



Journey through Motor De-tariffication and the Rise of New Energy Vehicles

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Let's start with a quiz....

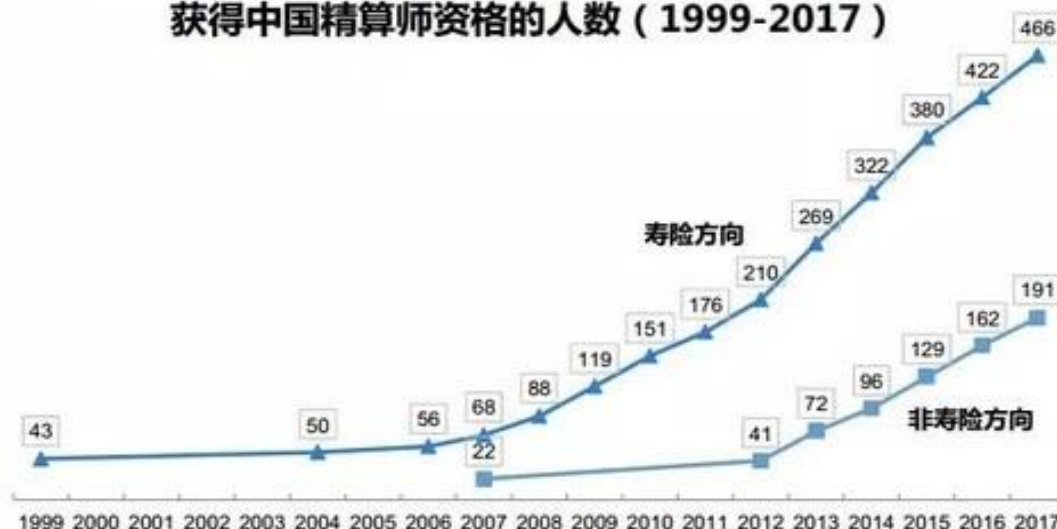


中国银行保险监督管理委员会

近年来国内精算师人数迅速增加

- 中国精算师资格考试自2000年开考以来，已有2,476人取得准精算师资格，657人取得精算师资格，其中非寿险方向精算师191人，为中国保险业培养输送了一批高层次专业技术人才

获得中国精算师资格的人数（1999-2017）



*截至2017年底，22人既有寿险方向资格，又有非寿险方向资格

知乎 理财精算师

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Agenda

Motor De-tariffication

- Current tariff framework
- Observations and challenges
- What's on the horizon

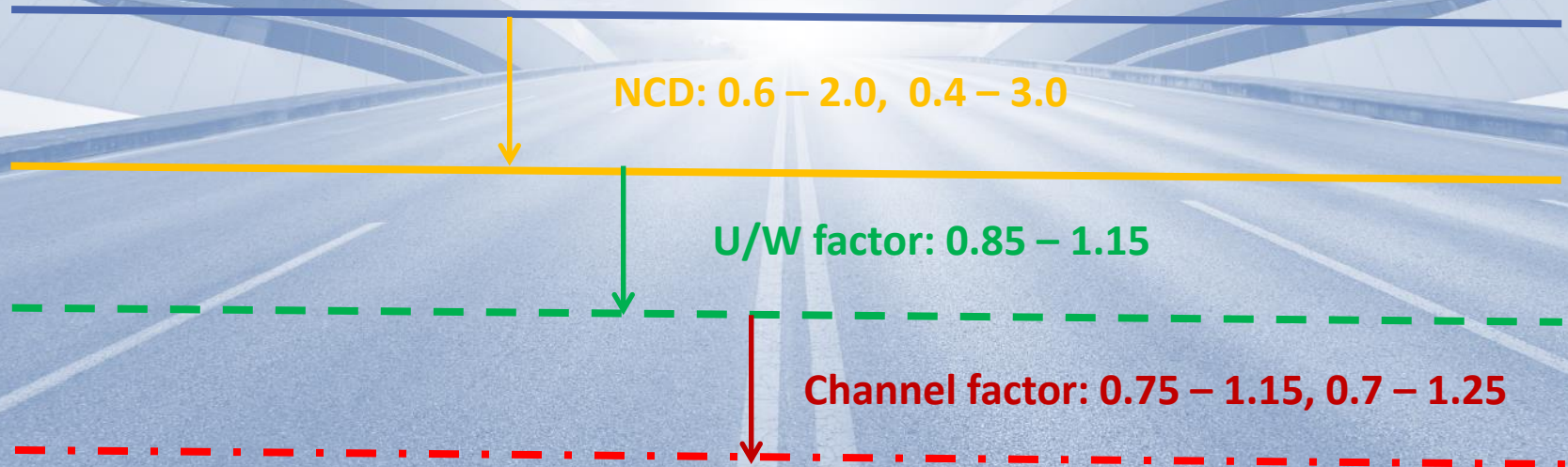
Rise of New Energy Vehicles (NEVs)

