

The rise of e-commerce retail sales and its impact on the global supply chain

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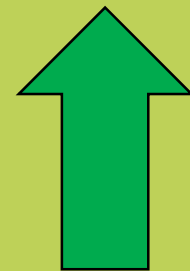
The US, Western European, and Chinese consumer: clicks outpacing the bricks

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Forces affecting US consumer markets

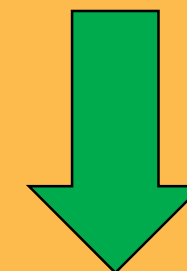
Positive forces

- Employment growth
- Real wage growth
- Rising asset values
- Expansion of e-commerce

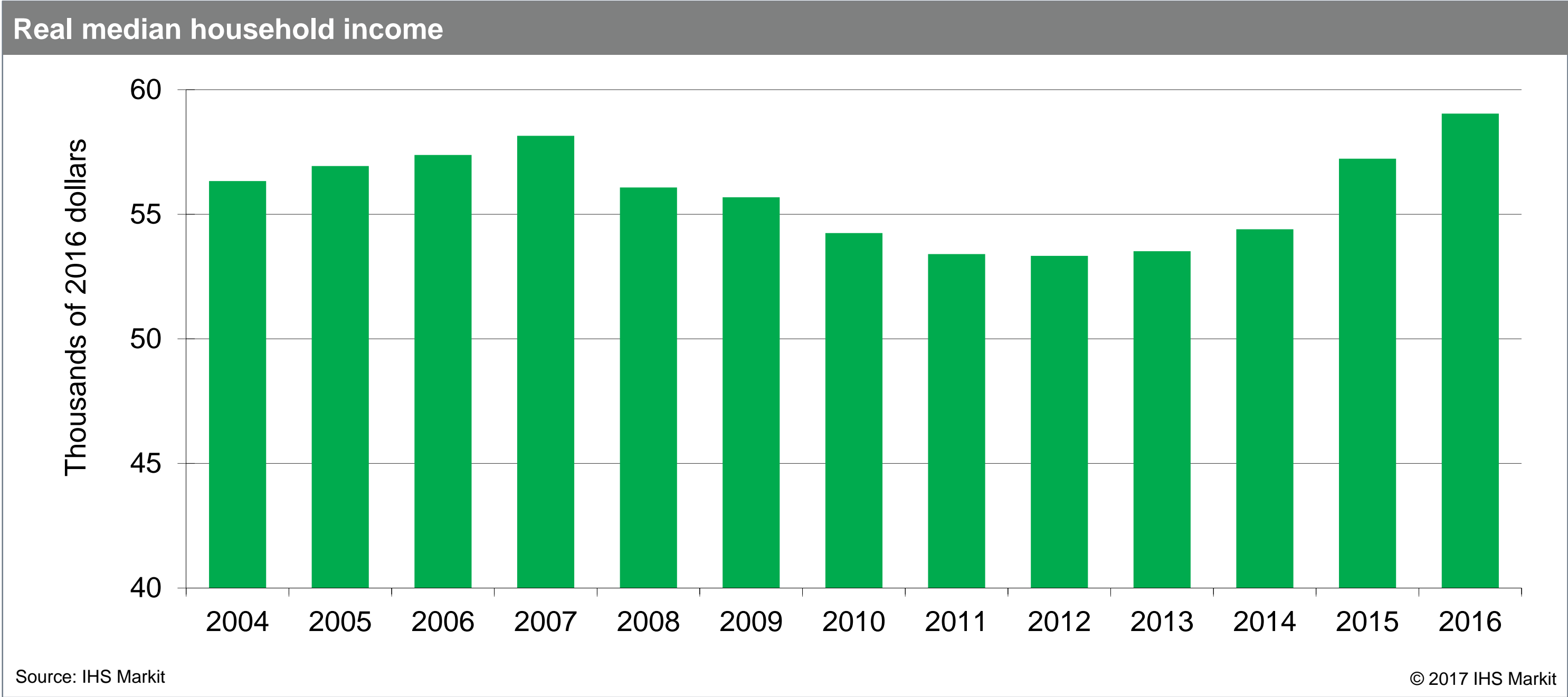


Negative forces

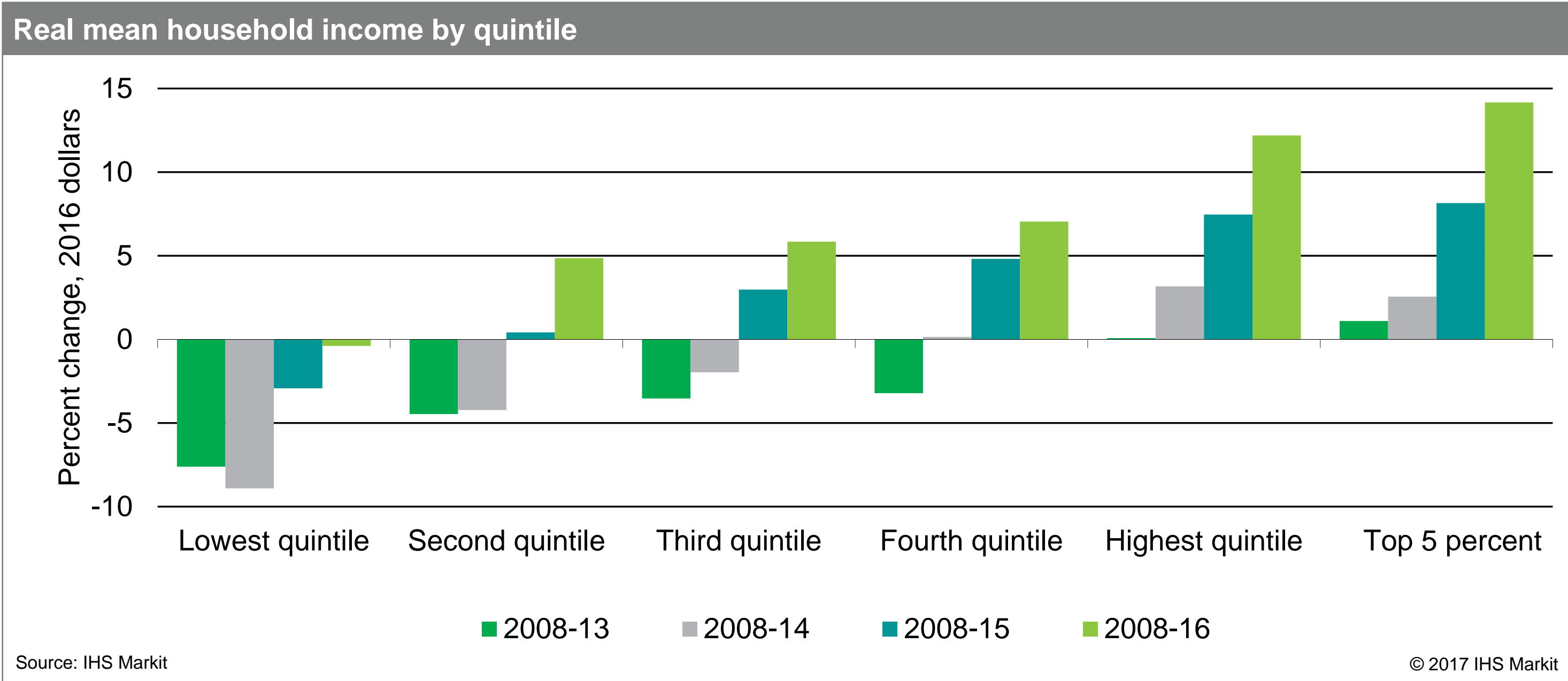
- High student debt burdens
- Saving for retirement
- Asset and income inequality
- Store closings



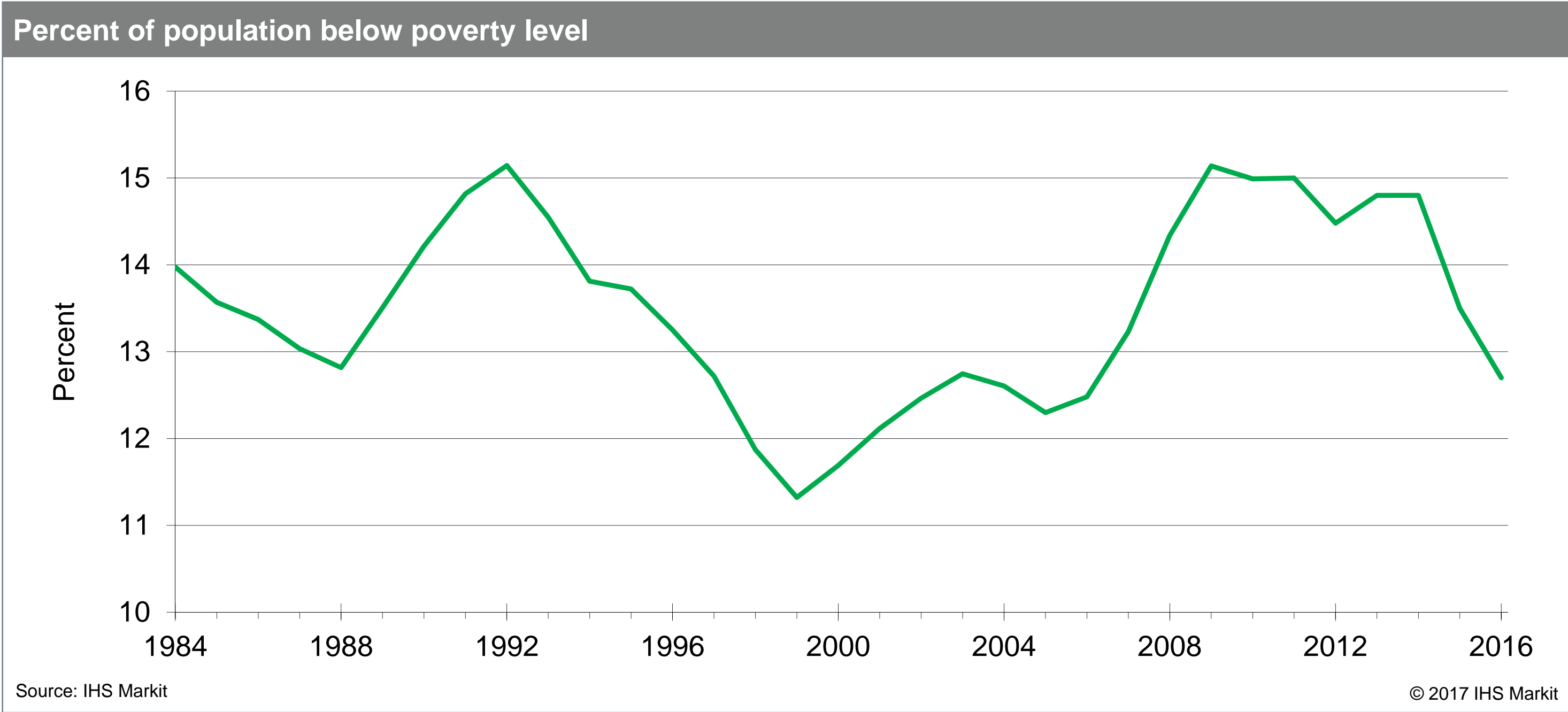
US real median household income made strides in 2015 and 2016



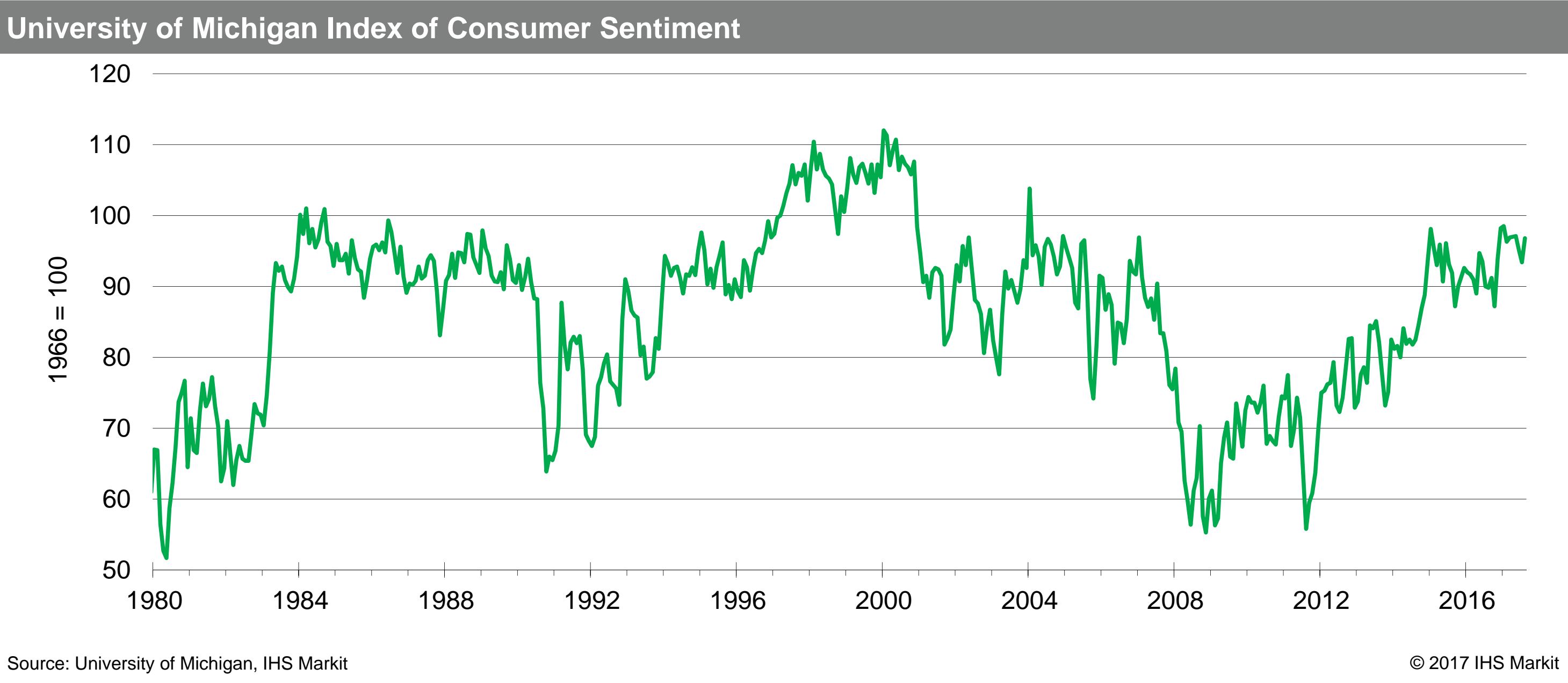
US incomes pushed past prerecession levels for most households in 2016



