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All time record profits! So why are investors so worried about the auto industry?

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You’ve never had it so good!

The historic perception
- The auto sector is historically low margin, incredibly capital intense, value destructive
- State influence, family influence, poor investment decisions, cyclical and volatile
- Most long standing investors have had bad historic experiences and lost money in these stocks
- ‘Early cycle’ stocks – buy them when in financial distress, ahead of upturn - then sell quickly

The reality this decade
- One of the longest periods of economic expansion in history (9 years and counting)
- US industry restructured in 2008-09 – reset pricing; European industry also subtly reshaped
- China: like finding another planet on which to sell cars, totally transformed many OEMs’ economics
- OEMs far more focused, more capital disciplined

The result
- Almost a decade of profit expansion – total OEM industry earnings now over $120bn p.a.
- Vast premium segment earnings, NAFTA profits at record, European margins highest in 30 years
- Supplier margins the highest in modern history
- Huge cashflows, many being returned to shareholders
- But stock valuations imply investors believe it simply won’t last much longer
Let the good times roll: 9 years of global expansion

Global Passenger Car Unit Sales (2006-2018E)

US Light Vehicle Sales Seasonally Adjusted Annual Rate (2006-present)

Western Europe Passenger Car Market SAAR (2006-present)

China Domestic Passenger Vehicle Sales (2006-2018E)

Source: IHS Markit and Bernstein analysis

Source: Autodata and Bernstein analysis

Source: LMC and Bernstein analysis

Source: CAAM and Bernstein analysis
China has been hugely transformative: profitability under-reported

- **China passenger vehicle SAAR (2010-present)**
  - Source: CAAM, Bernstein estimates and analysis

- **China unit sales as % of total (2012-2017)**
  - Source: Company reports and Bernstein analysis

  - Source: Company reports and Bernstein analysis and estimates

- **China as % of Net Income* (2013-2017)**
  - Source: Company reports and Bernstein estimates and analysis

* Assuming 30% tax rate
Global pricing: significant discipline, at last

**Peugeot (PCD): pricing effect to Auto revenue growth**

- **2014**: 1.2%
- **2015**: 1.5%
- **2016**: 2.0%
- **2017**: 0.6%

**Source**: Company reports and Bernstein analysis

**Renault: pricing effect to Auto revenue growth**

- **2014**: 0.8%
- **2015**: 2.1%
- **2016**: 3.9%
- **2017**: 1.5%

**Source**: Company reports and Bernstein analysis

**Ford North America - ARPU**

- **2010**: $24,000
- **2011**: $26,000
- **2012**: $28,000
- **2013**: $30,000
- **2014**: $32,000
- **2015**: $30,000
- **2016**: $32,000
- **2017**: $32,000

**Source**: Company reports and Bernstein analysis

**VW brand - ARPU**

- **2010**: €15,000
- **2011**: €17,500
- **2012**: €20,000
- **2013**: €22,500
- **2014**: €25,000
- **2015**: €25,000
- **2016**: €25,000
- **2017**: €25,000

**Source**: Company reports and Bernstein analysis
Global mix: everyone wants to drive an SUV (heading to 100% share?)

Western Europe: SUV % of pass. car sales (2010-2018E)

Source: IHS Global Insight and Bernstein analysis

US: SUV and Pickup % of LV sales (2010-2018E)

Source: IHS Global Insight and Bernstein analysis

China: SUV % of sales (2010-2018E)

Source: IHS Global Insight and Bernstein analysis

Brazil: SUV % of sales (2010-2018E)

Source: IHS Global Insight and Bernstein analysis
All time record profits – in nearly every region

**Global Auto EBIT (2010-2017)**

- **EBIT ($m)**
- **Operating margin**

**North America earnings by OEM (2017)**

- **EBIT ($m)**
- **Operating margin**

**Auto EBIT for European OEMs (2017)**

- **EBIT (€m)**

**Auto EBIT for Japanese/Korean OEMs (2016)**

- **EBIT ($m)**

Source: Company reports, Bloomberg and Bernstein analysis
Capital discipline: spending control is evident in the core businesses

Source: Company reports and Bernstein analysis
Awash with cash: flush after a decade of recovery – but what will it be spent on? Cyclical protection? Restructuring? Technology?

