

US
AUTO
INDUSTRY

CHARTBOOK

MARCH 2017



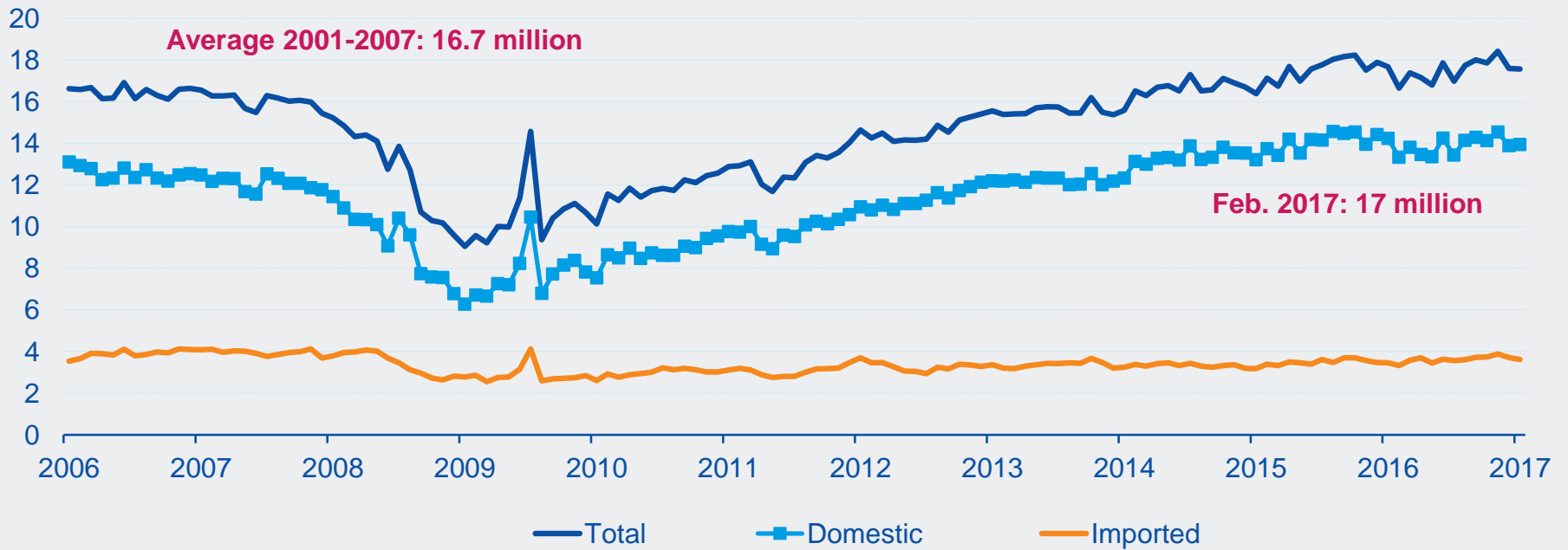
- Solid employment growth, stable gasoline prices and low interest rates contributed to robust vehicle sales through the end of 2016
- Demand continues to be biased towards light-trucks and away from cars
- Auto lending remains healthy, but this could be impacted by future interest rate hikes
- Leasing continues to be an increasingly preferred form of financing, especially for luxury vehicles
- Electric vehicle sales were up 37% YoY in 2016, as they become more reliable and attractive due to technological progress and government support
- However, prospects for mass adoption of EVs are still constrained by technological limitations, charging infrastructure, policy uncertainty and oil prices

SALES



Sales

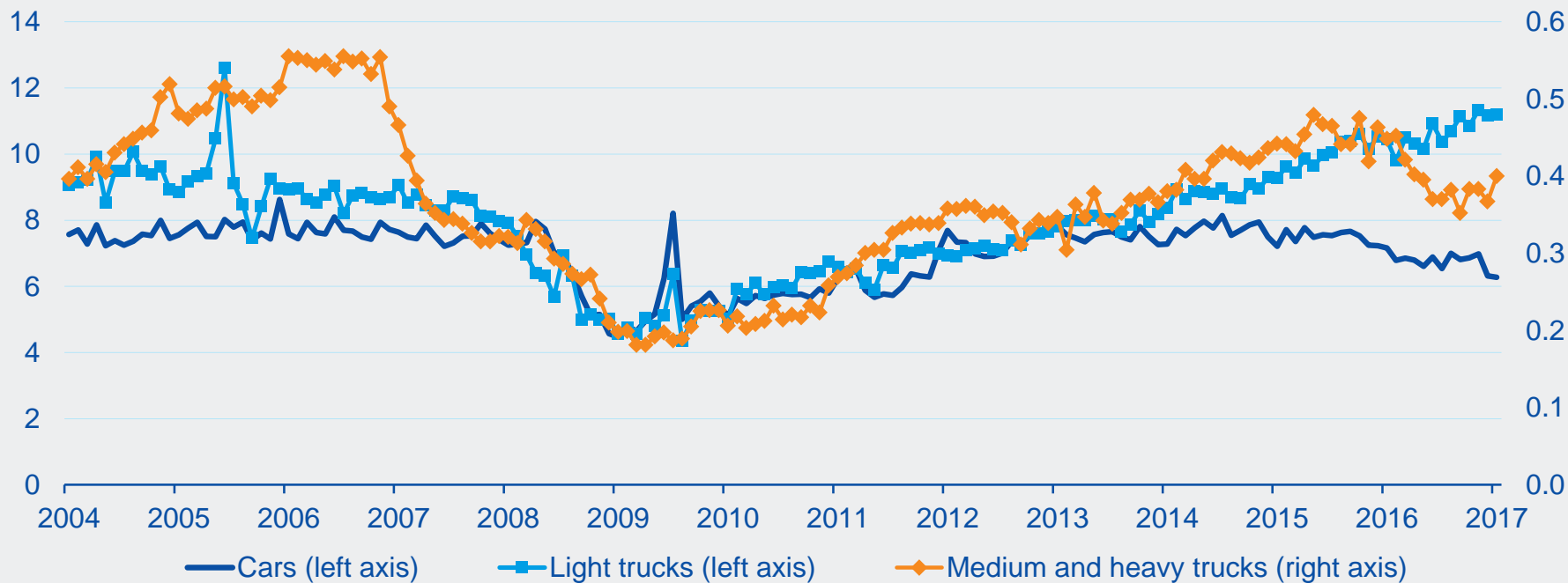
U.S. Total light weight vehicle sales
(SAAR*, million units)



*SAAR = seasonally adjusted annual rate
Source: Haver Analytics

Sales

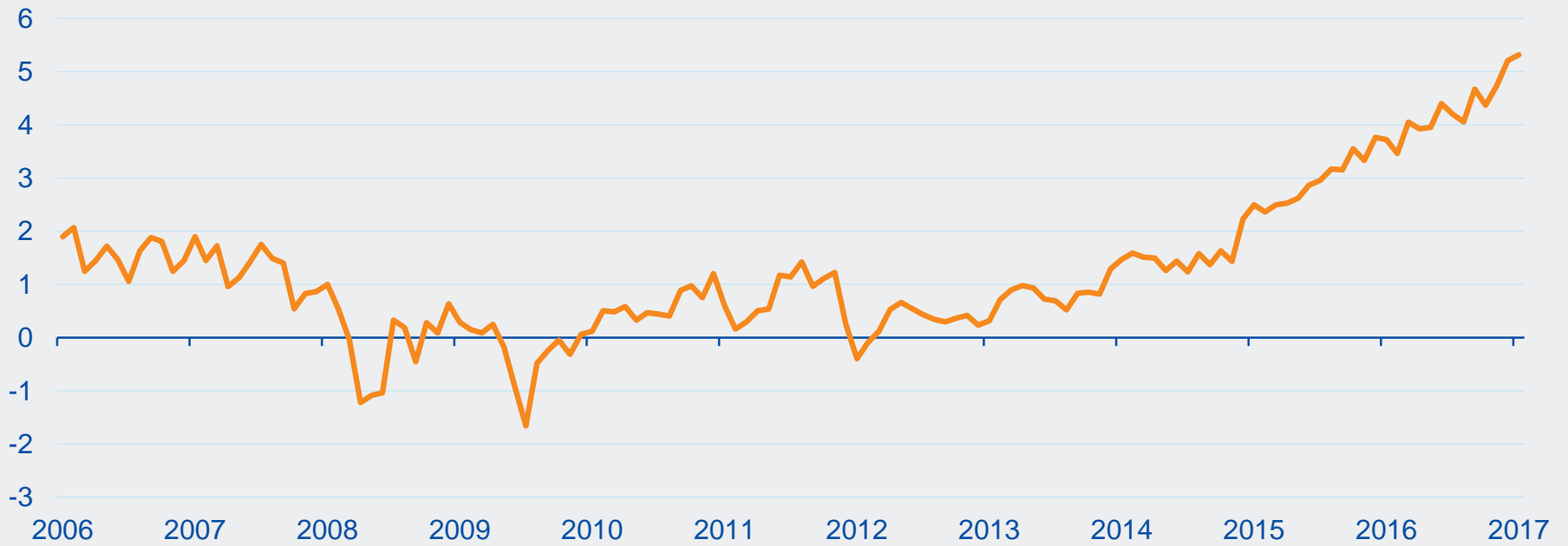
U.S. Total vehicle sales
(SAAR*, million units)