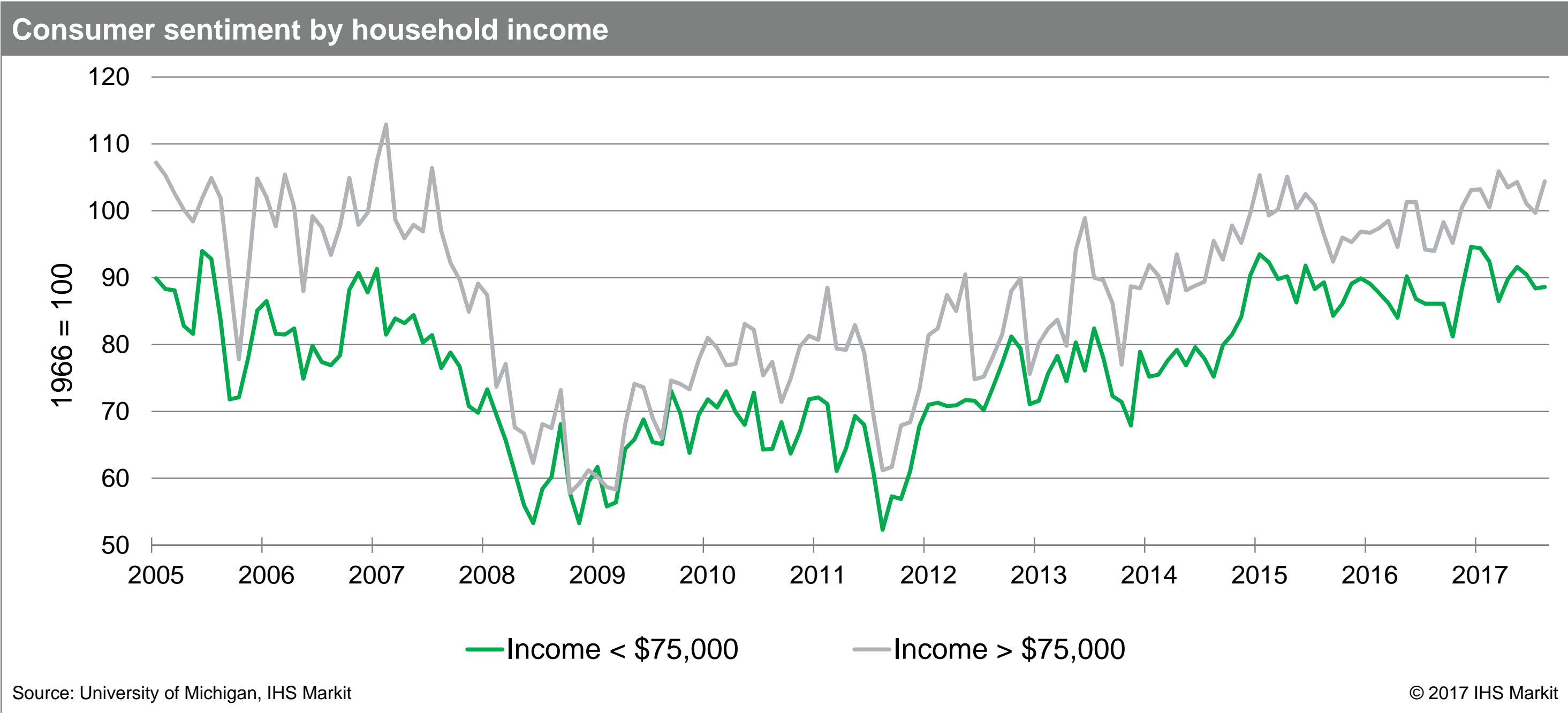
US poverty rate pushed lower in 2015 and 2016



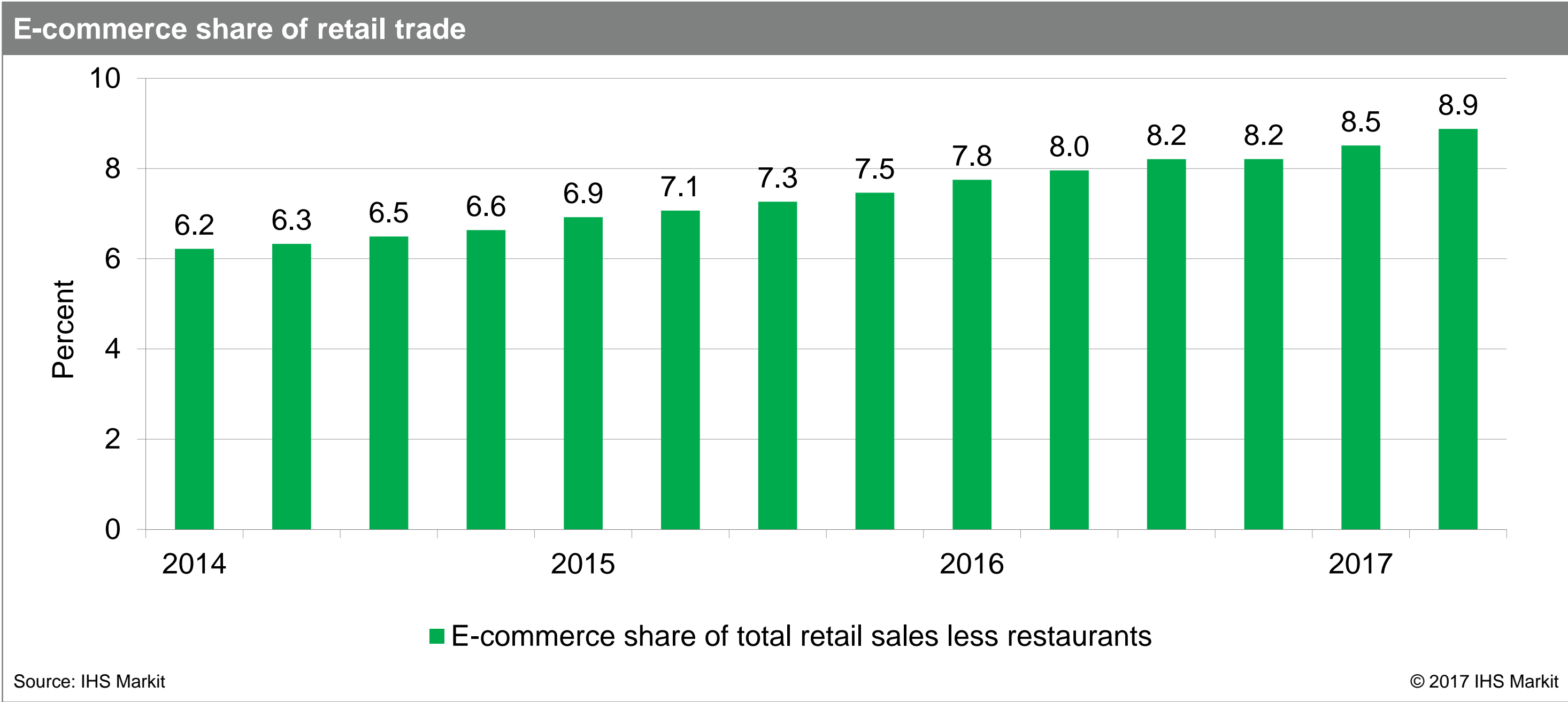
US consumer sentiment is upbeat, supported by improving household finances



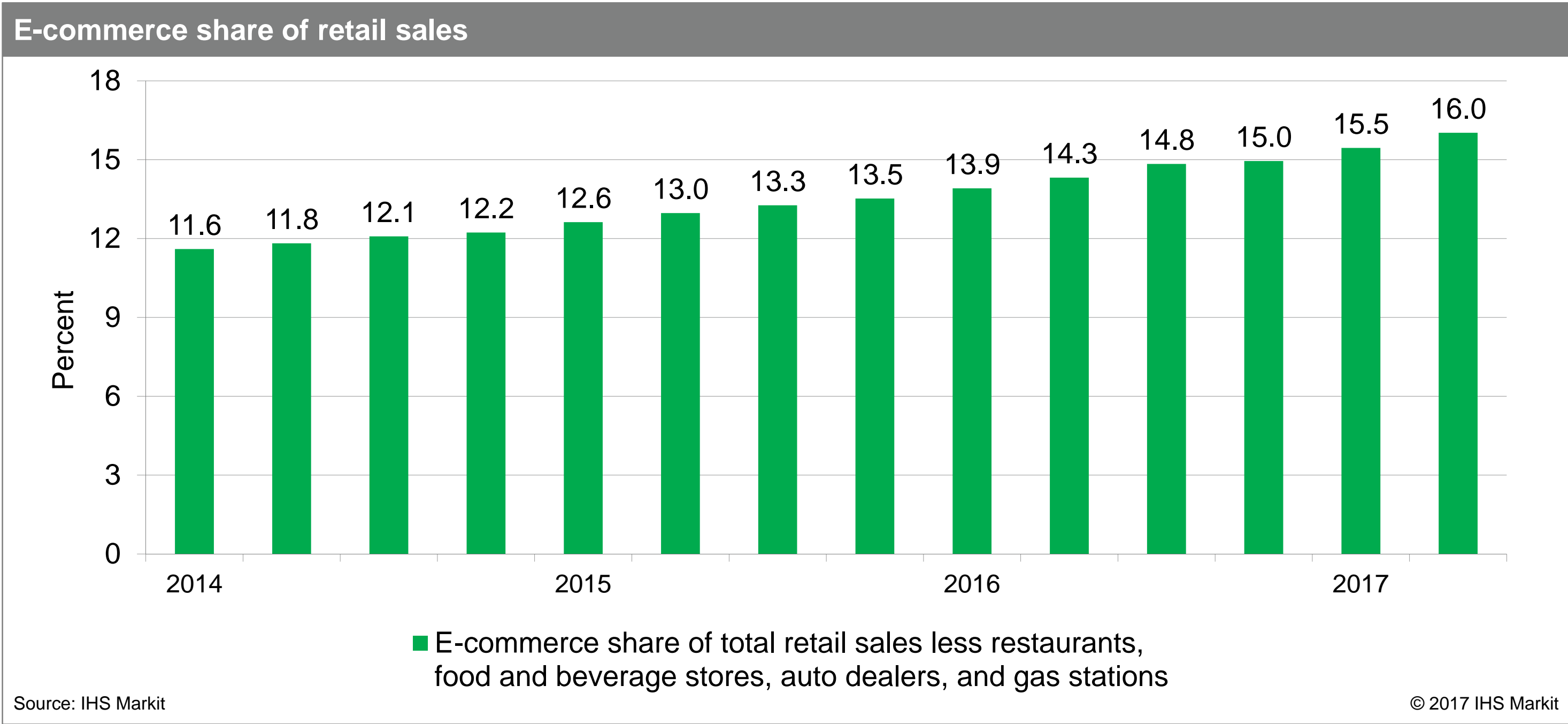
US consumer sentiment by household income



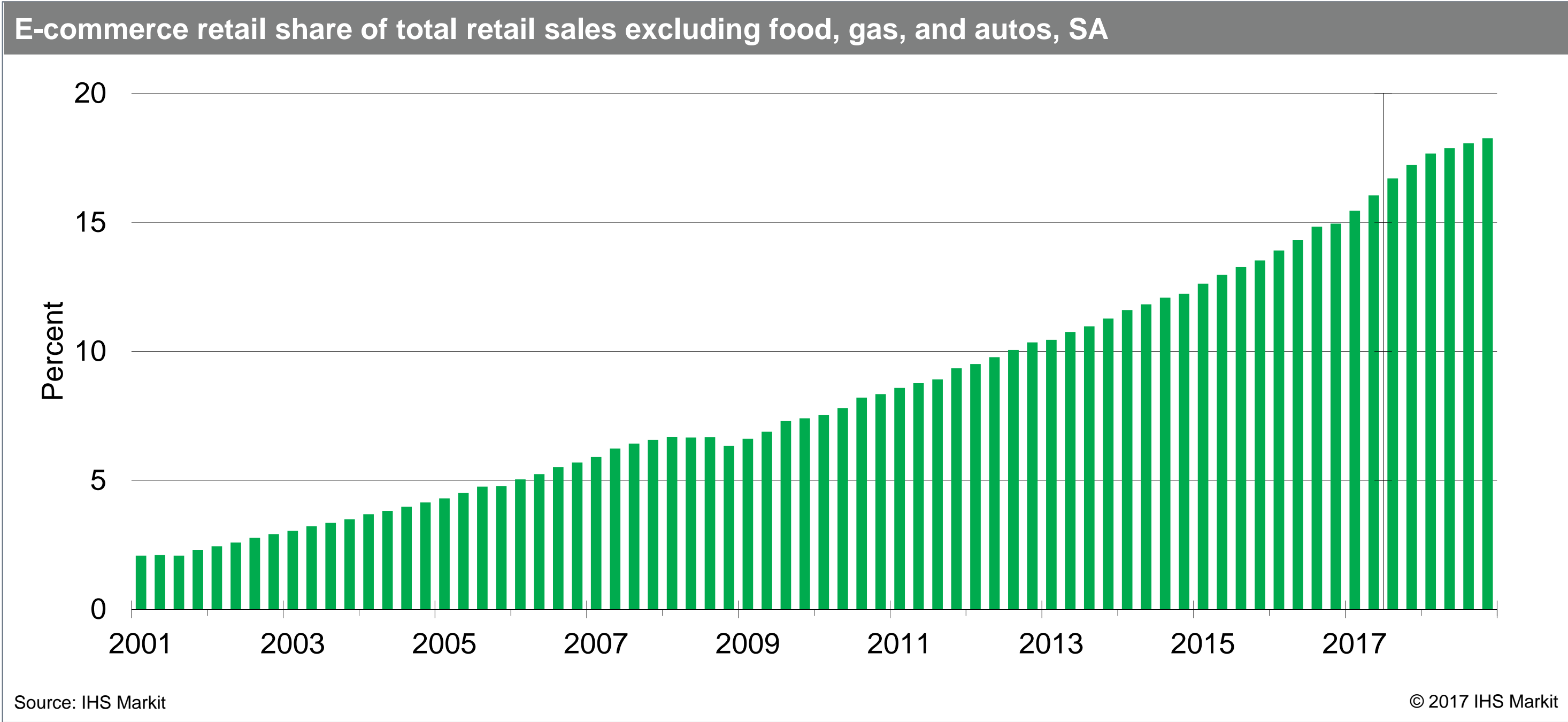
US e-commerce share of retail trade jumps in second quarter