- Growth drivers and recent developments
 - High level comparison of loss experience
 - Insurance policy wording
-

Journey through de-tariffication

The de-tariff framework

- Total discount/loading: [0.3825, 2.645]
- “Traffic offense factor” in some provinces
- Partial de-tariff
- Commission level



Some observations

- Level of discount
- Level of commission
- Trends in loss experience



What are some of the challenges?

- Standardised coverage
- External interventions
- “unlevelled” playing field



What have some companies tried

- “Fixing the margin”: Loss Ratio + Commission
- Cross-selling
- Direct



What's on the horizon

- Complete de-tariff?
- Approval of “Innovative” motor insurance policy: PAYD
- Disruption of the motor industry
- New Energy Vehicle insurance

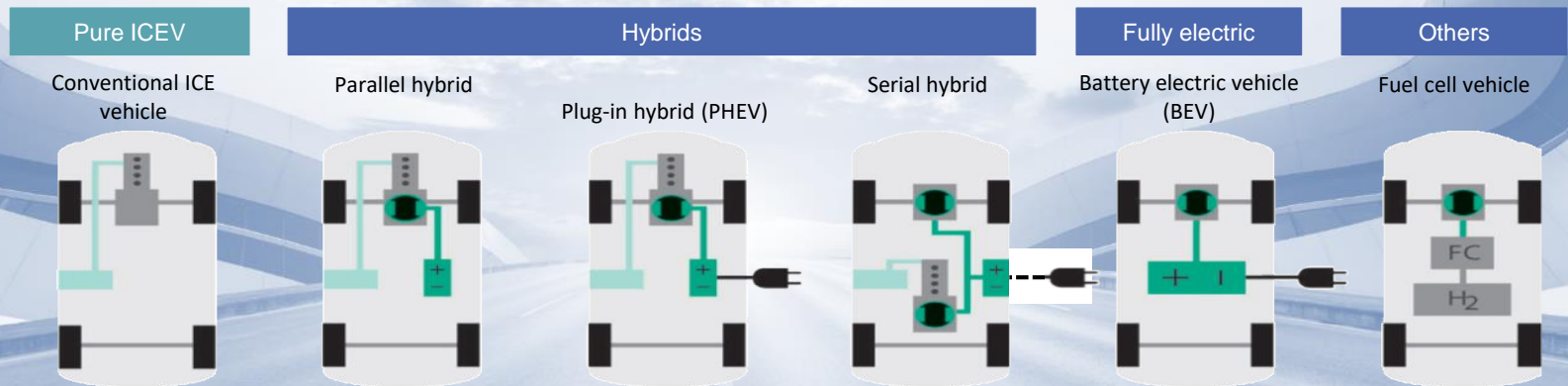
Rise of New Energy Vehicles

What are New Energy Vehicles



What are New Energy Vehicles

Hybrid vs Pure Electric (BEV)