*SAAR = seasonally adjusted annual rate
Source: Haver Analytics

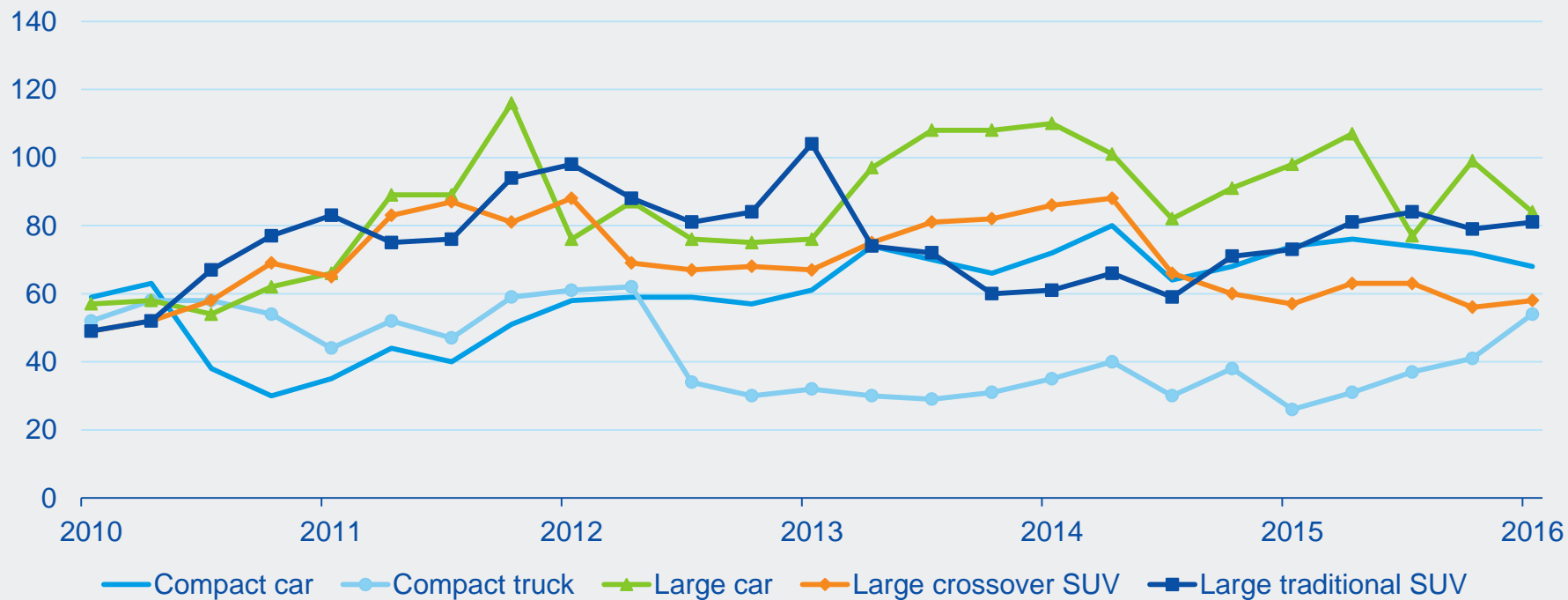
Sales

U.S. Light and heavy trucks minus cars
(million units)



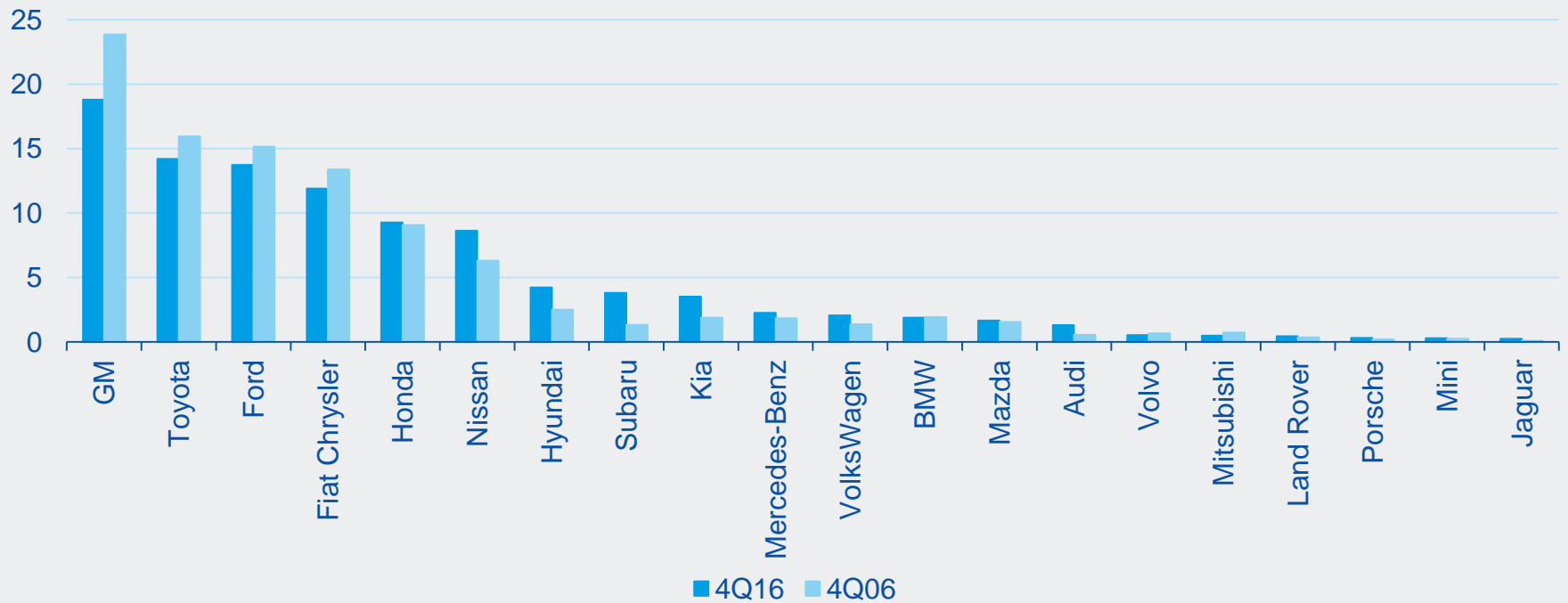
Sales

U.S. Vehicle days to turn
(industry average)



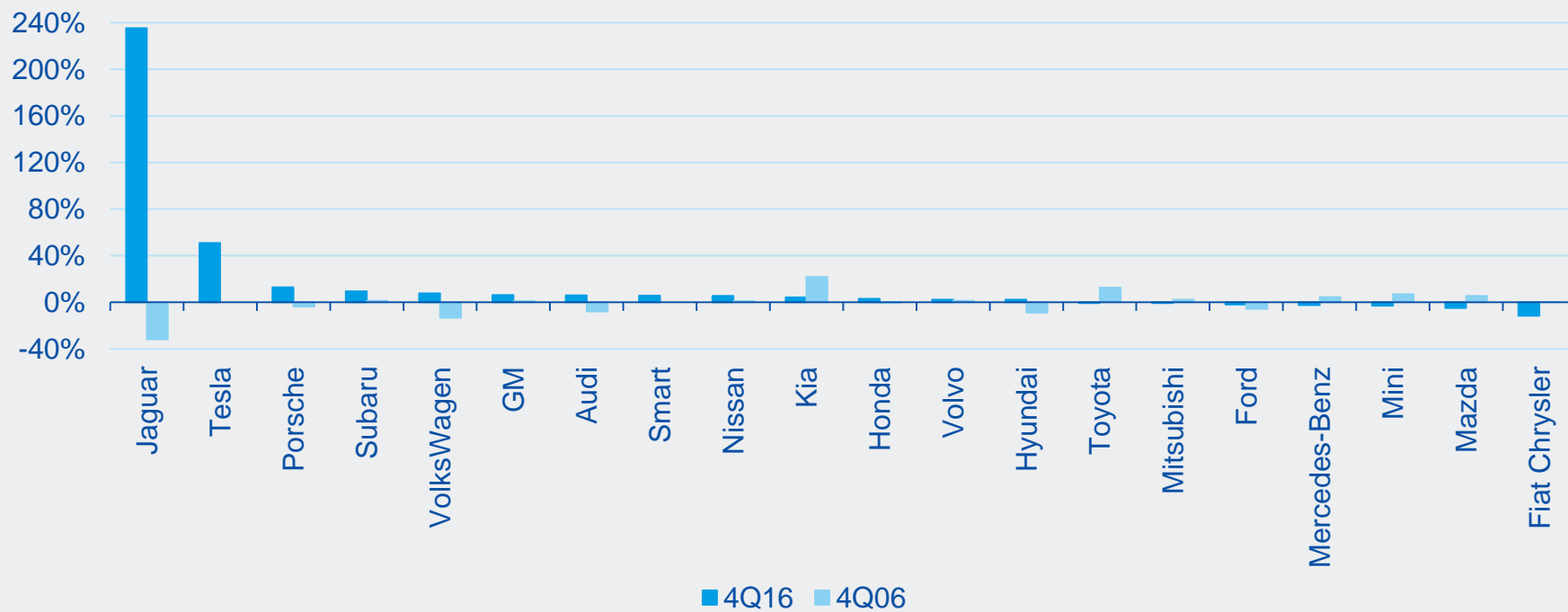
Sales

U.S. Market share by brand
(%)