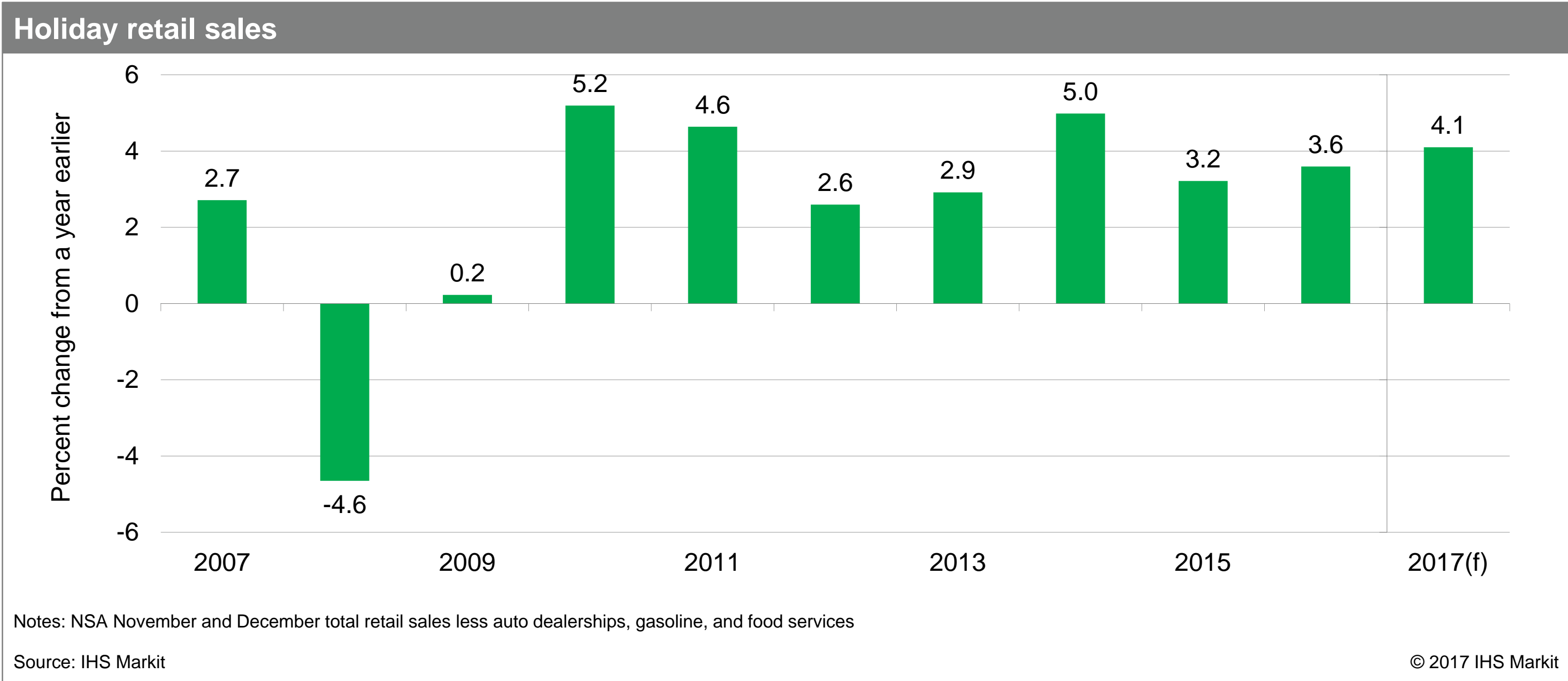
US e-commerce takes a bigger bite out of retail sales



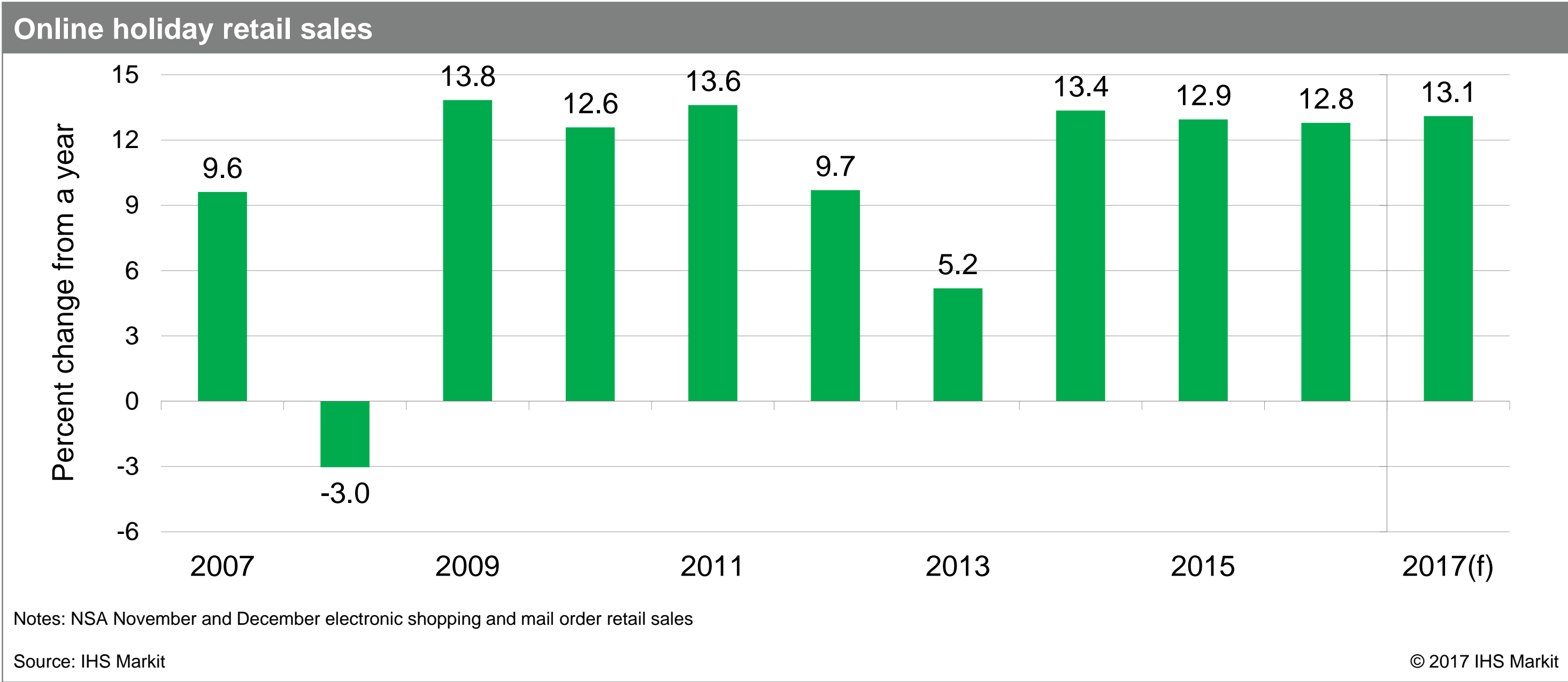
US e-commerce retail share expanding



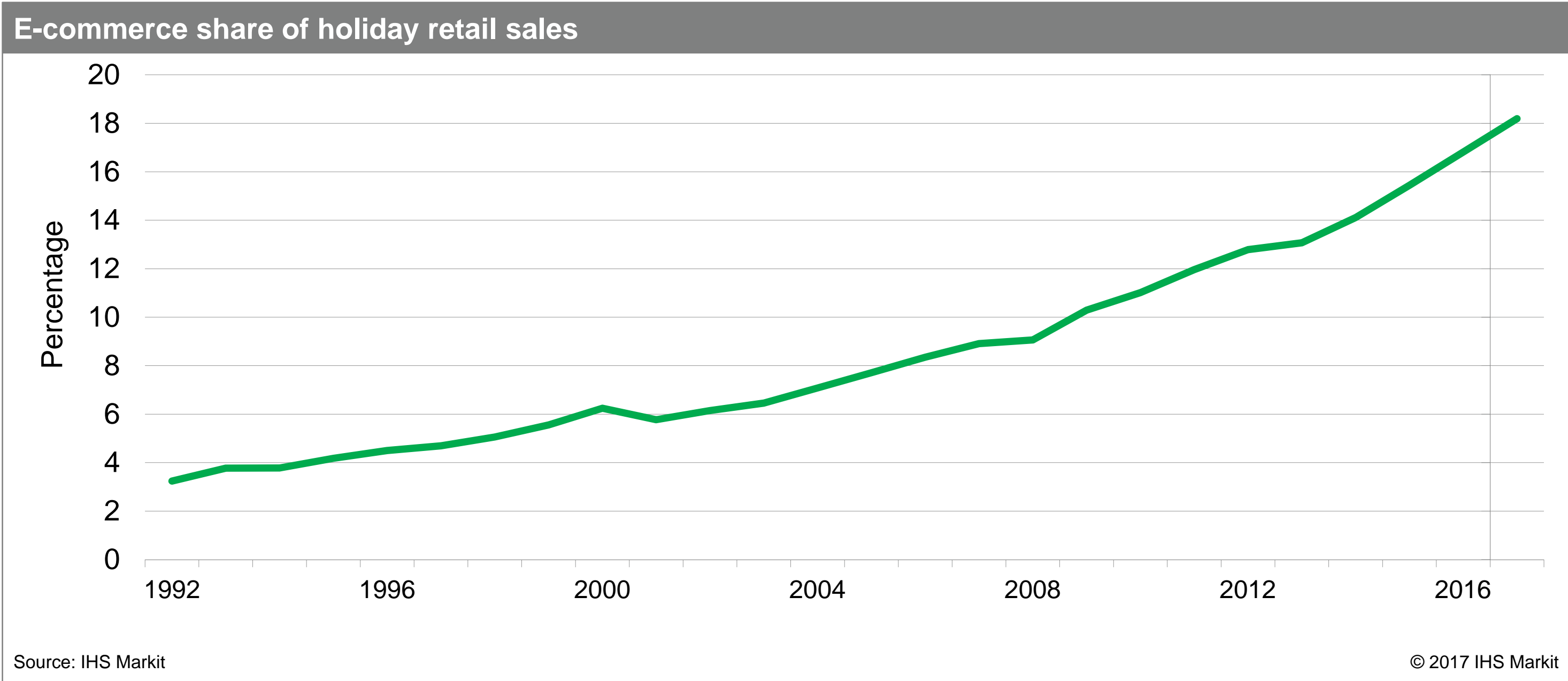
US 2017 holiday retail sales growth to maintain solid pace



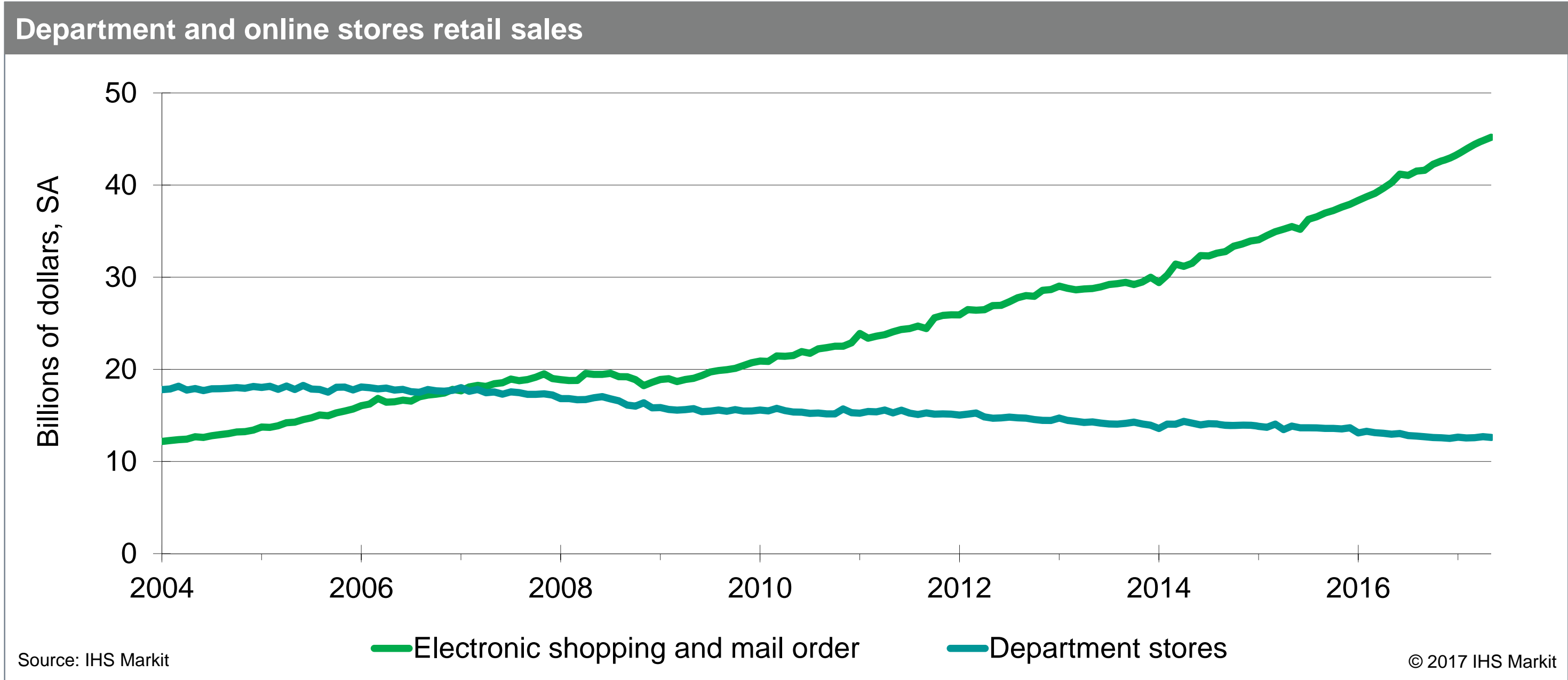
US 2017 online holiday retail sales growth to remain brisk