	Pure ICEV	Hybrids	Fully electric	Others		
	Conventional ICE vehicle	Parallel hybrid	Plug-in hybrid (PHEV)	Serial hybrid	Battery electric vehicle (BEV)	Fuel cell vehicle
Batt. size	-	~1,5 kWh	5 – 12 kWh	~20 kWh	24 – 100 kWh	~1 - 20 kWh
Range (electric range)	600 – 1000 km (0 km)	~800 km (2 – 5 km)	~800 km (20 – 50 km)	~600 km (~80 km)	(150 – 500 km)	(500 – 700 km)
Example	 BMW 116d	 Toyota Prius	 Mitsubishi Outlander PHEV	 Chevrolet Volt	 Tesla Model S	 Toyota Mirai

1) ICE = Internal combustion engine
Source: P3 / AWP analysis

What are New Energy Vehicles

Compared with ICEV

ICEV



Fuel tank



Internal combustion engine



Starter



Generator



Exhaust system

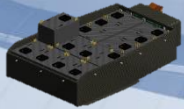


Transmission



Low voltage electrical system

BEV



HV-Battery



Power electronics



Motor /
Transmission



Low & high voltage electrical system

What are New Energy Vehicles

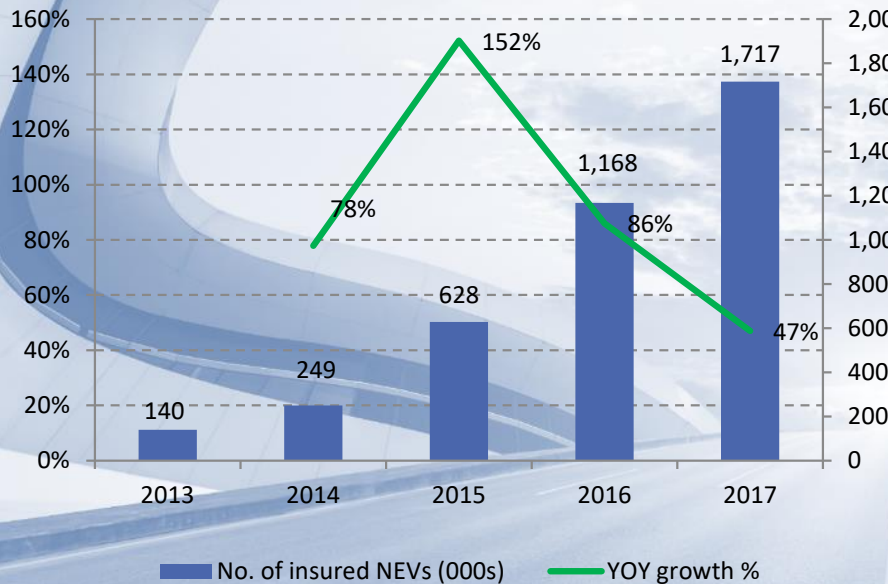
Significant future growth

- 50% share in vehicle sales by 2030 in China, vast majority BEV
- Macro/Government policies (subsidies, tax incentives, phasing out of fossil fuel vehicles)
- Infrastructure (eg charging stations and charging piles)
- Technological innovation (eg, battery technology and cost, afterlife usage)
- Promotion and application