Sales

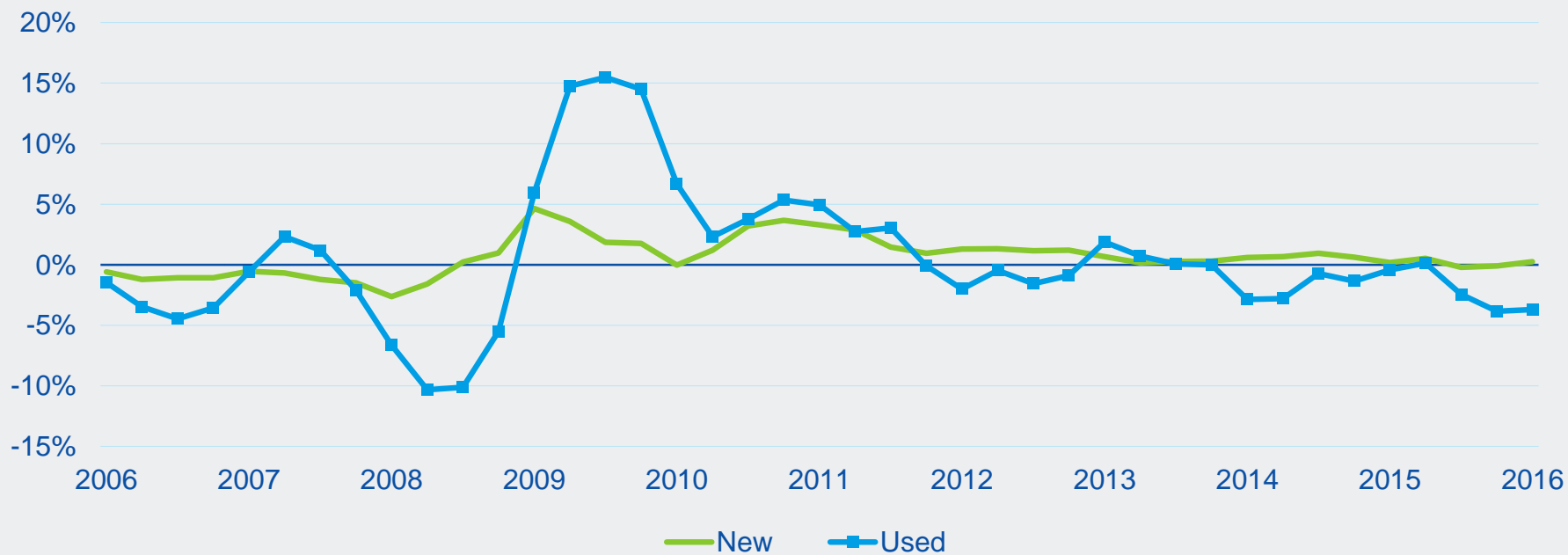
U.S. Quarterly unit sales
(yoy % change)



Source: Bloomberg

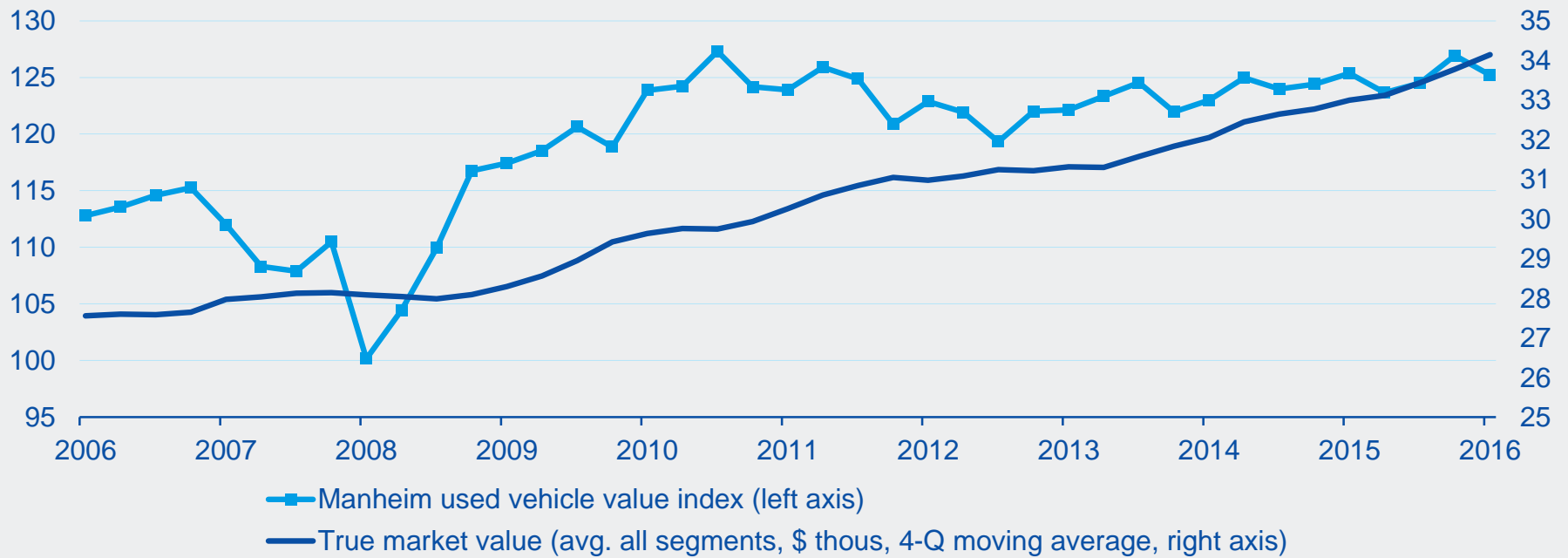
Prices

U.S. Consumer price index: cars and trucks
(yoy % change)



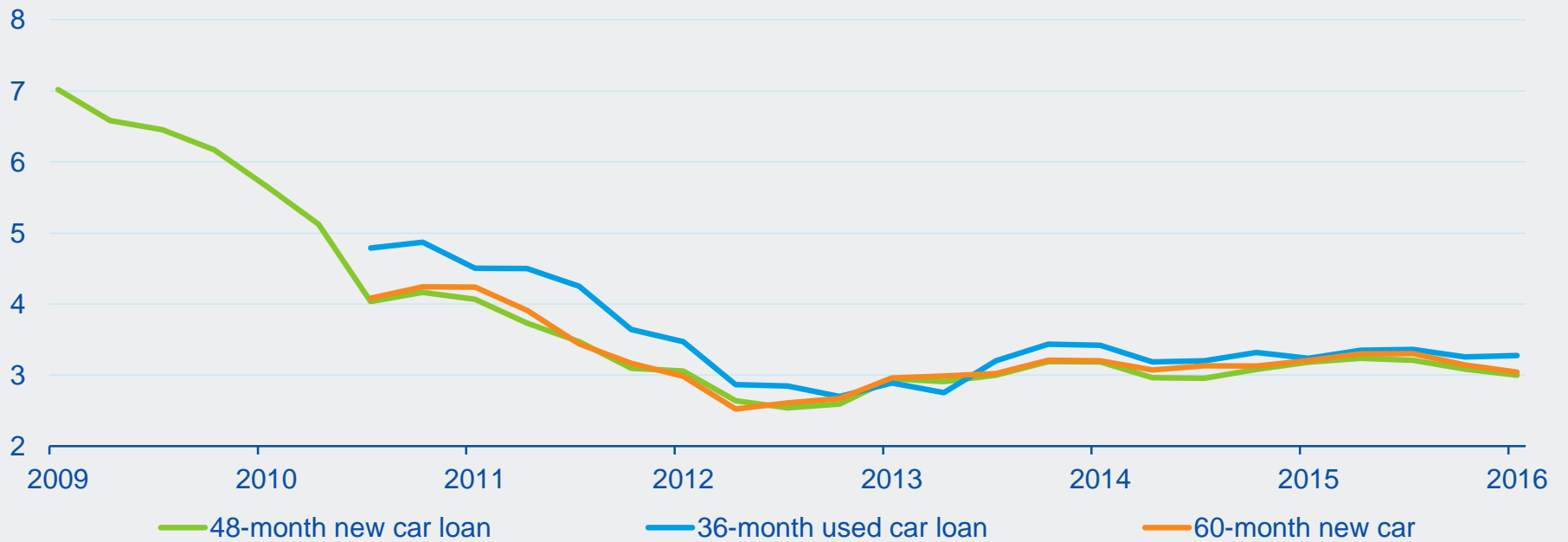
Prices

U.S. Auto prices



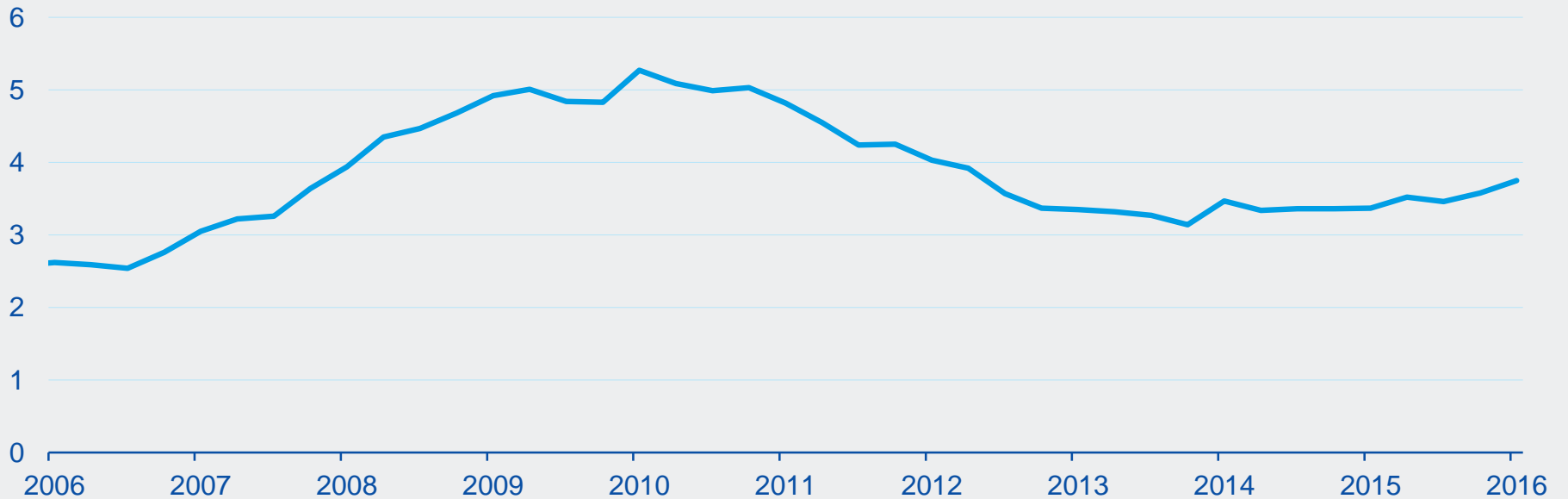
Financing Conditions

U.S. Car loan rates
(%)



