 2016)



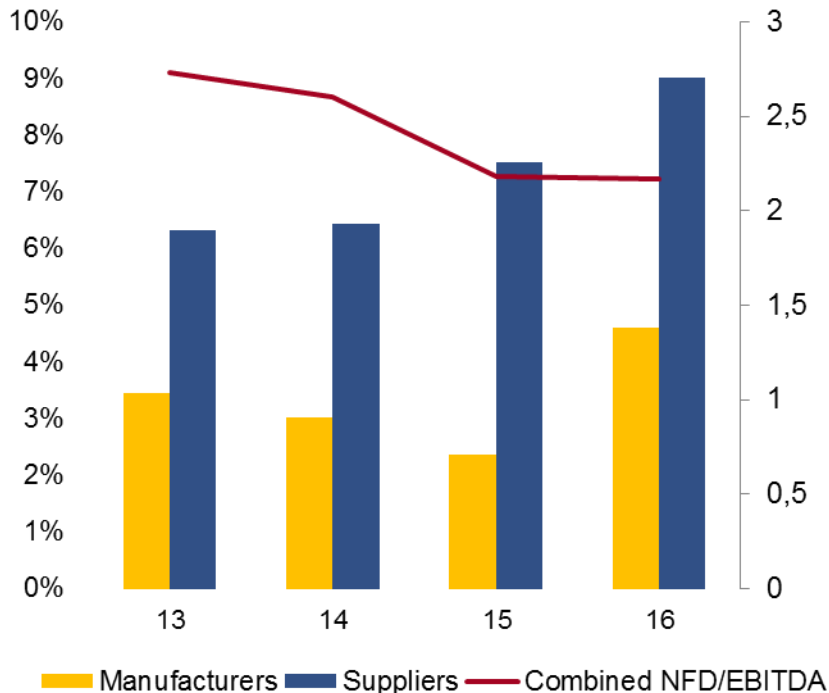
Source: Bloomberg, Euler Hermes

- **Recovery in domestic business activity.**
- **Manufacturers' profit margin has improved**, standing at 5.7% in 2016. Overall, **healthy balance sheets** and **efficient operating cycles.**
- Invested EUR6.4bn on R&D and filed 858 patents in 2016, **behind Germany, Japan, and the US.**
- Proactive in establishing **strategic partnerships** (connectivity and autonomous driving).
- New subsidies vs. budgetary pressures. **EV sales continue to exhibit solid double-digit growth.**

+3.0% in 2017
to 2.5 million new vehicles
+2.0% in 2018

Italy: Fastest growing market in western Europe, but for how long?

Financial Performance of Italian Industry Players
(EBIT Margin, 2016)



Source: Bloomberg, Euler Hermes

- **Fierce battle for market shares by car dealers.** Sovereign debt and NPL threaten growth outlook.
- New luxury brand strategies outside of Europe; **suppliers had the highest margin of 9.0%.**
- The **slow pace of debt reduction** remains the main concern for the Italian automotive industry.
- Lack of strategic investment due to SME structure of Italian industry: **limited financial resources.**
- Little government support and a slowly evolving charging infrastructure hinder EV adoption.

+7.0% in 2017
to 2.2 million new vehicles
+5.0% in 2018



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