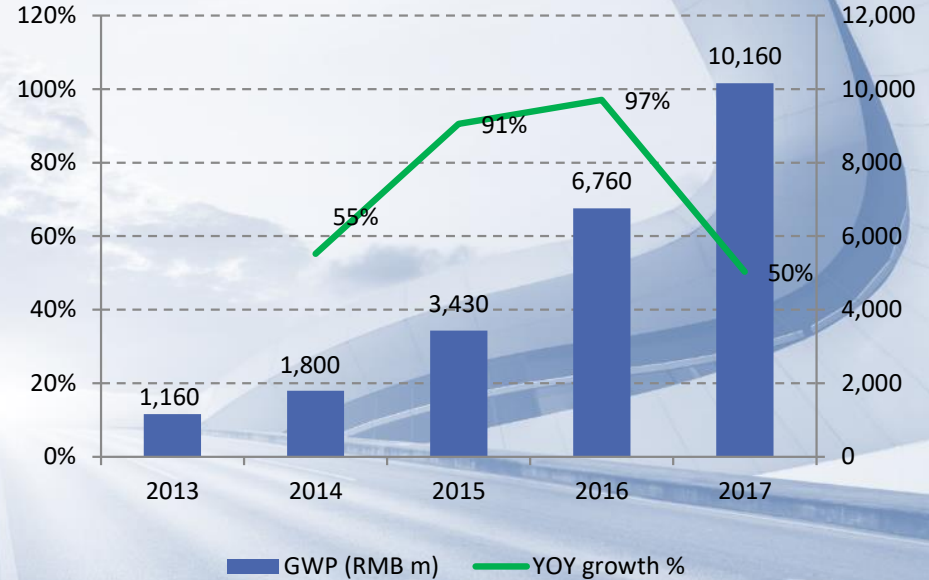
The growth of NEVs in China

Driven by government policies

No. of insured NEVs



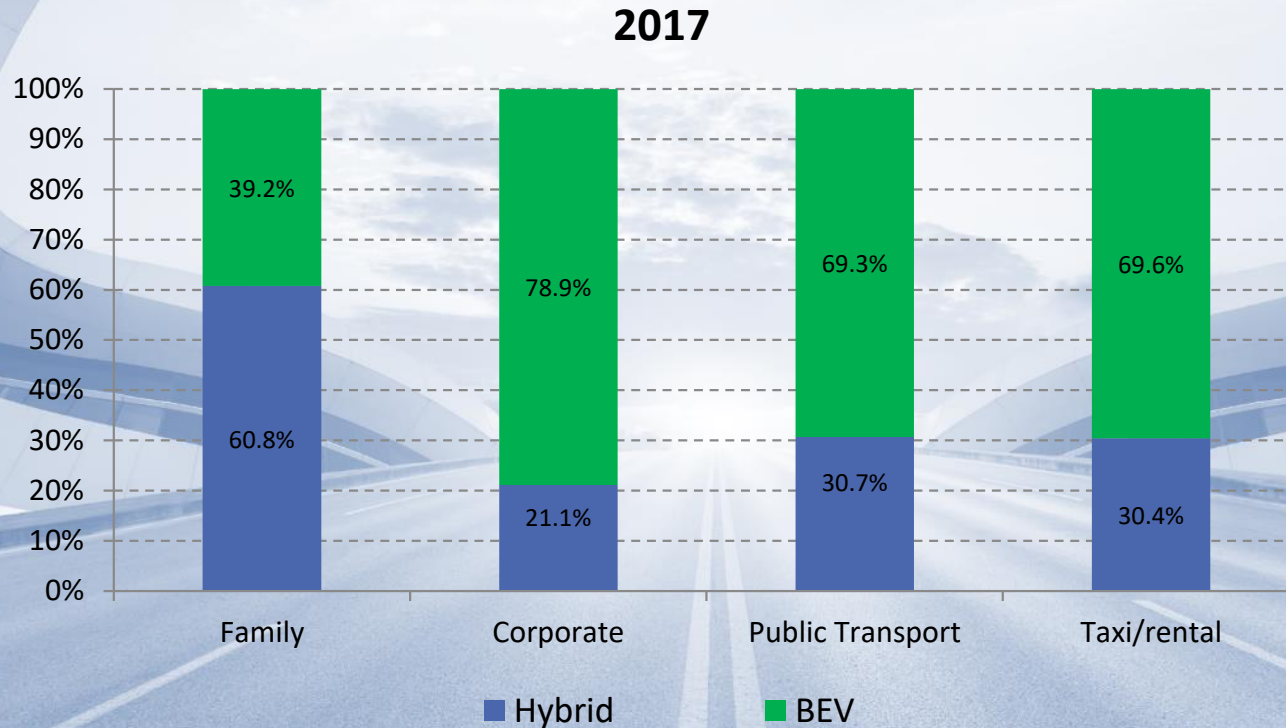
GWP for NEVs



- Government subsidies and tax benefits
- Licensing