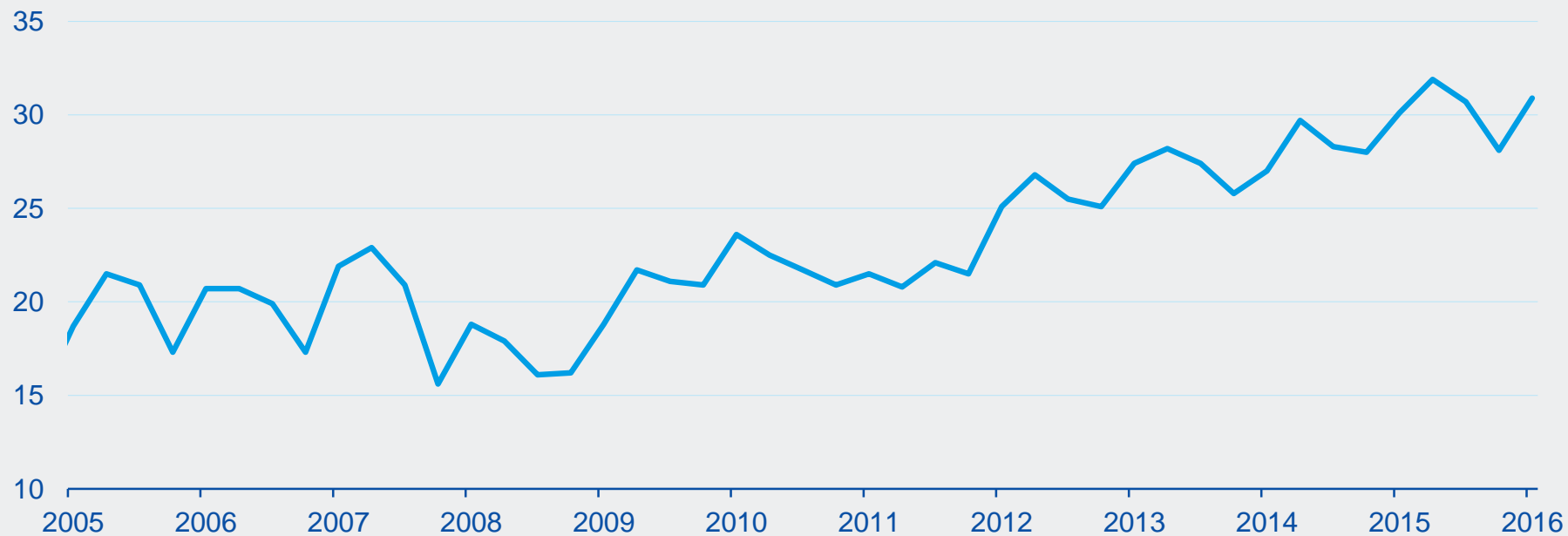
Financing Conditions

U.S. Auto loan 90+ days delinquent
(% of balance)



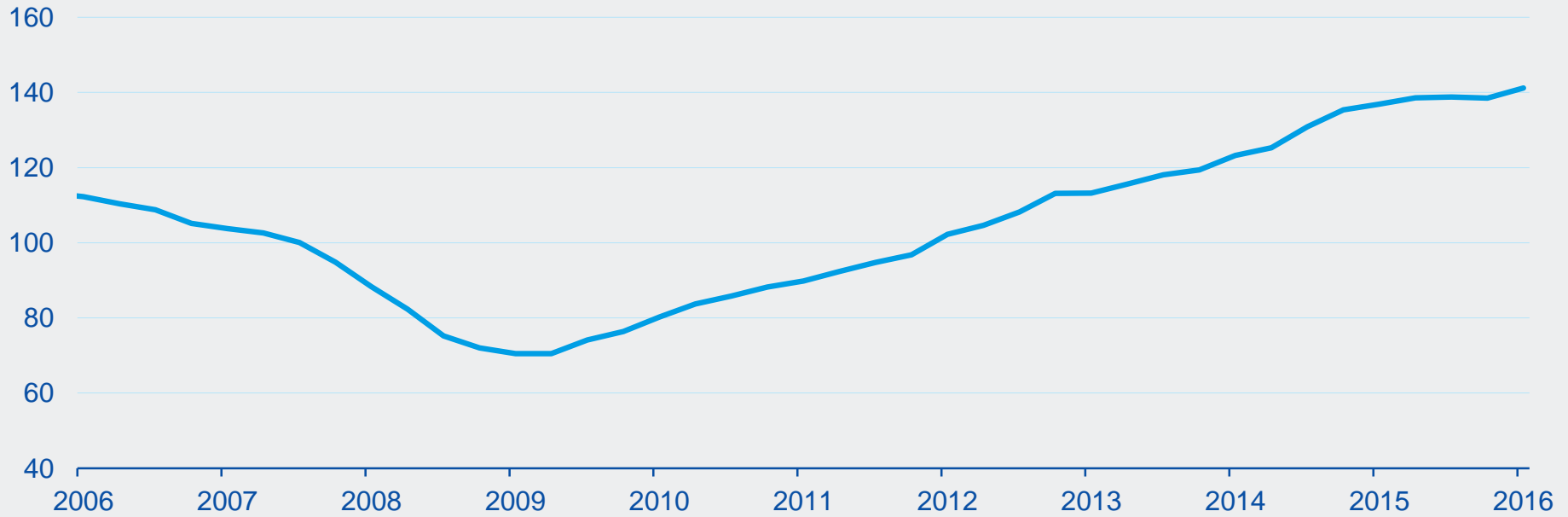
Financing Conditions

U.S. Leasing penetration rate (%)



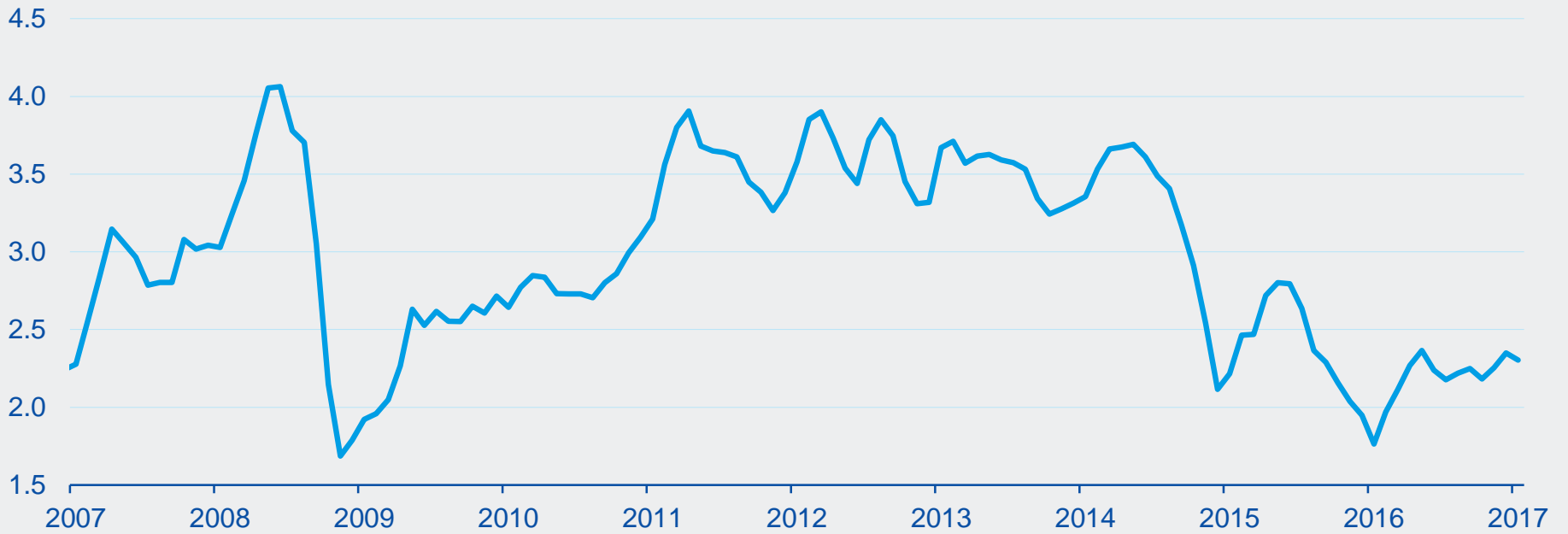
Financing Conditions

U.S. Newly originated installment auto loans
(\$ billion, eop, 4-qtr moving ave.)



