Automobile Industry

Automobile industry report Part 1: Peak car

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- In the first of our automobile industry report series, we highlight the challenges that the sector is facing
- Global auto sales is on the downtrend
- China automobile industry is facing challenges: rising alternate public transportation, ride-hailing and cost burden.

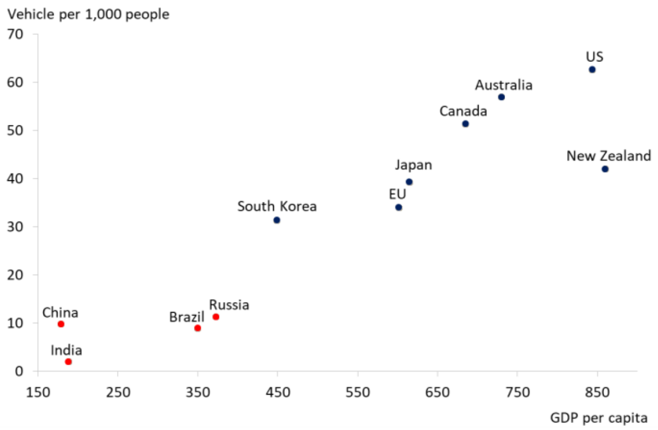
Headwind: excessive cars

The development of the automobile industry epitomises the prosperity of a nation. The ability to manufacture cars, especially its internal combustion engine (ICE), is one of the key indicators of industrial manufacturing capability. Car ownership levels reflect the population's economic and financial status.

Analysis indicates a positive correlation between income level and car ownership. On average, around 12.4 cars are owned per 1,000 GDP per capita contribution. Accordingly, China's 17.9 ratio shows a relatively higher number of cars for the GDP per capita of the country.

Although GDP per capita increases in the long run as productivity growth outpaces population growth, car ownership will reach a limit one day due to the limited land capacity. In fact, the mismatch between the growing car numbers and inadequate infrastructure (such as insufficient car parks, narrow roads, and poor urban planning) has increased over the last few decades. This issue has specifically impacted the bigger cities globally. Hence, we believe the slowing automobile demand growth that the industry is facing will continue to worsen.

Figure 1: Income and car per capita comparison

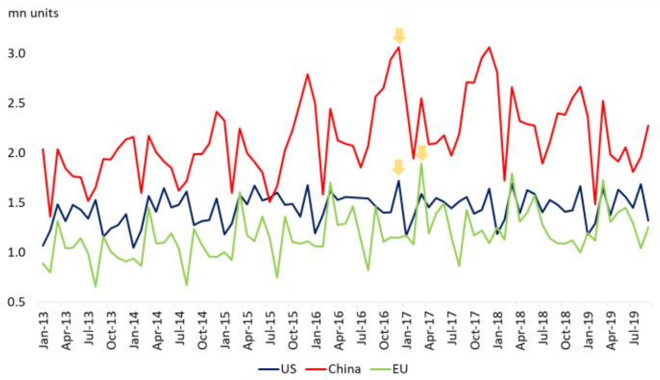


**Blue dots are developed economies or countries while red dots are developing countries (as of the most recent updated data)*
Source: CEIC, Tradingeconomics, KGI Research

Status quo: peak auto sales

Interestingly, we found that auto demand peaked from late 2016 to early 2017 in China, US and EU. The auto markets in the US and EU are considered to be mature since they have completed urbanisation, industrialisation and modernisation. Therefore, the growth of demand for automobiles stabilised. Given the financial turmoil over the past few years, the slight dip in the growth of auto sales could be explained by the rate hike cycle that restarted in early 2016 when consumers in the US turned to second-hand vehicles as wallets tightened. As for EU, though interest rates have always been low, the market is impacted by the increasingly stringent exhaust emission control. Meanwhile, individuals are becoming more environmentally conscious. Hence, there is a mild decline in auto sales, mainly ICE cars. However, the reason for the fall in China auto sales is more complicated. The slowdown of the economy, intense competition within the industry, and more economical transportation alternatives, among other reasons, have altogether led to the sales downtrend.

Figure 2: Peak car sales in the main economies

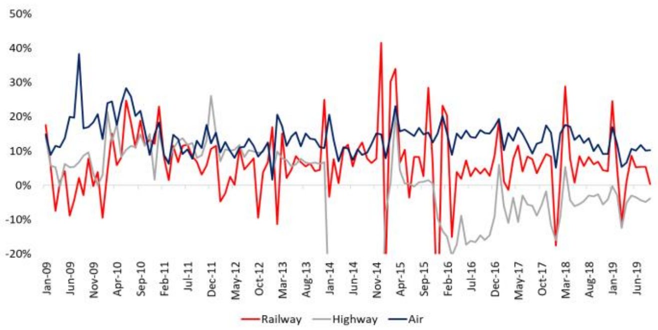


Source: CEIC, KGI Research

Cannibalism: rising alternate public transportation

China has topped the developed countries and regions in terms of the total mileage of rail grid, reaching 30,000 km as of 2018. Meanwhile, the advancement of high-speed rail in China provides a more efficient and economically feasible transportation alternative for the public. On the other hand, the general prices for domestic flights in China are declining owing to the decreasing jet fuel prices and the intense sector competition. In recent years, the substitution effect has strengthened in China. The growth of traffic turnover rates by rail and air still remains healthy (5% and 10% YTD respectively). However, highway travel has decreased since 2016. Switching to rail and air for medium to long-distance journeys, especially during the Spring Festival Travel season, reduces the demand for owning a car in China. Consequently, this is another speed bump for the automobile sector.