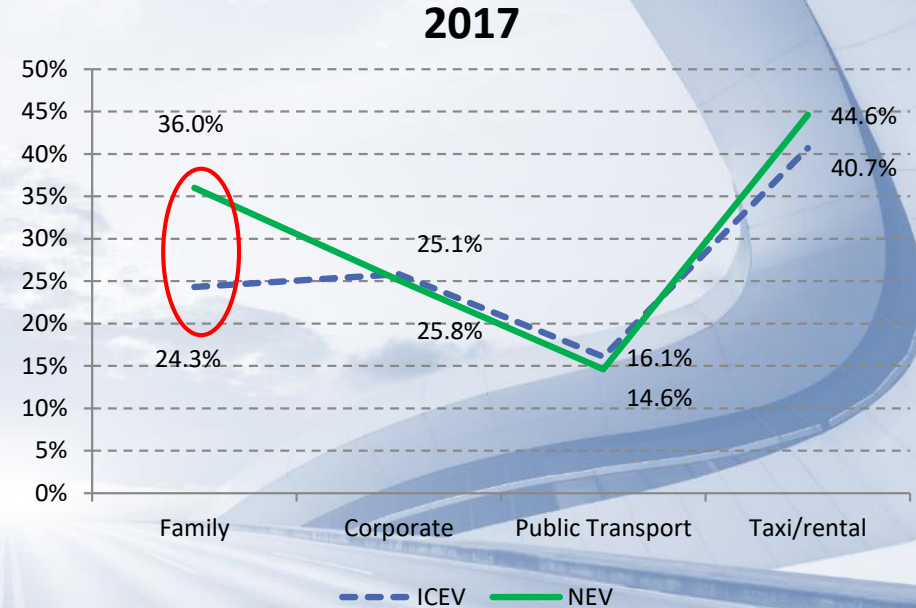
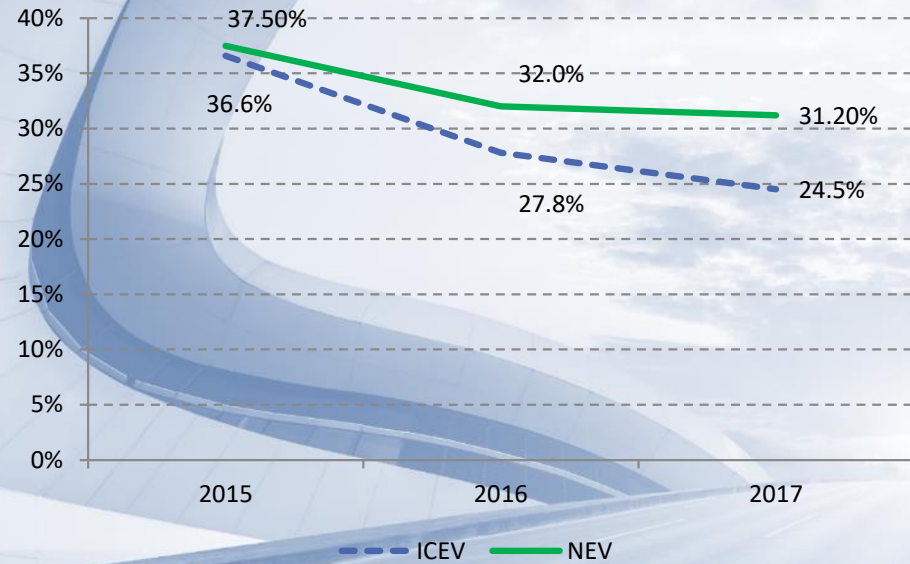
Hybrid vs BEV

In China BEV is growing faster than Hybrid



- Again government policies play an important role
- In addition, domestic brands dominate compared to imported brands