Gasoline

U.S. Spot price
(\$/gallon)

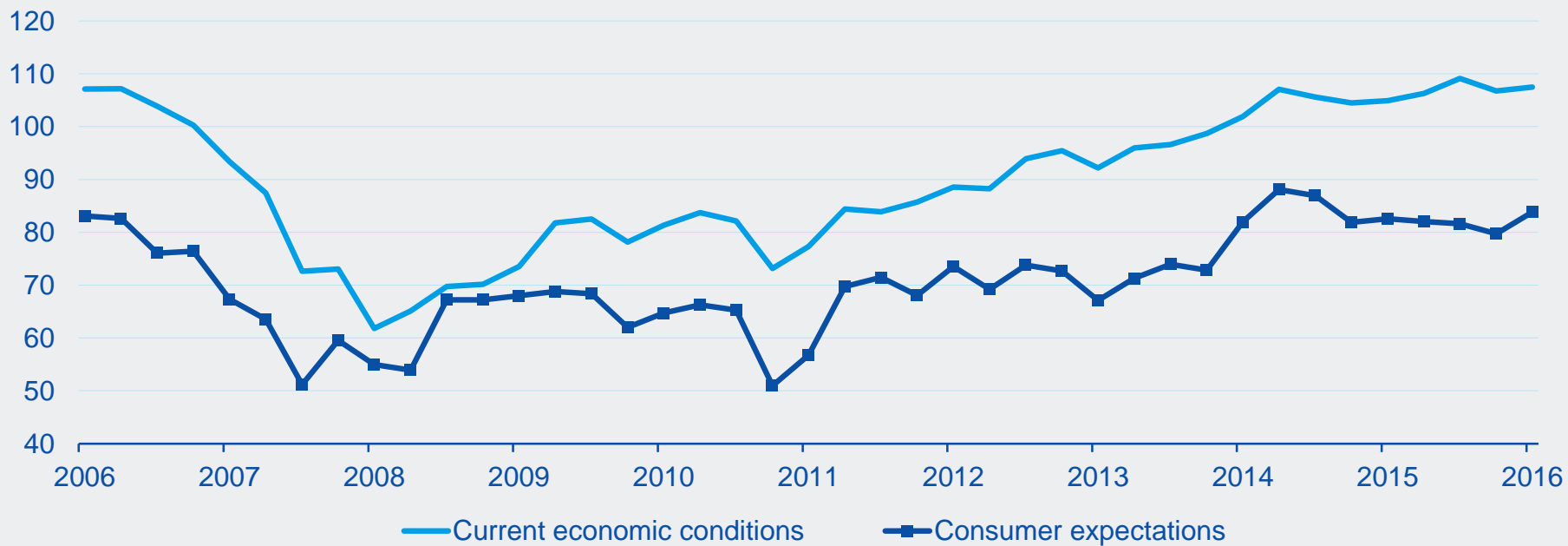


CONSUMERS



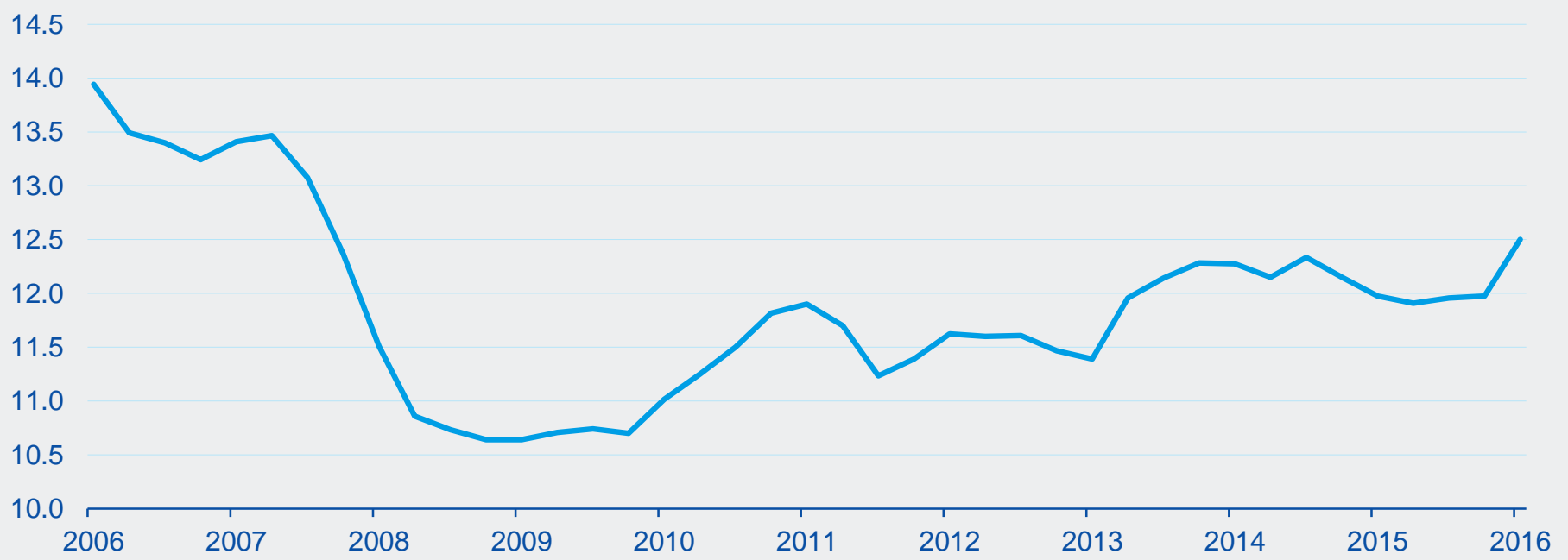
Consumers

U.S. Consumer sentiment index



Consumers

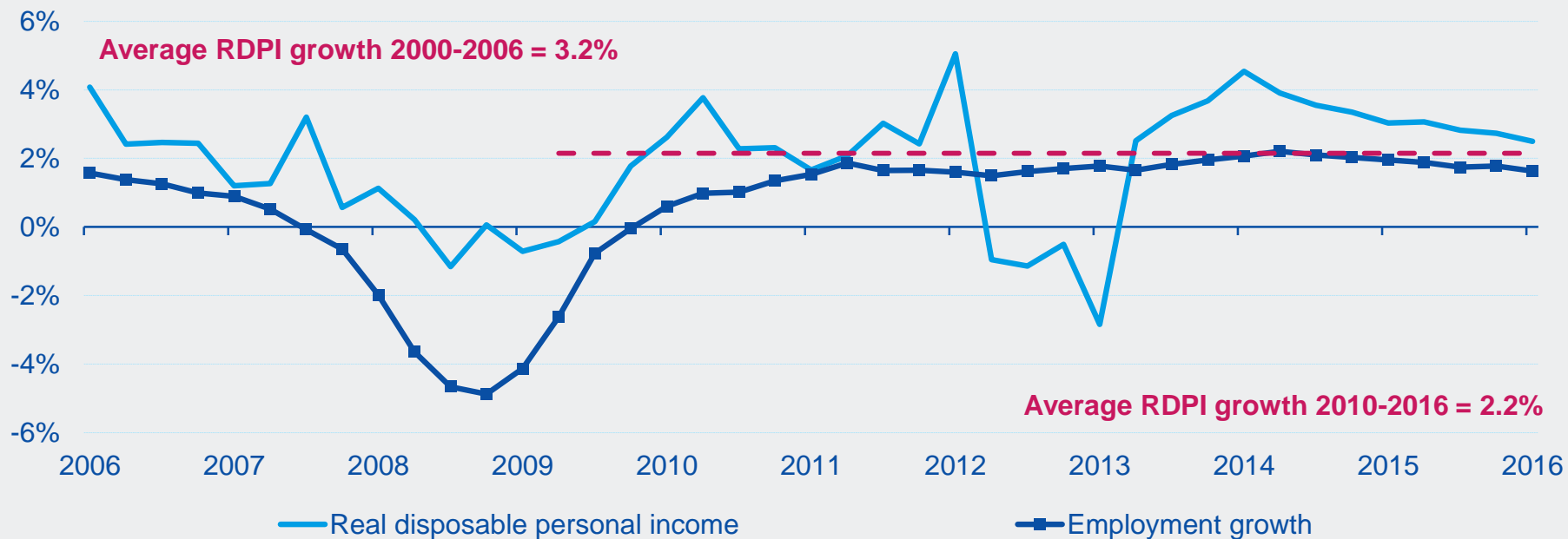
U.S. Plans to buy a car within 6 months
(% of respondents)



Source: Haver Analytics

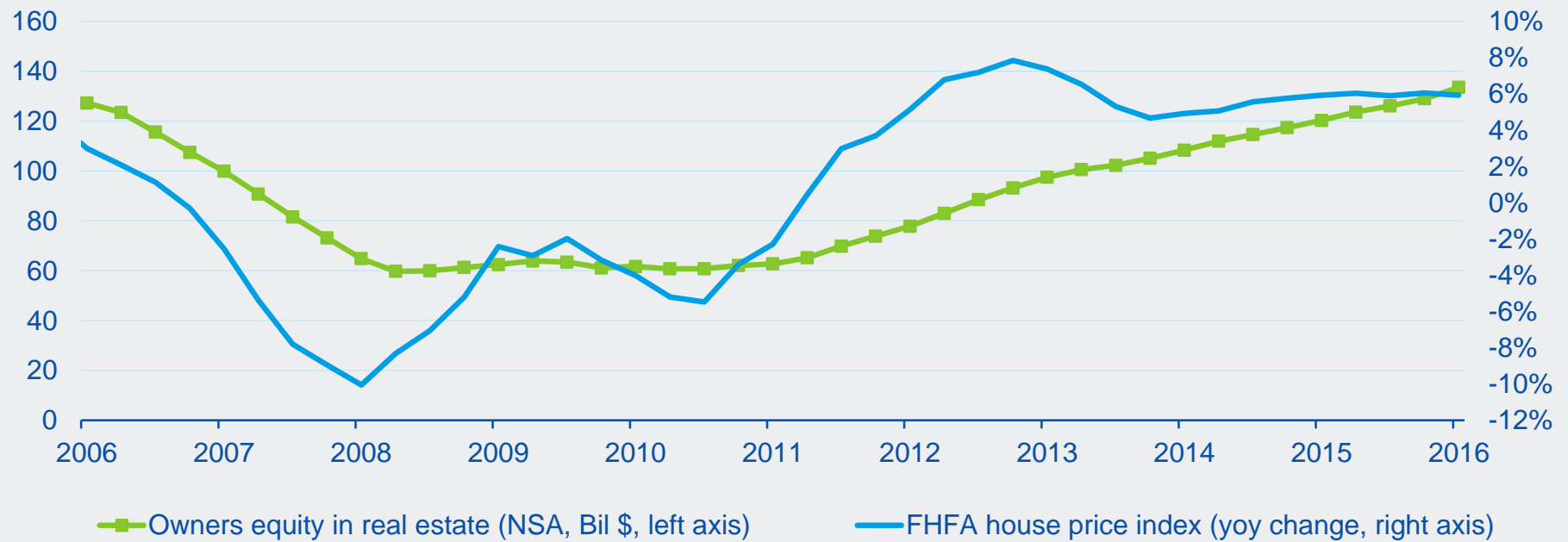
Consumers

U.S. Employment and real disposable personal income
(yoy % change)