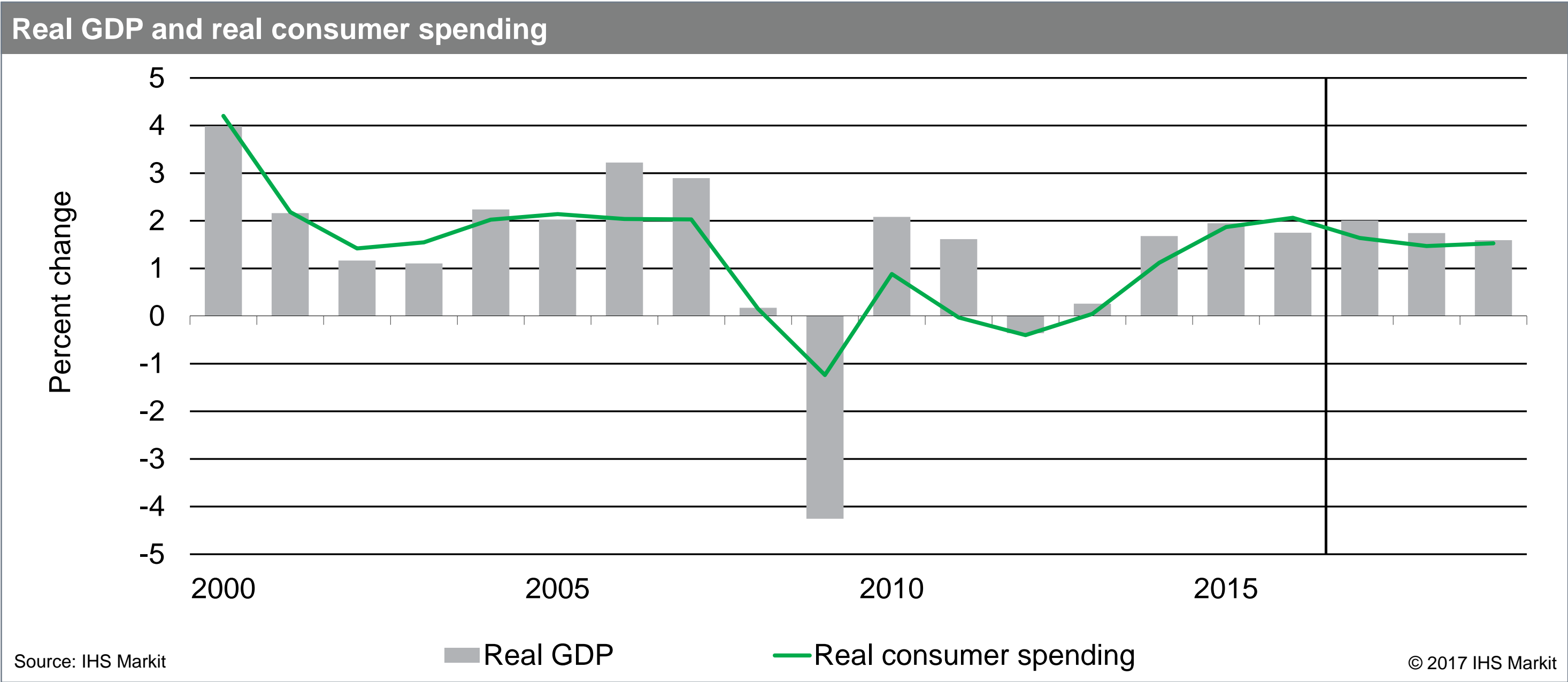
US online share of holiday retail sales



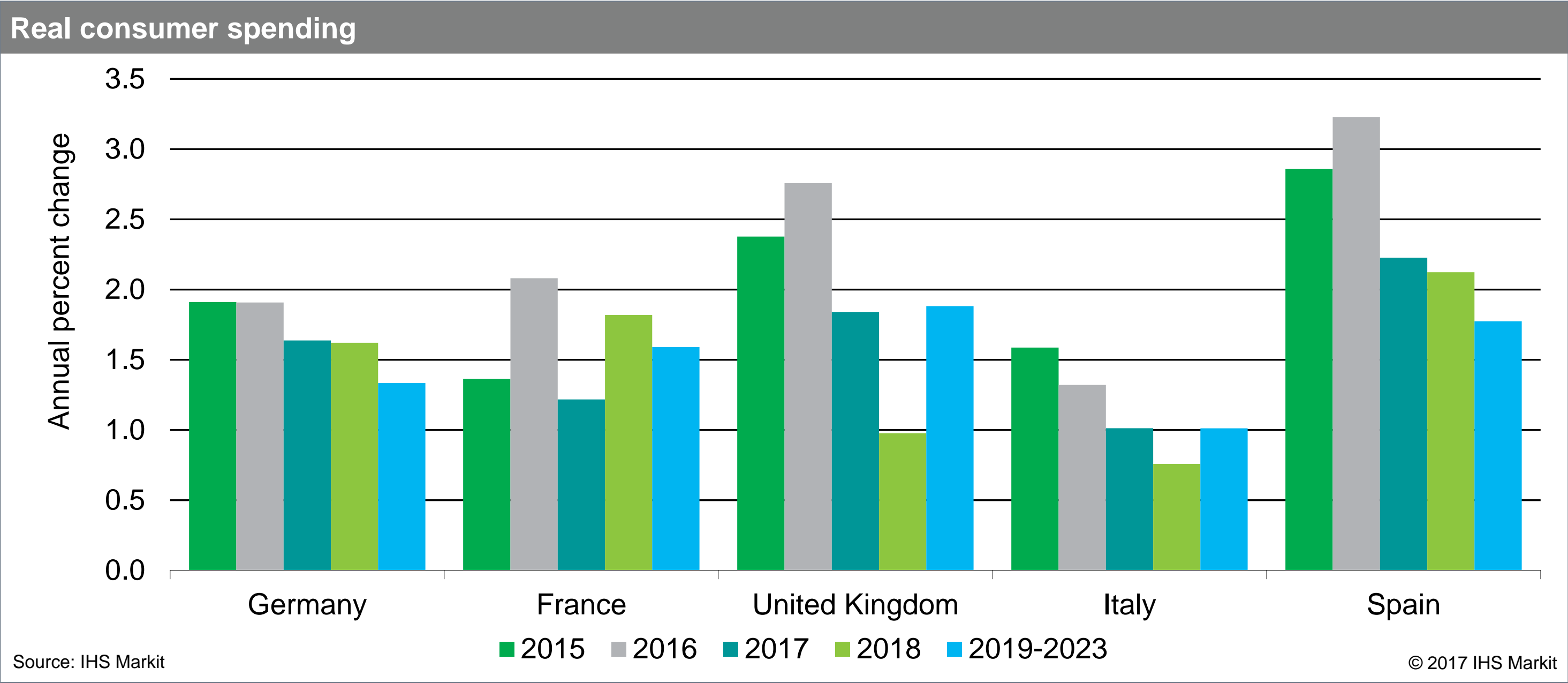
US: Clicks outpacing the bricks



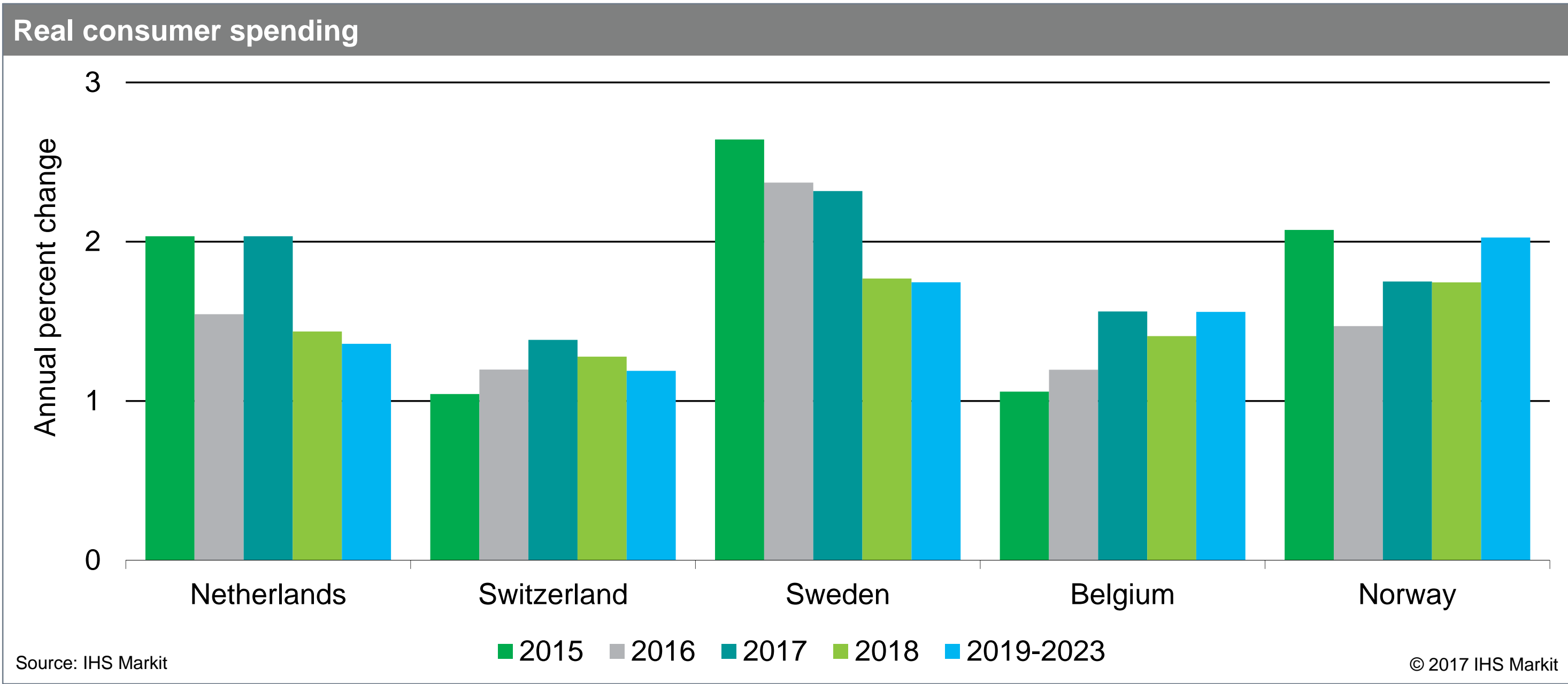
Western Europe: GDP & consumer spending growth