Figure 3: Turnover rate growth by main transportation methods

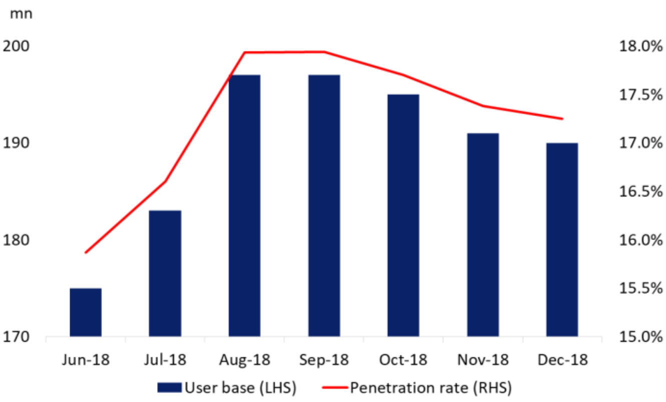


Source: CEIC, KGI Research

Threat: ride-hailing reduces need for car ownership

Ride-hailing is a new method of travelling nowadays. The new economic model disrupts regular commute patterns. Six years after the leading ride-hailing company DiDi was founded, China's user base has grown to more than 190mn out of the 1.4bn population. The need to own a car is substantially reduced as ride-hailing provides more convenience and higher efficiency. The primary demand for owning a car is to fulfil the daily commute requirement. Most people only travel to several venues a day in the city, and each ride is a short-distance journey in the city. Ride-hailing enables travellers not to worry about the parking, traffic violation, and route decision. Moreover, with more competitors in the market, ride-hailing services will become more optimised, and subsequently, consumers will further be benefited.

Figure 4: China ride-hailing status quo



Source: Aurora Mobile, KGI Research

Burden: less affordable to own a car

Although auto prices have been declining in China due to the tariff cut, owning a car which is a depreciated asset deems costly from a longer-term perspective. Besides the maintenance, the biggest inevitable expenditure for owning a car is petroleum and parking. Here we list the roadside parking charges in major cities in China. It is quite expensive for car owners in the cities when they travel frequently in the city. Not to mention the average price of an ancillary parking lot is more than one-tenth of the apartment. Therefore, it is less affordable to own a car in big cities.

Figure 5: Roadside parking charges for passenger car in major cities

Beijing		**Period**	**Tier 1 area**	**Tier 2 area**	**Tier 3 area**
	7:00 - 19:00	First hr (RMB/15 min)	2.5	1.5	0.5
		After (RMB/15 min)	3.75	2.25	0.75
	19:00 - 7:00	(RMB/2 hr)	1	1	1
Shanghai		**Period**	**Key area within inner rim**	**Other area within inner rim**	**Between inner and outter rim**
	Day	Manul: First hr (RMB/hr)	15	10	7
		Manul: After (RMB/30 min)	10	6	4
		Parking meter: First 15 min (RMB)	4	3	2
		Parking meter: Up to 30 min (RMB)	4	3	2
		Parking meter: Up to 1 hr (RMB)	7	4	3
		Parking meter: After 1 hr (RMB/30 min)	10	6	4
	Night	(RMB/night)	10	8	5
	Monthly	Night, weekend, and public holiday (RMB/mon)	400	300	200
Shenzhen		**Period**	**Tier 1 area**	**Tier 2 area**	**Tier 3 area**
		Weekday			
	8:00 - 20:00	First hr (RMB/hr)	15	5	5
		After (RMB/30 min)	1.5	1	
	20:00 -8:00	(RMB/hr)	1	0.5	
		Weekend			
	Full day	First hr (RMB/hr)	5	4	5
		After 1 hr (RMB/60 min)	1	0.5	
Guangzhou*		**Period**	**Key area**	**Other area**	
	Weekday: 7:30 - 21:30; Weekend: 10:00 - 21:30	First hr (RMB/hr)	7	2	
		Up to three hr (RMB/hr)	9	3	
		After three hr (RMB/hr)	11	5	
	Daily cap	(RMB/d)	Weekday:292; Weekend:237	26	

**One of the two plans under discussion in Guangzhou*

Source: Open sources, KGI Research

In a nutshell, the automobile industry is facing quite a few challenges, and most of which are more chronic and structural. We believe the peak-car era has come.

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