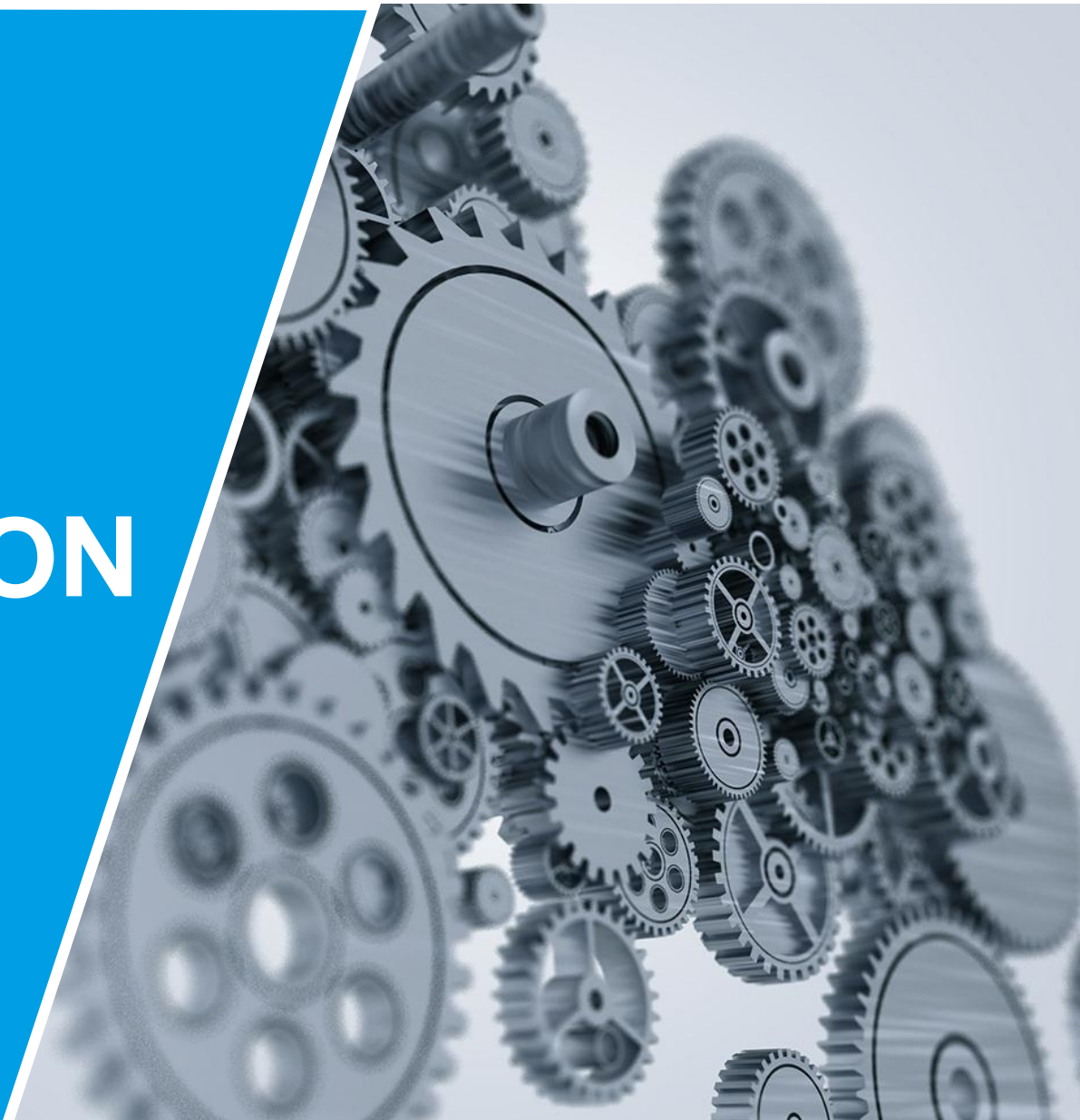


Household Equity

U.S. Household equity and home prices

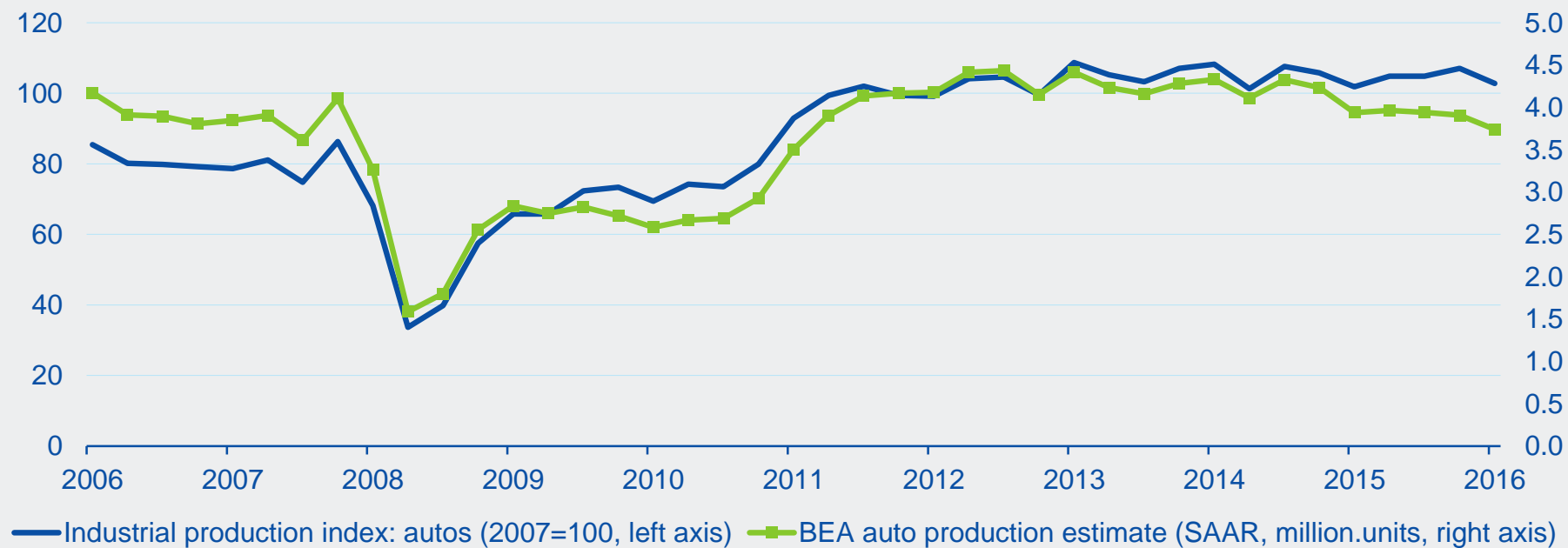


PRODUCTION



Production

U.S. Auto production



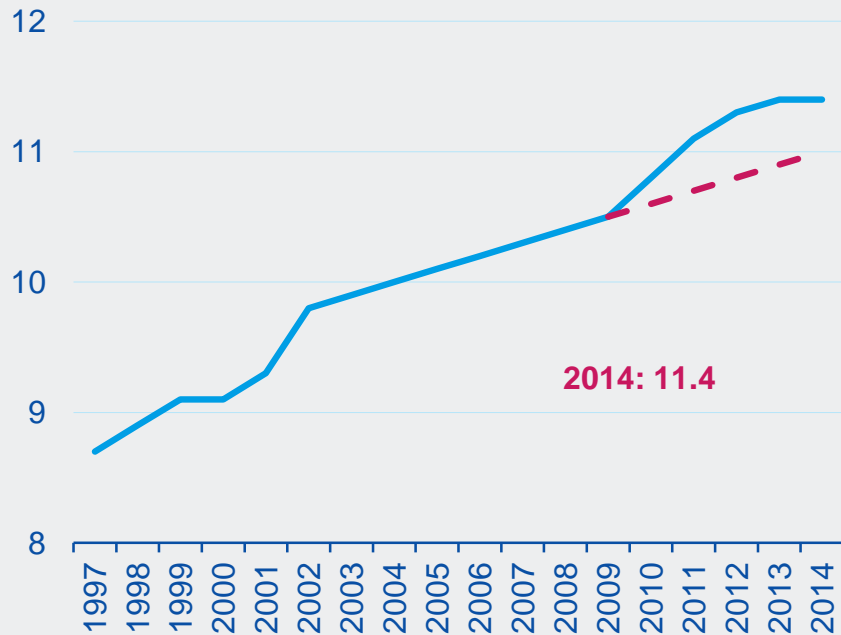
SAAR = seasonally adjusted annual rate, BEA = U.S. Bureau of Economic Analysis
 Source: Haver Analytics