Western Europe: Real consumer spending

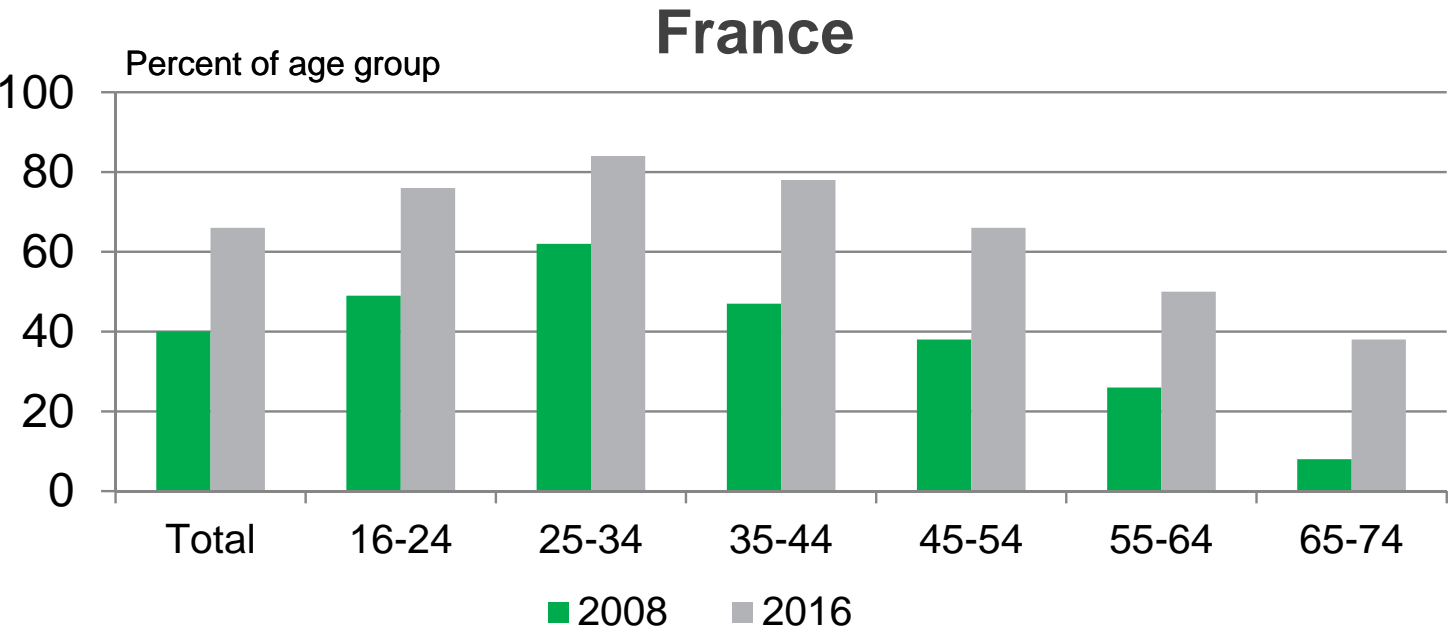
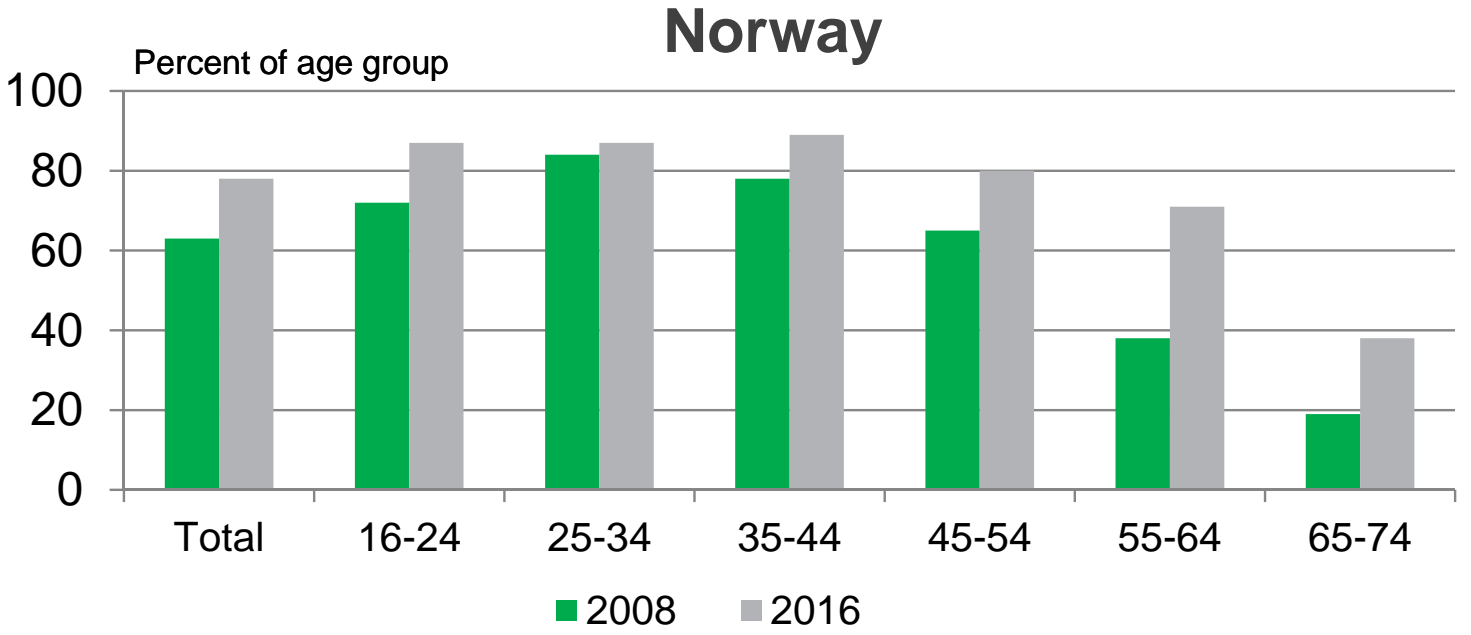
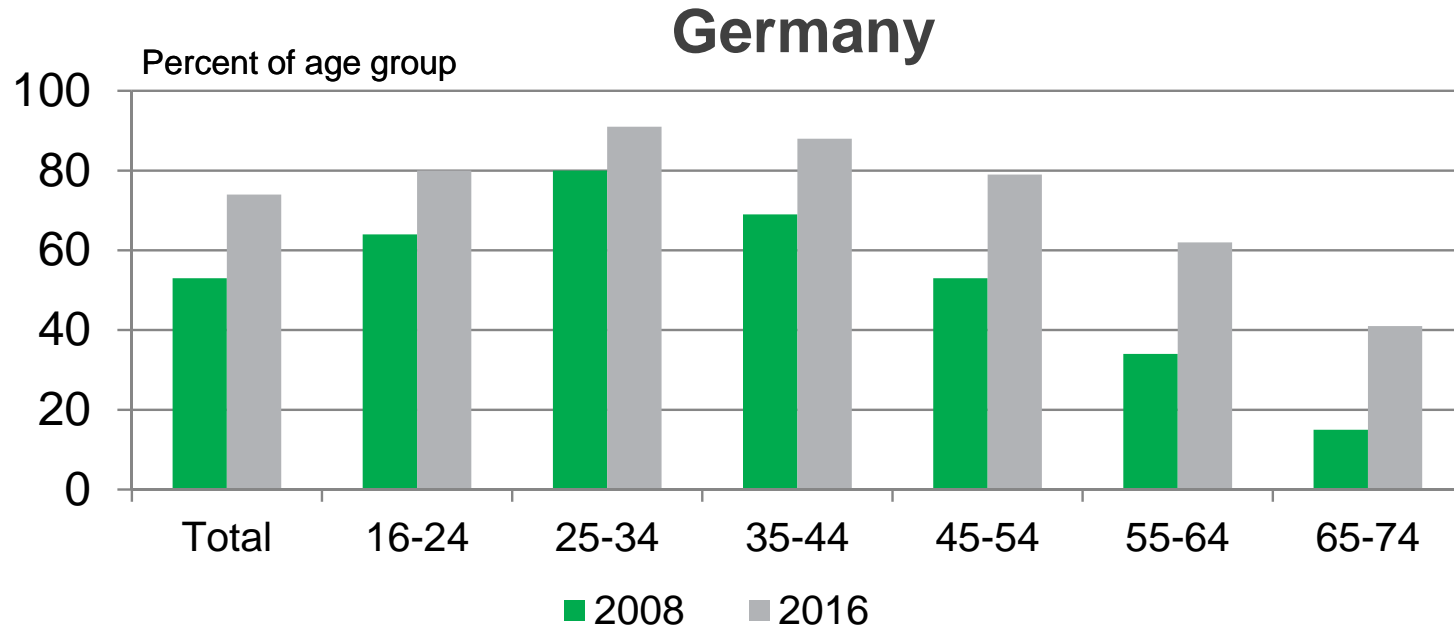
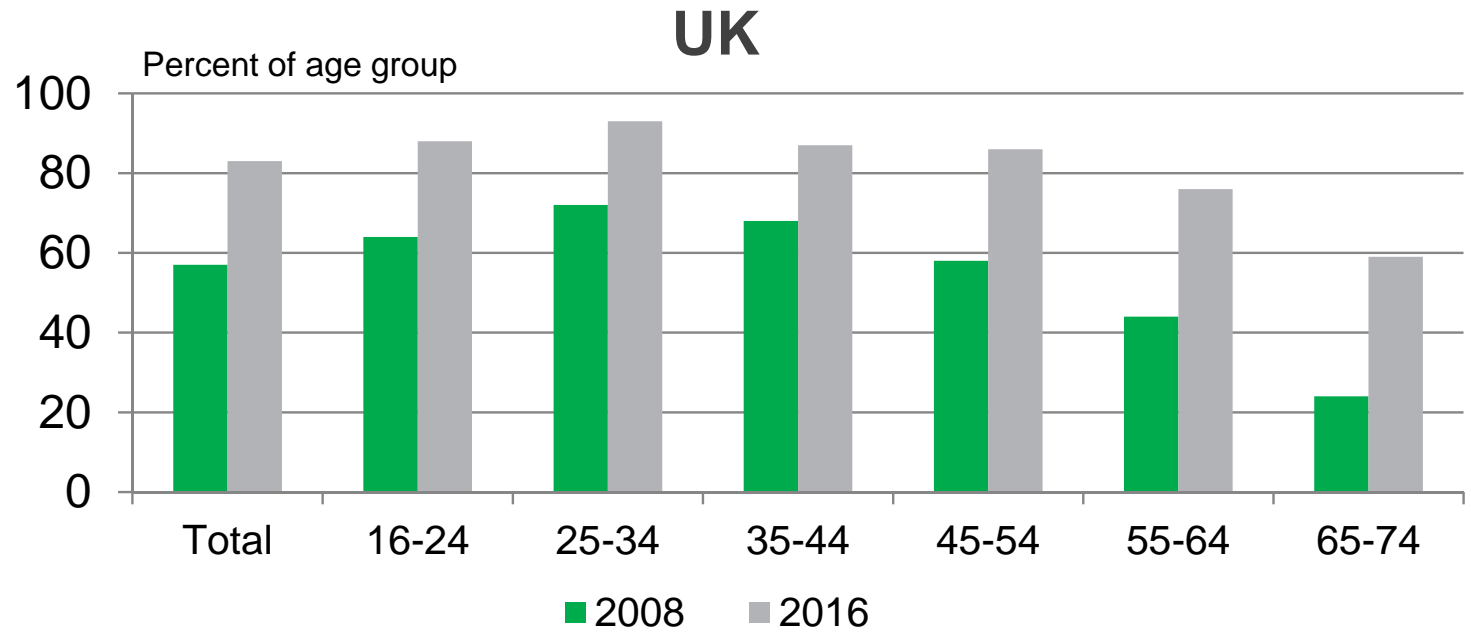


Western Europe: Real consumer spending



Western Europe: Younger consumers go online

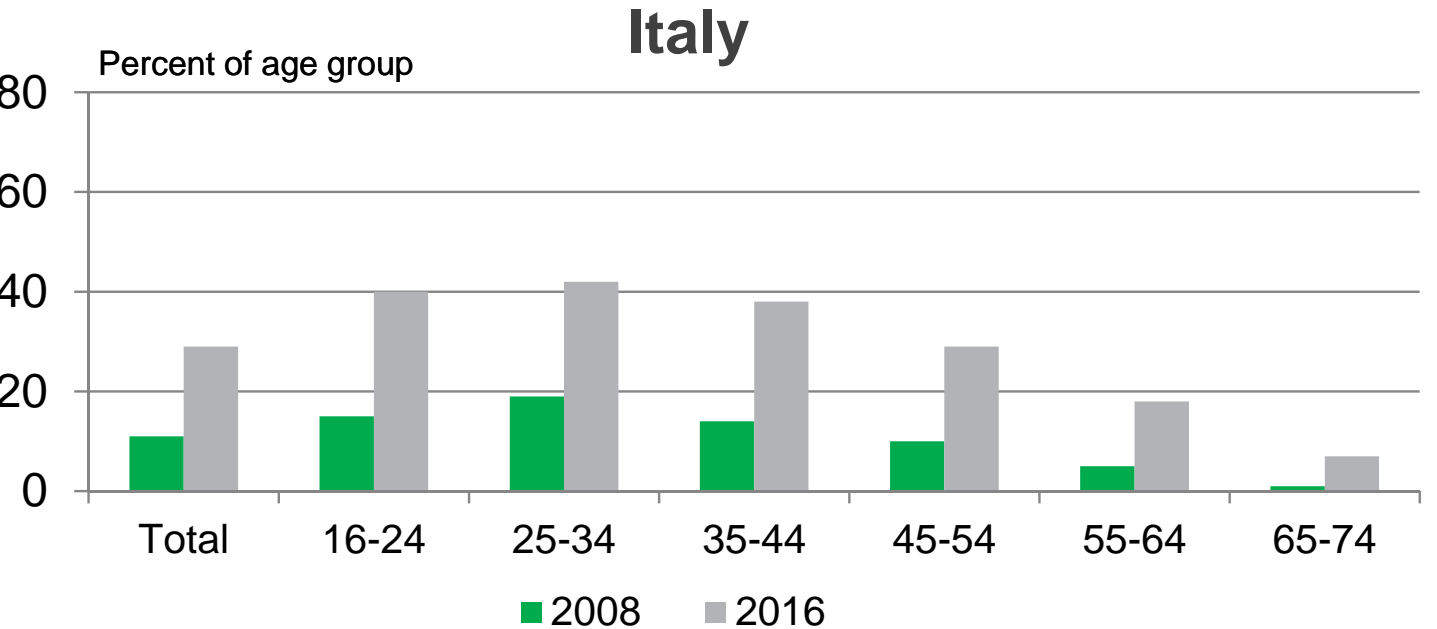
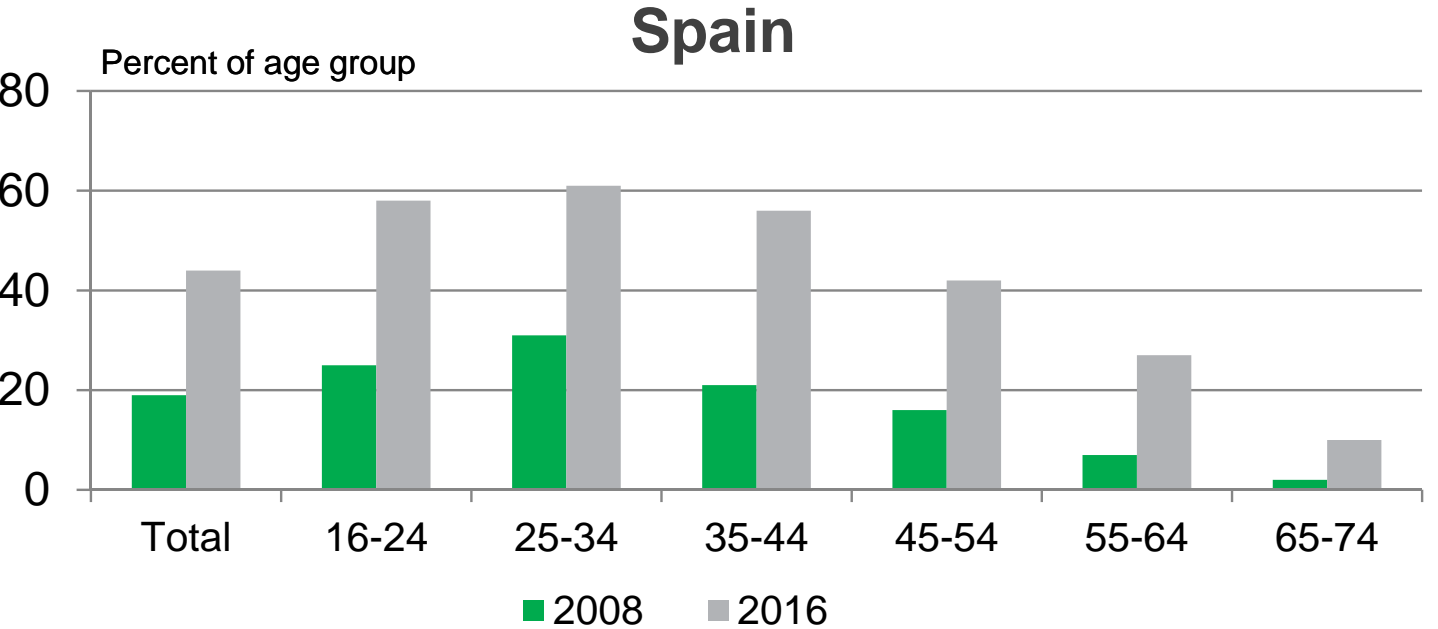
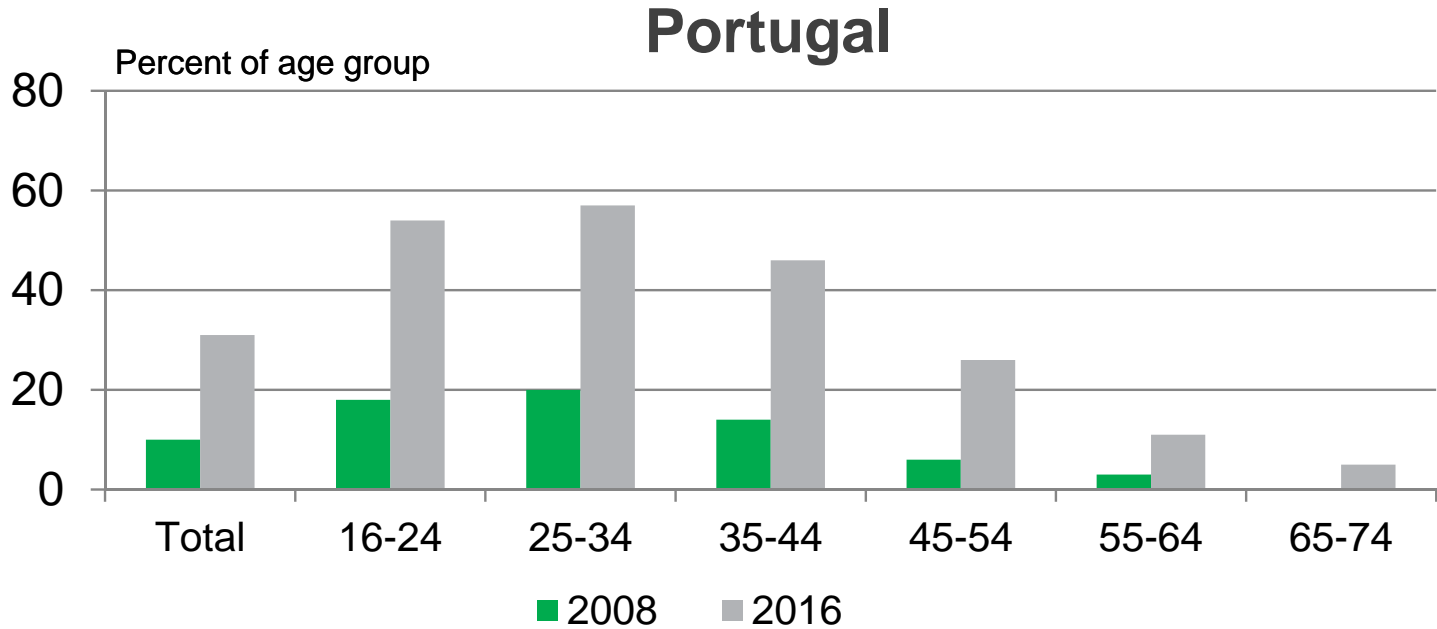
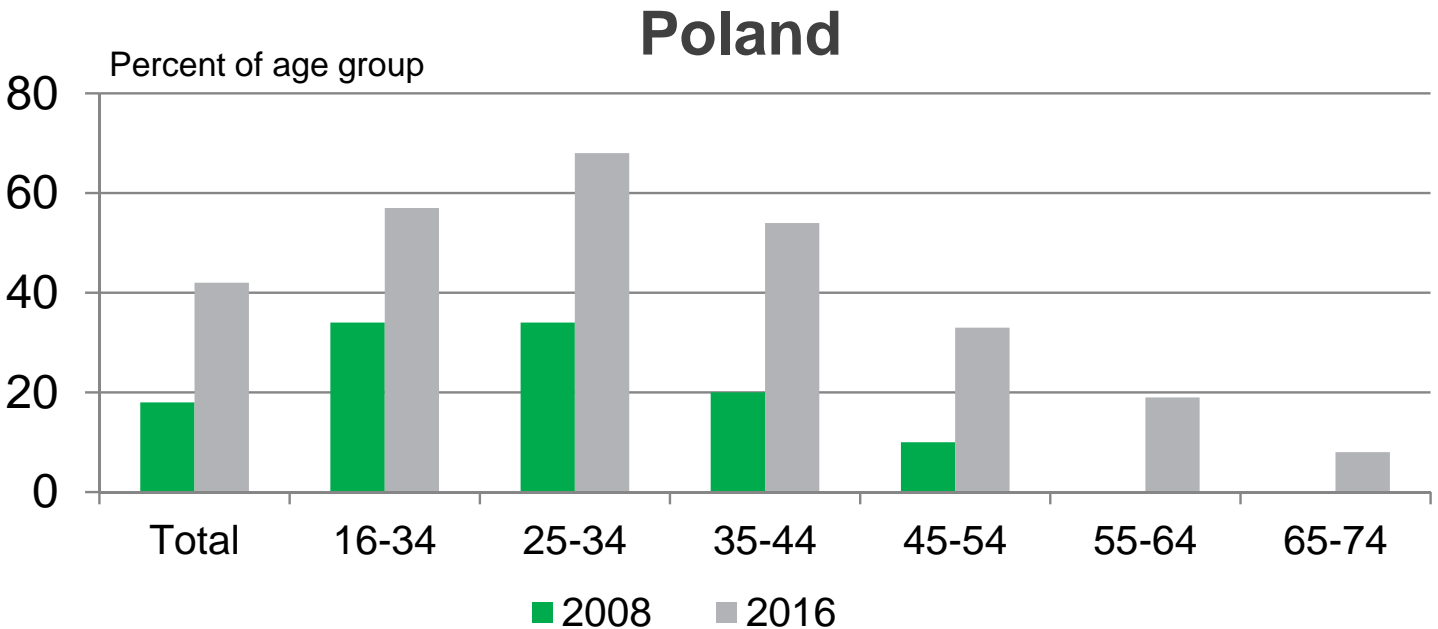
(Percent of individuals with at least one online purchase over the year)