Source: Company reports, Bloomberg L.P. and Bernstein analysis
So why are investors so worried?

Source: Bloomberg L.P. and Bernstein analysis
No. 1: Old fashioned cyclical fears

**China mass market retail volume & growth (Jan 2017 - present)**

- **Source:** C.A.D. and Bernstein analysis

**China international mass JV pre-tax profit & margin (2015-2017)**

- **Source:** Company reports, Bernstein estimates and analysis

**Interest rates vs US light vehicle sales SAAR**

- **Source:** Federal Reserve and Bernstein analysis


- **Source:** IHS Markit and Bernstein analysis

**US light vehicle sales SAAR (m)**

- **Source:** IHS Markit and Bernstein analysis
No.2: Regulatory driven powertrain change enormously expensive

**EU - % decrease in Fleet CO2 needed to meet 2021 target**

Source: PA Consulting and Bernstein analysis

**W. Europe Diesel share of new car sales (%) (Jan’15 to present)**

Source: LMC and Bernstein analysis

**California electrification - ZEV credit targets (as % of sales)**

Source: California Air Resources Board and Bernstein analysis

**China electrification targets**

- 10% by 2019
- EV / NEV targets: 12% by 2020, no post-2020 targets, speculated 15%-20% by 2025
- Other rules: RMB108,000 subsidy for EV with range >250km

Source: Industry reports and Bernstein analysis
No. 3: Profound new technology, huge spending, uncertain impact

Leagues ahead of core industry rivals?

Source: Company website

Number of autonomous driving patent filings (Jan 2010 - Jul 2017)

Source: IW Köln, WIPO and Bernstein analysis

Supplier revenue from ADAS (2016 v 2020E)

Source: Conti and Bernstein analysis

Intelligent co-operation: BMW / Intel / Mobileye

Source: Company website
No. 4: Outside of the core business, capital discipline now at risk

- **Tesla’s capex on PPE (2012-2017)**
  - 2012: $0.5bn
  - 2013: $1.0bn
  - 2014: $1.5bn
  - 2015: $2.0bn
  - 2016: $3.5bn
  - 2017: $4.0bn

- **VW’s annual Gigafactory spend vs. Group Capex Targets (2018E - 2025E)**
  - Estimated Gigafactory Spend
  - Remaining Capex

- **Huge spending: Auto tech centres in CA**
  - Source: IDG, Carmaker data and Bernstein analysis

- **Non-core, loss-making, management distraction**
  - Source: Wikimedia commons
Modelling the impact

Mercedes-Benz Cars EBIT margin (2015-2020E)

Source: Company reports and Bernstein estimates and analysis

Cost per unit for fuel saving technologies by manufacturer - Combined Fleet (2025)

Source: EPA, Department of Transportation and Bernstein analysis

Powertrain Cost Comparison for 80kWh (2012-2035E)

Source: SNE Research, and Bernstein estimates and analysis

Daimler / BMW real gross margin v Tesla gross margin (2017)

Source: Company reports and Bernstein analysis
Winning investor confidence

The cycle may well prove extended
- Interest rate hikes likely modest, employments trends still strong, licensed driver numbers growing
- Financial services risk control firm, loss ratios modest, upside in EMs

Pricing and capital discipline remain within the industry’s control
- Industry has a record of damaging margins even with stable volumes – this time it’s different?
- Encouraging evidence from US market; consistent pricing discipline in EU, China uncertain

Managing powertrain shift and regulatory pressure
- Name any regulatory driven content that has ever helped margins?
- Diesel share shift surprising manageable so far; lobbying still effective, regulators pragmatic (even in China)

Demonstrating that EV technology is easily mastered; remaining in the race on AV
- Many investors worry traditional OEMs ‘don’t get it’ – new products will prove otherwise (but will hurt margins)
- OEMs assembling resources to pursue AV – JVs/consortiums, start-up investments (Aurora etc.)

Barriers to entry greater than understood, manufacturing as a ‘moat’
- Some concern about Chinese OEMs going global (Lynk & Co, GAC) and pushing tech (NIO, Byton etc.)
- But Tesla’s problems are resetting expectations about the complexities of this industry
- Average life of an S&P500 company now 19 years….many OEMs now 100 years old and still thriving

Source: Company reports and Bernstein analysis.