STRUCTURAL

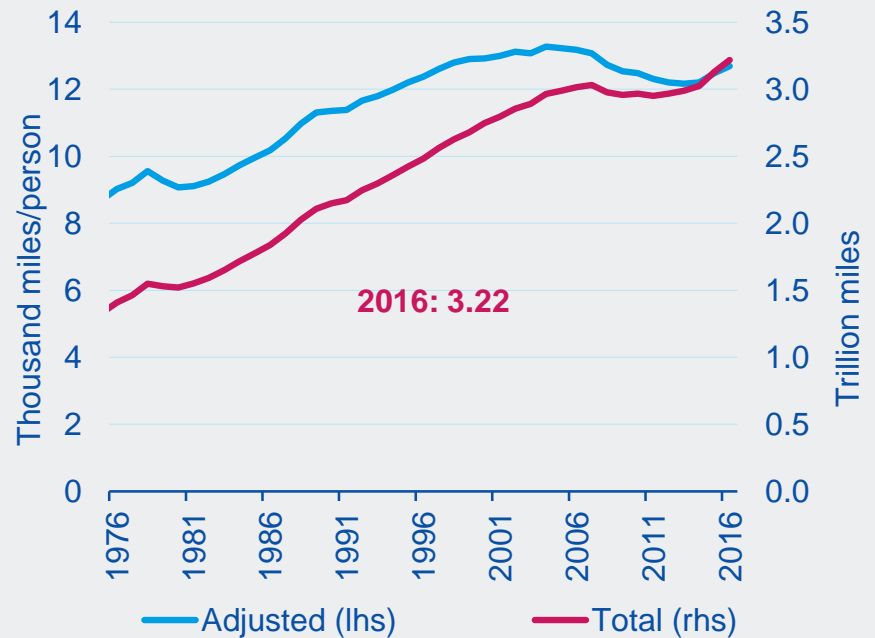


Fundamentals

Mean age of passenger cars in operation
(years)

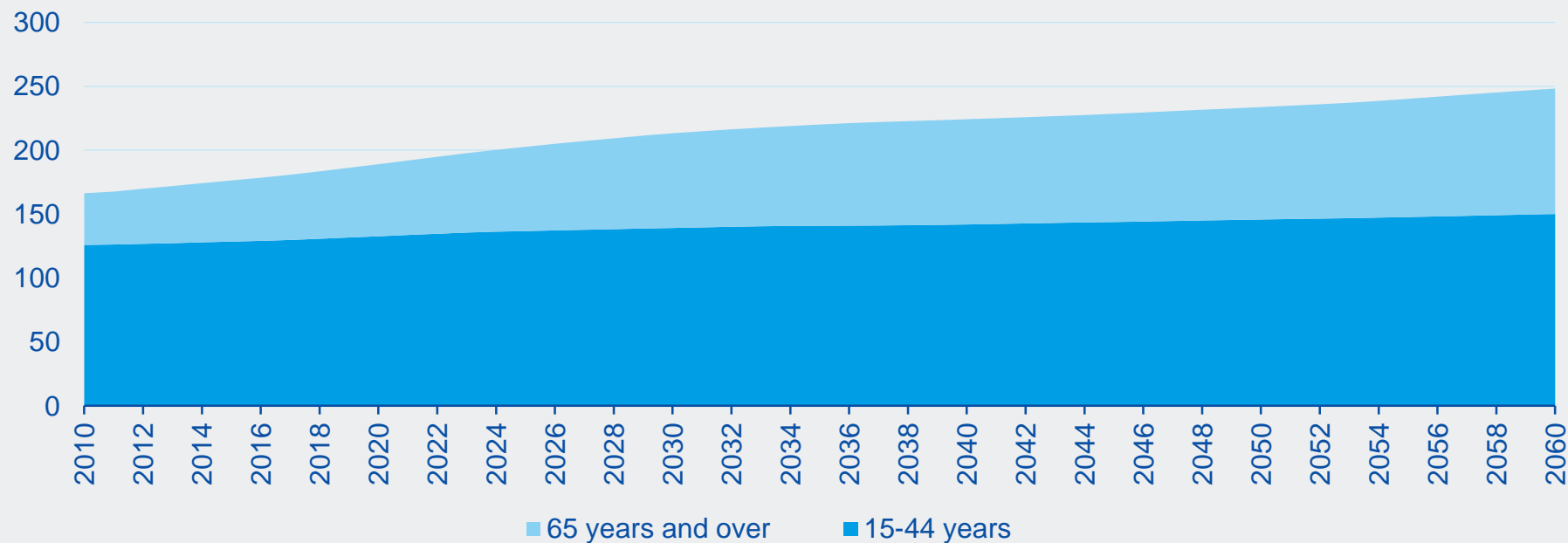


Vehicle miles of travel
(total and adjusted by labor force)



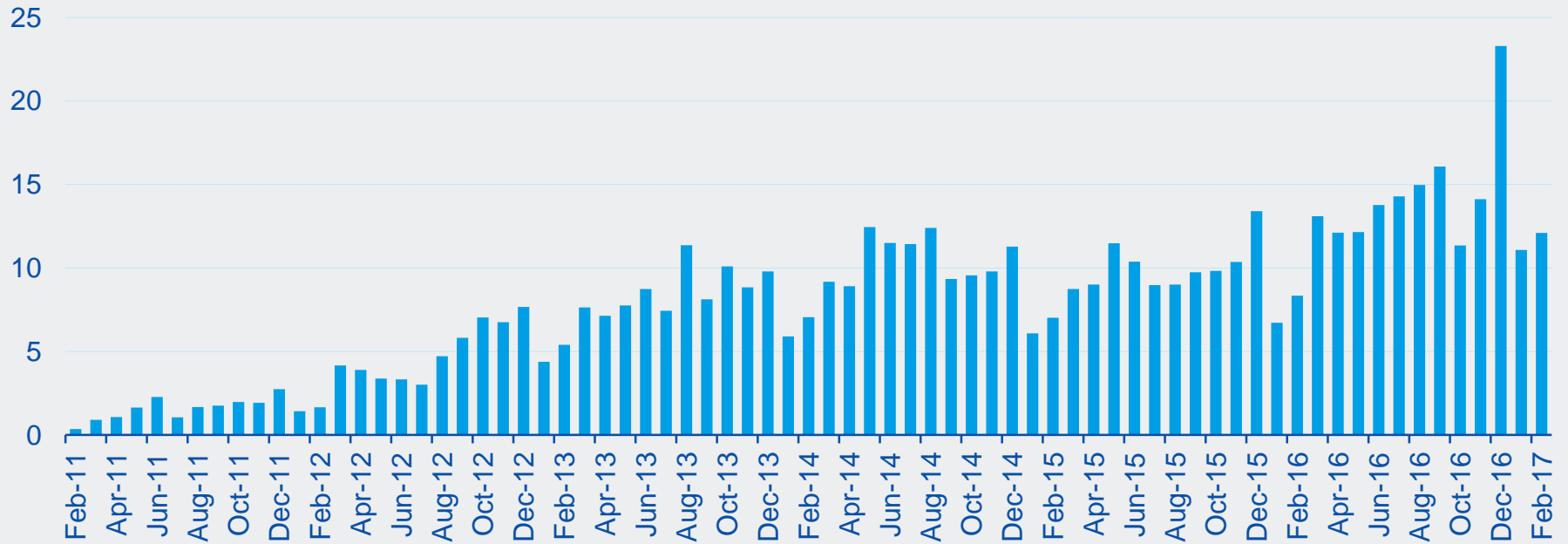
Demographics

U.S. Population projections by age
(millions)



Alternative vehicles

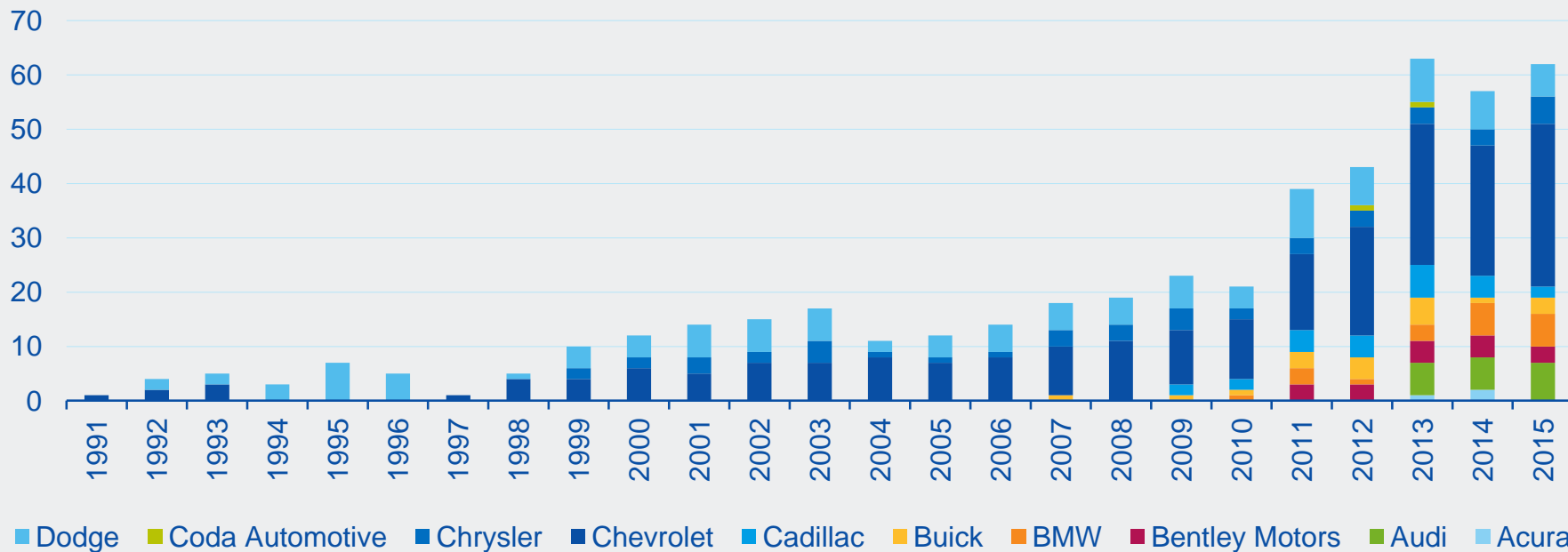
U.S. New plug-in vehicle sales
(thousands)