Source: Eurostat

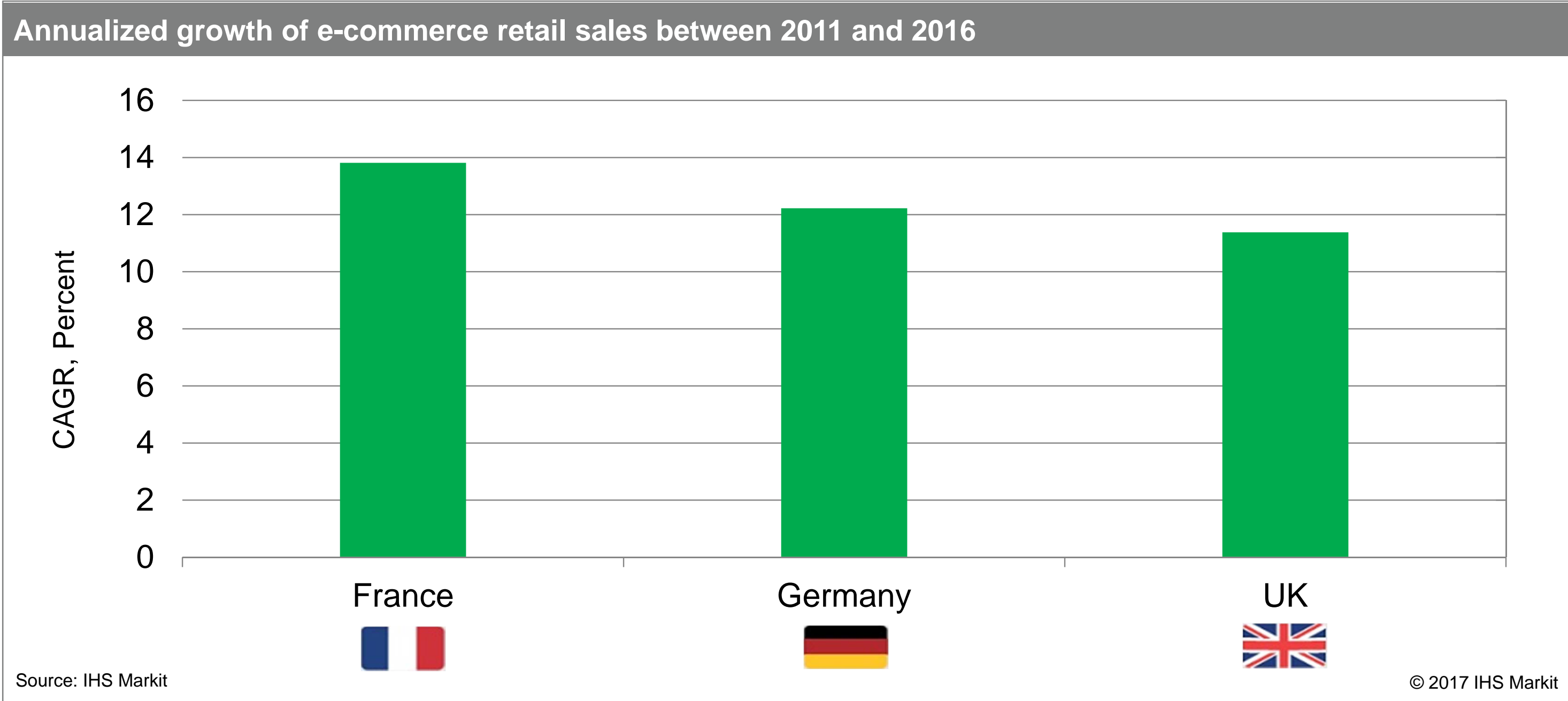
Europe: Poland showing growth, Italy lagging

(Percent of individuals with at least one online purchase over the year)