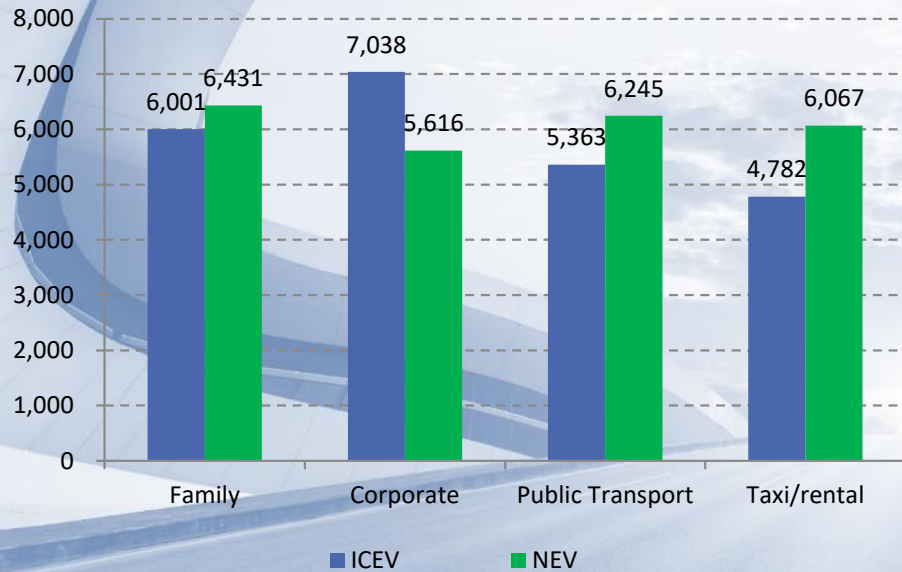
Claim frequency comparison



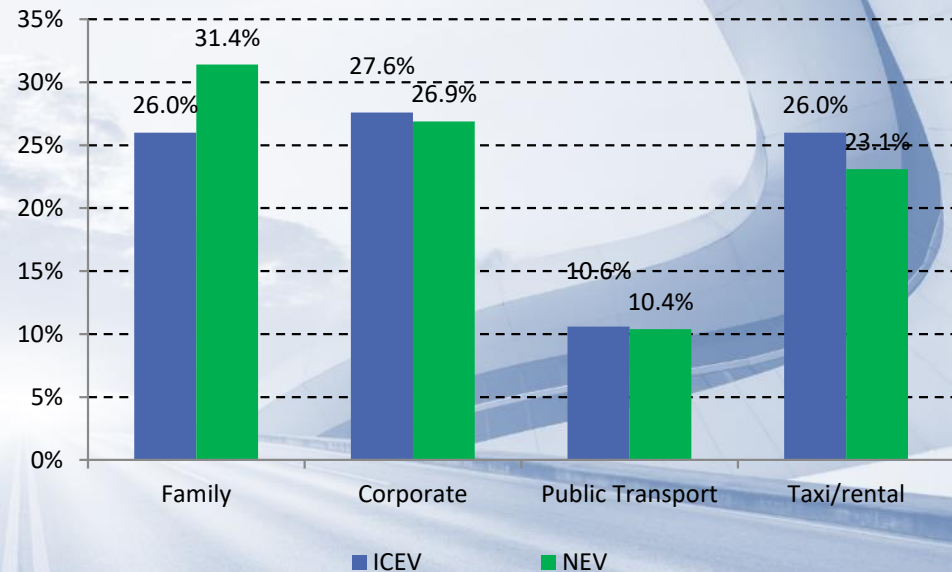
- NEVs appear to have higher frequencies
- Appear to be driven mainly by 'Family' vehicles, but
- Are these genuinely 'private' use?

Claim severity and LR comparison

Claim Severity



2017



- Higher claim severity for most vehicle categories
- Overall only in the 'Family' category NEV have higher loss ratios

Proposed standard coverage for NEVs

Separate wording looks likely

- Released late August for consultation by the Insurance Association of China
- 2 versions
 - Include battery system (battery pack + management system) in main cover
 - Exclude battery system in the main cover
- Main policy also include (as standard):
 - Coverage for water damage, theft, electrical circuit, cyber risk
 - New definition for car value: “**post**” subsidies, relevant for total losses
 - Faster depreciation rate: 0.75% per month vs 0.6%



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