Source: Electric Drive Transportation Association, HybridCars.com

Alternative vehicles

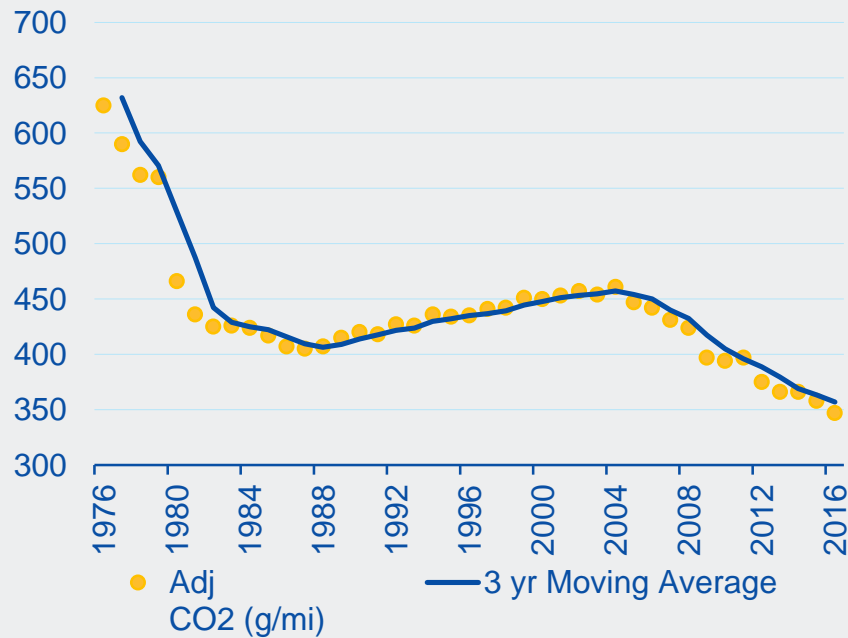
Alternative Fueled Vehicle/Hybrid Electric Vehicle Models by OEMs
(units)*



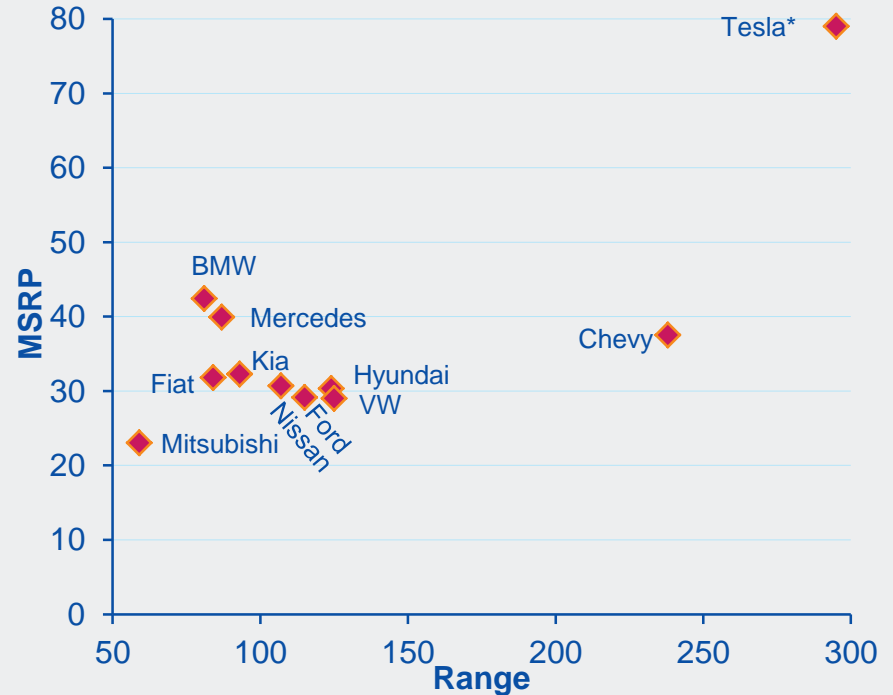
* Top ten OEMs by number of models in 2015
Source: Bloomberg Energy Finance & Energy Department

Alternative vehicles

Adjusted CO2 emissions for new vehicles by model year* (g/mi)



Range and price of selected electric vehicles (miles, \$ thousands)

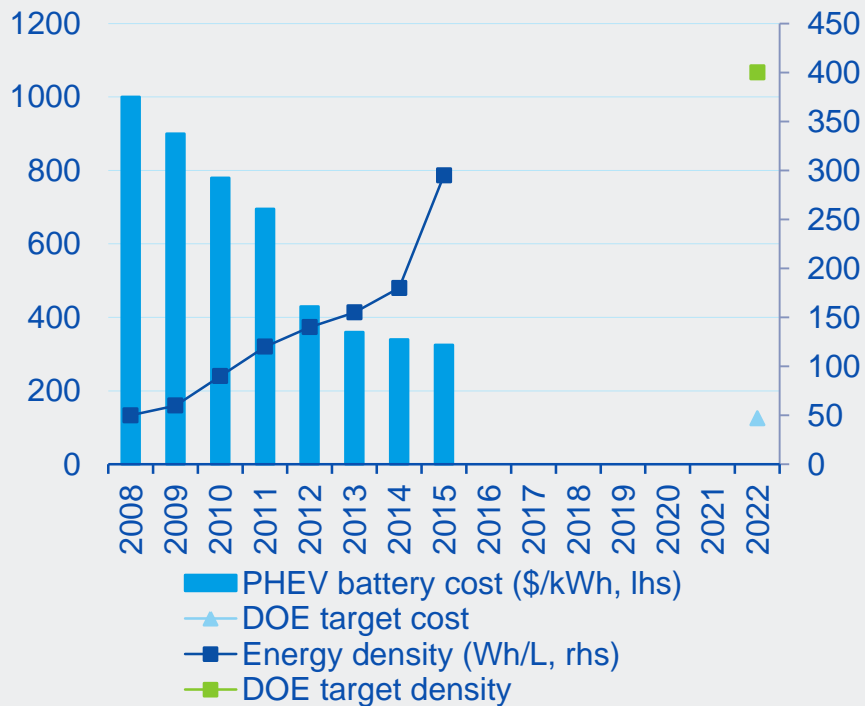


Source: EPA
*2016 data is preliminary

*Tesla scaled for fit. Actual range is 315 at MSRP \$134,500. Data provided for 2017 models of Tesla Model S-P100D, Kia Soul Electric, Fiat 500e, Nissan Leaf, Chevy Bolt EV, BMW i3 BEV (60 Amp-hour battery), Ford Focus Electric, Hyundai Ioniq Electric, Volkswagen e-Golf, Mitsubishi i-MiEV, Mercedes-Benz B250e
Source: Company Websites, U.S. Dept. of Energy

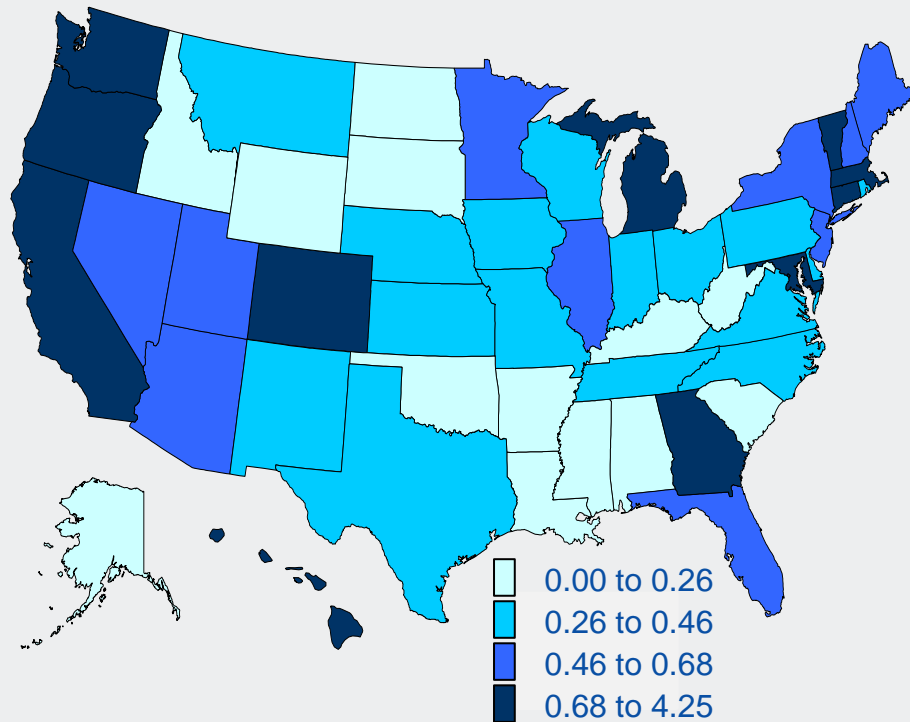
Alternative vehicles

PHEV Battery Cost and Energy Density



Source: DOE

PEV registrations per 1,000 people



Source: DOE

FORECASTS



Forecasts

	2014	2015	2016	2017	2018	2019
Auto sales (millions units)	16.5	17.4	17.5	18.0	17.5	16.6
Real GDP growth (% change)	2.4	2.6	1.6	2.3	2.4	2.1
Unemployment rate (% avg.)	6.2	5.3	4.8	4.5	4.4	4.3
Fed funds (%, eop)	0.25	0.50	0.75	1.50	2.00	2.50
5-year Treasuries (%, avg)	1.64	1.53	1.34	2.19	2.49	2.86

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