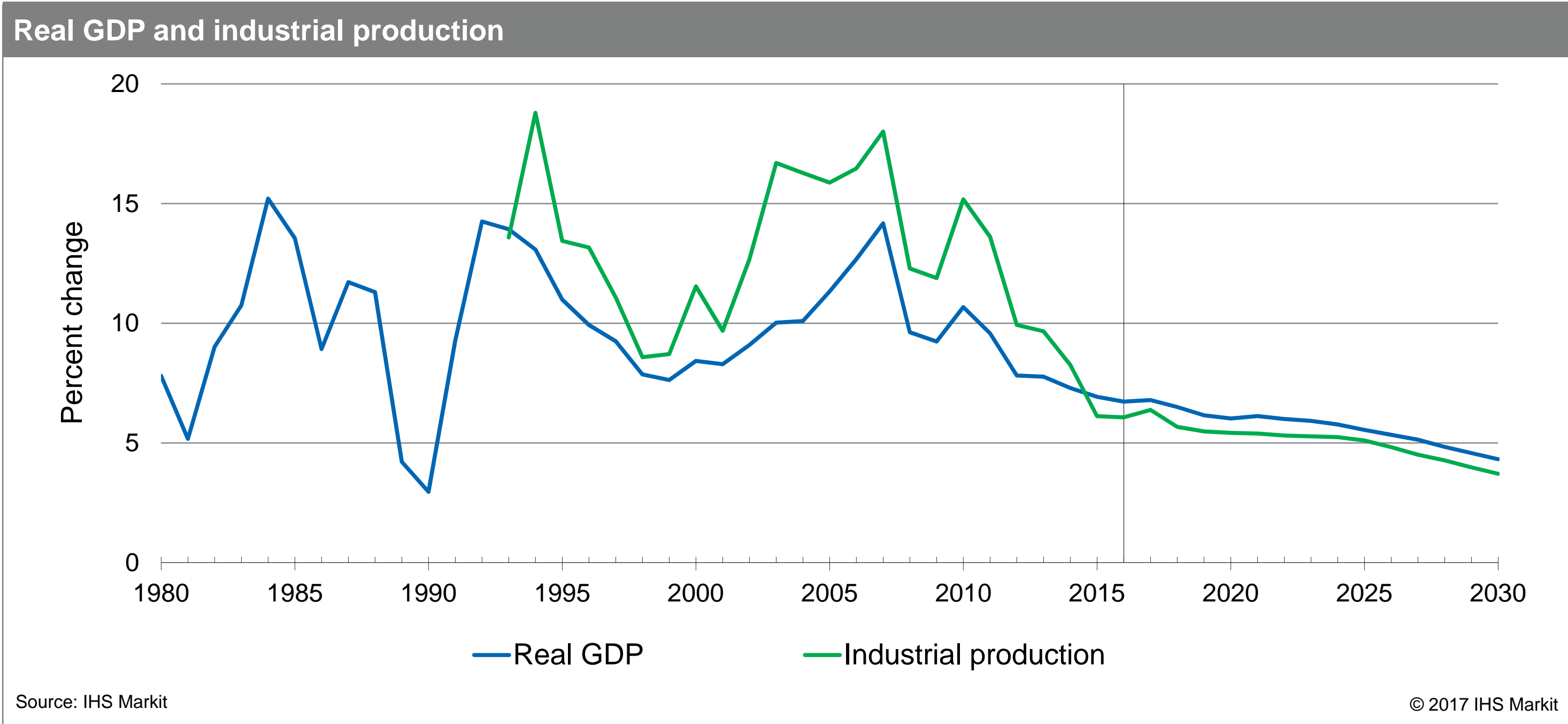


Source: Eurostat

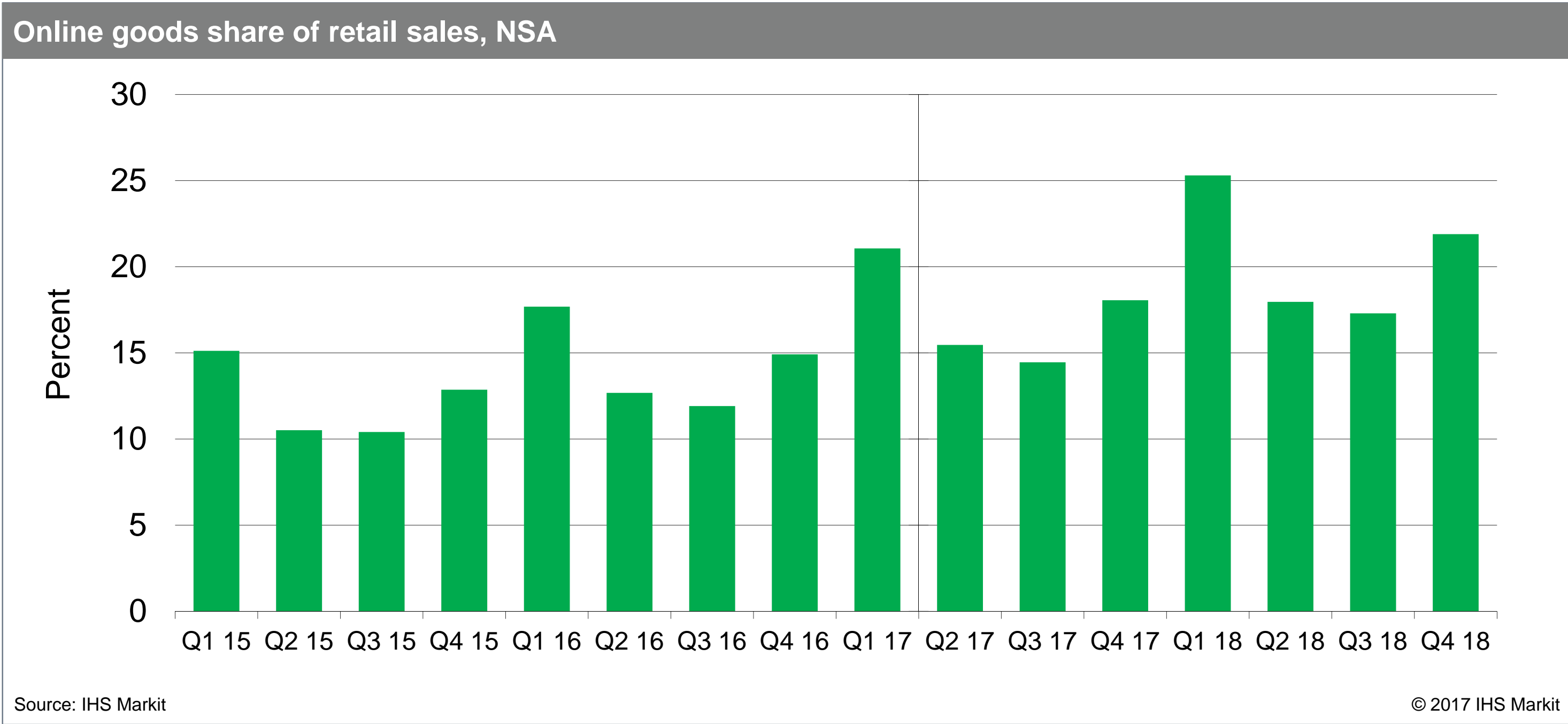
Growth of e-commerce in Europe



China's economic growth will downshift in the long run



China's online goods share of retail sales is expanding



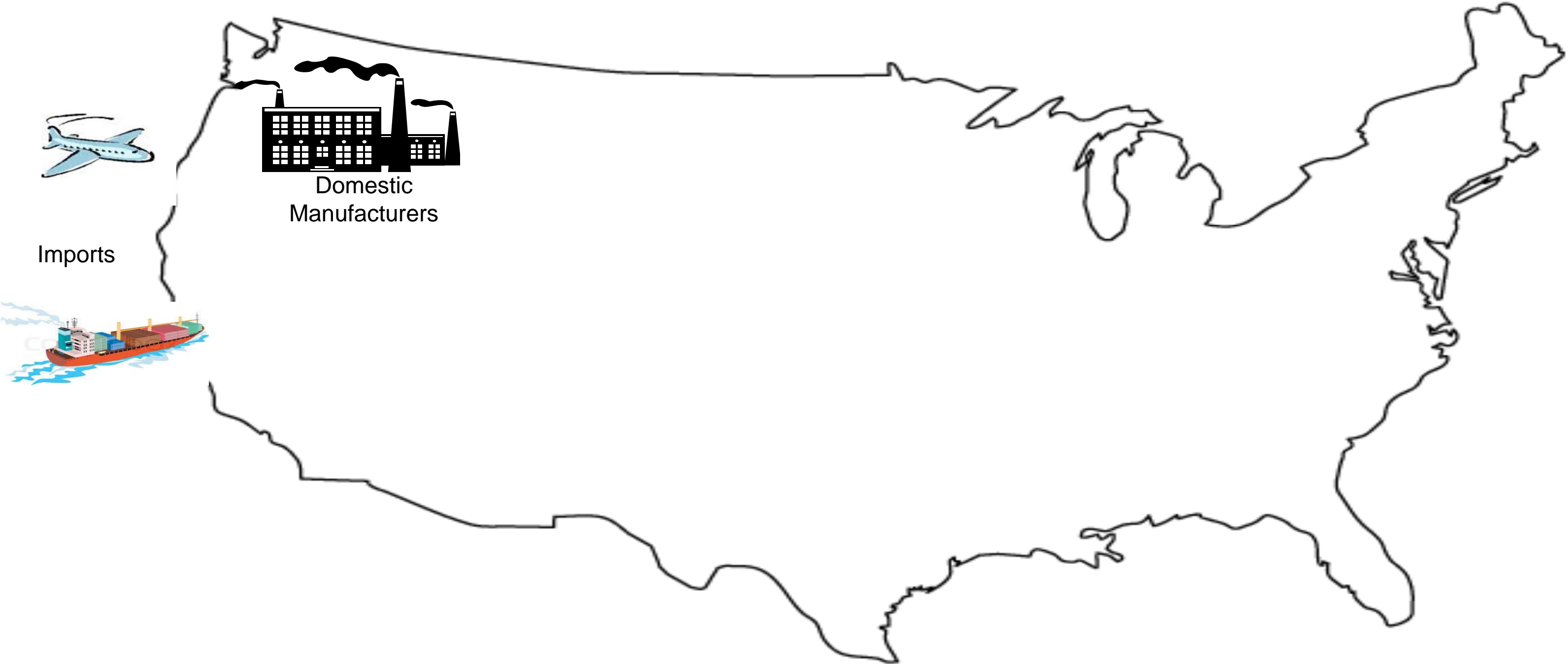
US e-commerce and logistics

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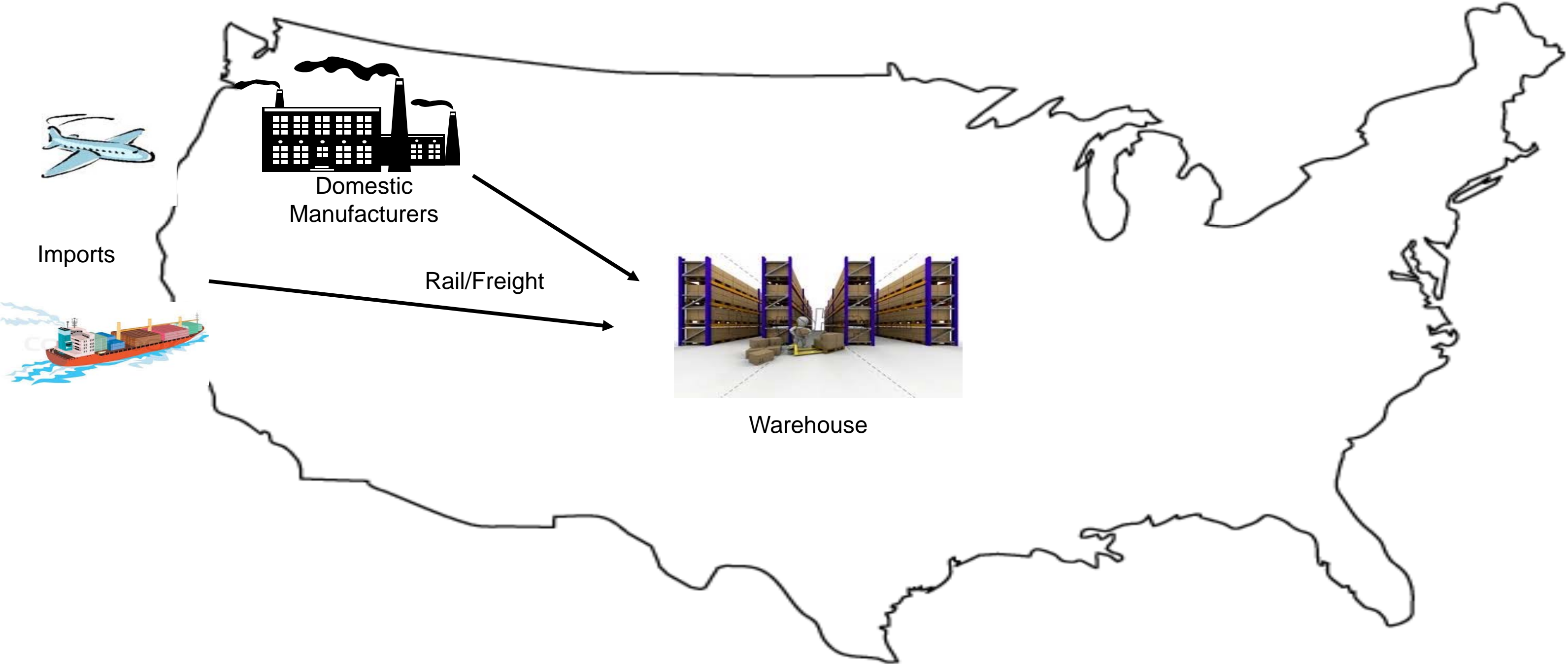
E-commerce has transformed the retail space, with important implications for supply chains and logistics

- E-commerce sales have grown at a rapid pace over the past 15 years, steadily gaining share in the retail space
- The rise of e-commerce has caused significant shifts in retail strategies and in the information available to end consumers
- These shifts have led to changes in traditional supply chains as businesses evolve to address e-commerce demand

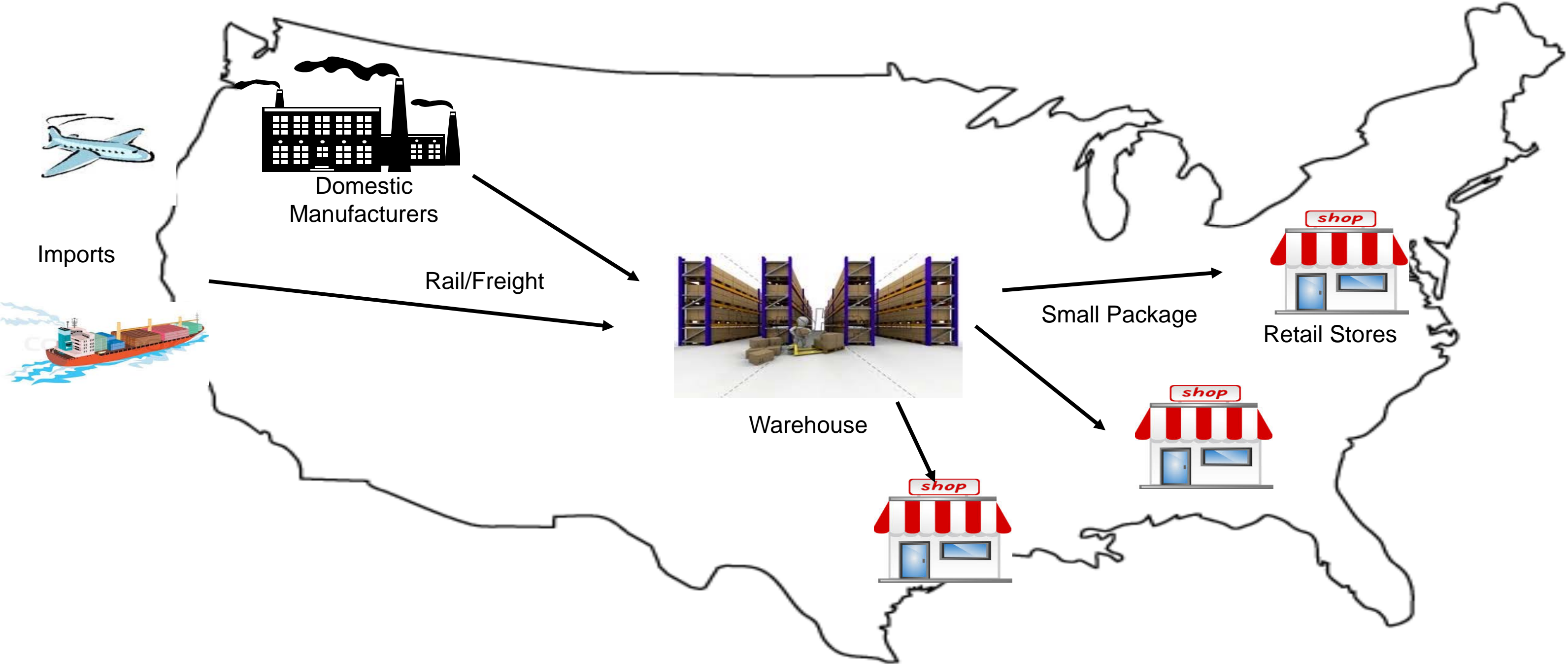
Traditional supply chains



Traditional supply chains



Traditional supply chains



E-commerce has disrupted traditional supply chains

Final Delivery

Speed

Price Sensitivity

Surging e-commerce has driven the rise in B2C transportation

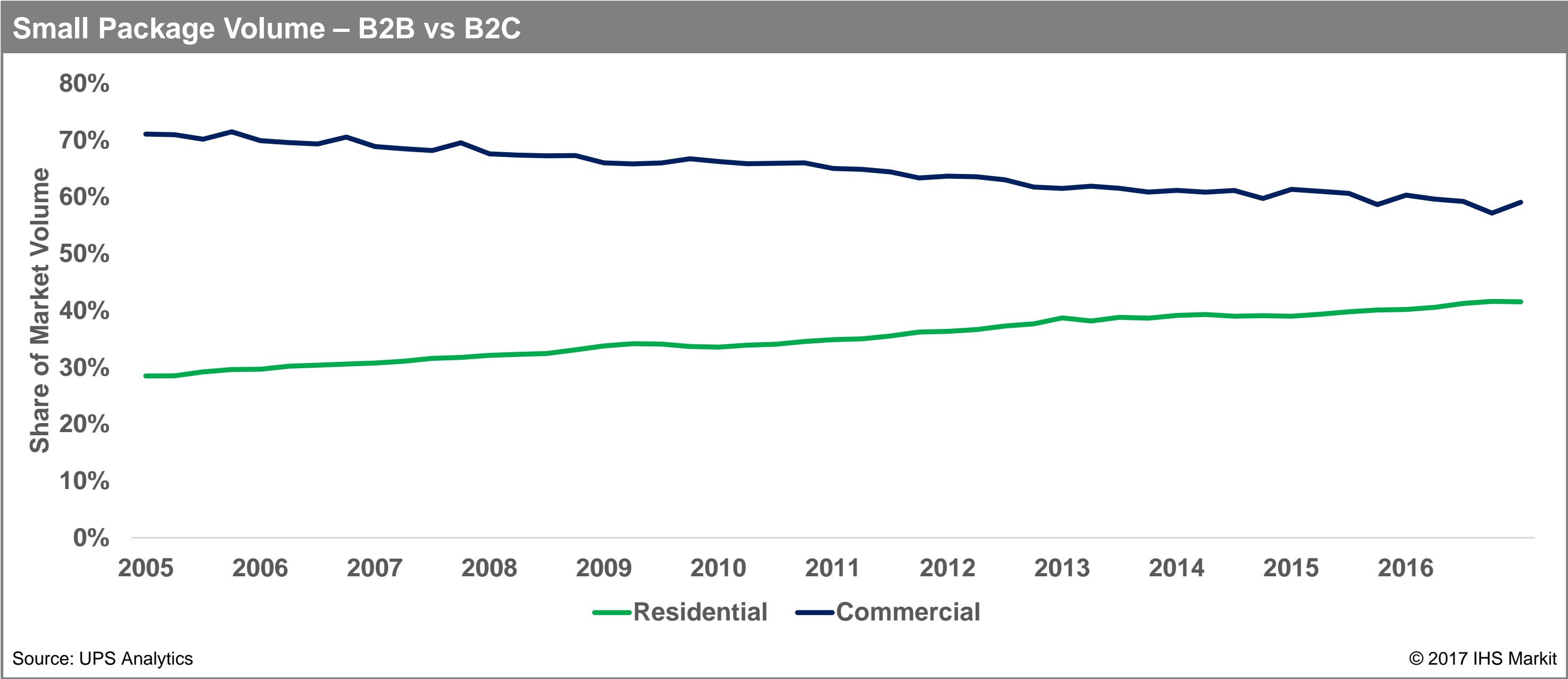
Final Delivery

Speed

Price Sensitivity

- In a traditional retail experience, the final delivery takes place at the retail store location, typically from a warehouse or wholesaler
- These shipments usually occur through commercial small-package shipments, LTL (less than truckload), or TL (truckload) shipments
- E-commerce shipments predominantly end at residential locations via small package, which can be more costly to deliver

Rising e-commerce will likely lead to a majority residential market in upcoming years



Businesses have increasingly competed on speed to gain advantage in the marketplace

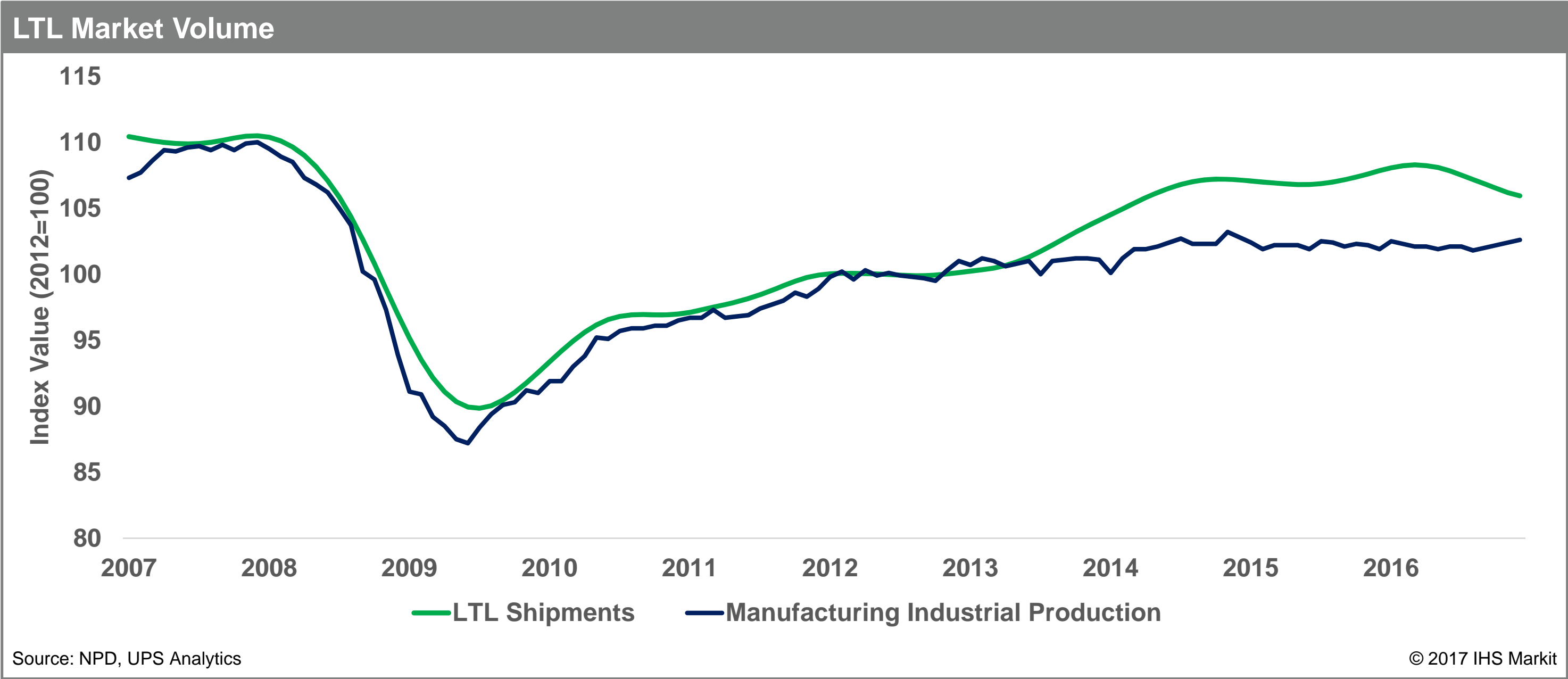
Final Delivery

Speed

Price Sensitivity

- In recent years, e-commerce retailers have put a greater emphasis on speed of delivery
- As a result, retailers have increasingly set up warehouses/fulfillment centers located near major customer bases
- This leads to higher warehousing costs for businesses and shifts in the types of shipments used to transport goods

LTL shipments have done well in recent years as firms aim to locate fulfillment centers closer to customers



Free-flowing information has made consumers increasingly price sensitive

Final Delivery

Speed

Price Sensitivity

- E-commerce has allowed for rapid price comparisons by consumers, leaving retailers with little pricing power
- Many retailers have to keep both a physical and online presence, putting upward pressure on costs
- Retailers have reduced their physical presence and kept inventories lean, relying on omnichannel solutions for in-store customers

Store closings are projected to exceed recession levels



Retailers have kept inventories lean as omnichannel strategies have evolved



Summary

- The rise of e-commerce has placed traditional retailers in a difficult position, intensifying competition as consumers enjoy greater information
- Businesses have been tasked with delivering an e-commerce solution that gets products to consumers quickly at a low price
- In response, retailers have adjusted their supply chains, altering transportation and warehousing demands
- The retail environment continues to evolve, with businesses constantly adjusting their practices to meet changing consumer preferences

What are the drivers of China's supply chain?

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Four shifts driving China's supply chain



Four shifts driving China's supply chain

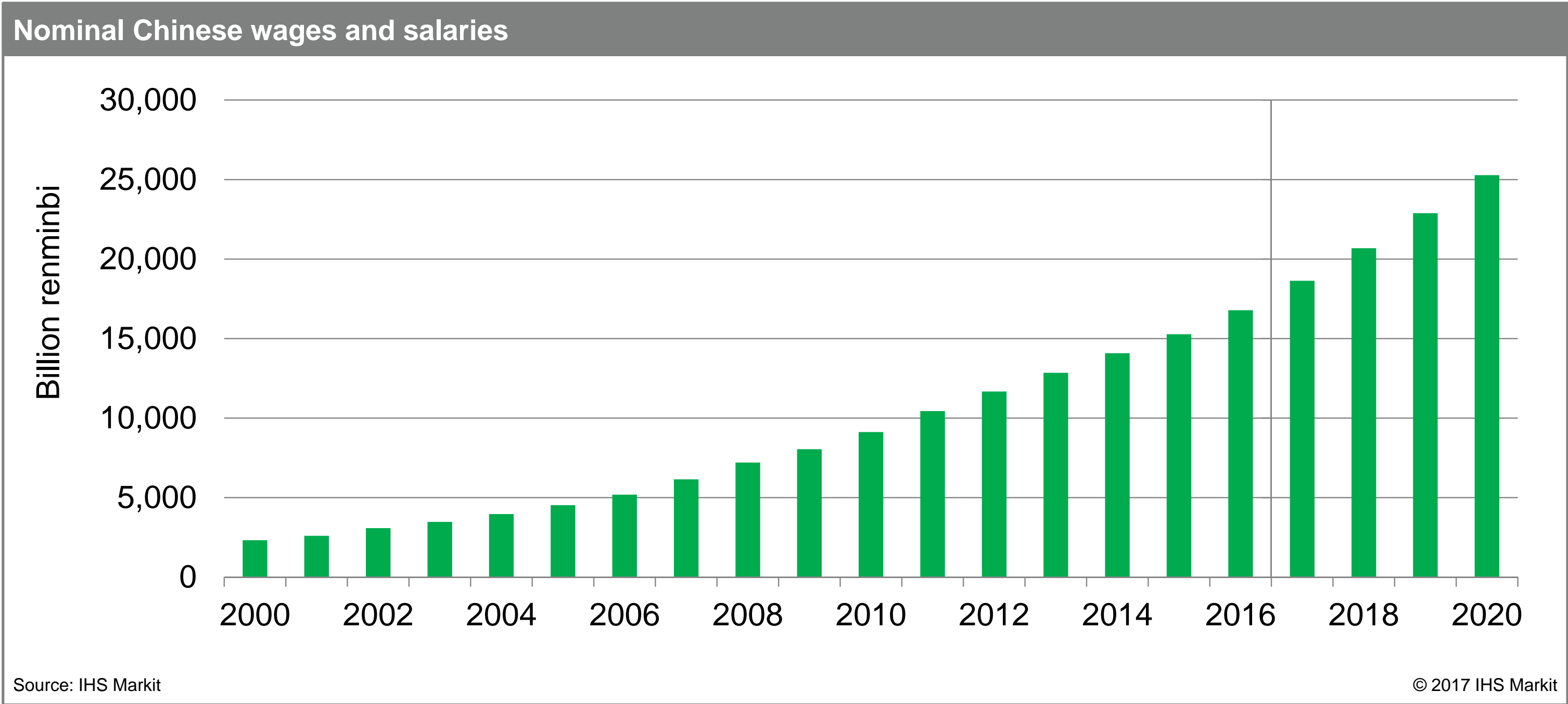
- Labor costs
- Production methods and location
- Consumer demographics
- Consumption patterns: e-commerce

1st Shift: Labor costs

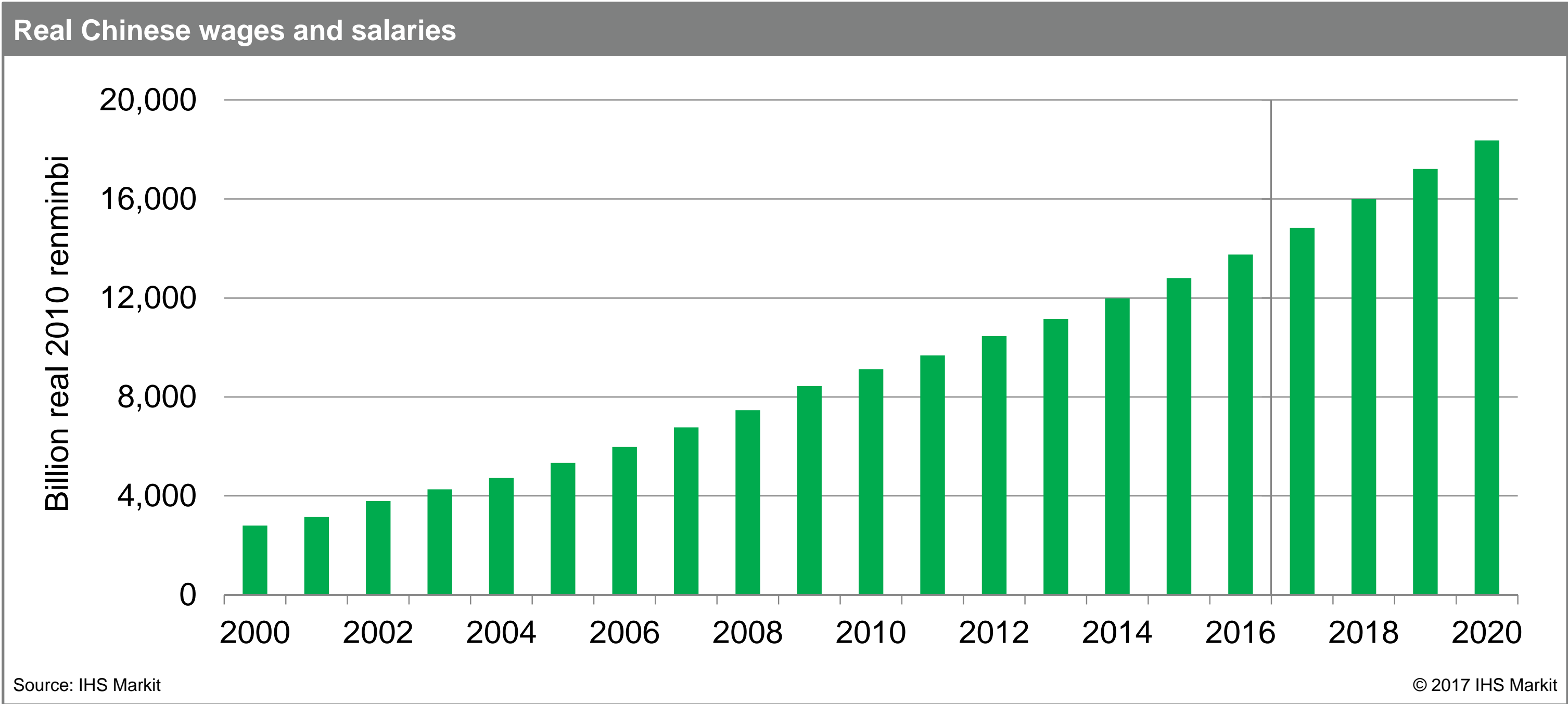
The end of low-cost labor?



Chinese wages and salaries will increase by more than 11 percent in 2017



Chinese real wages and salaries will increase by 8 percent in 2017



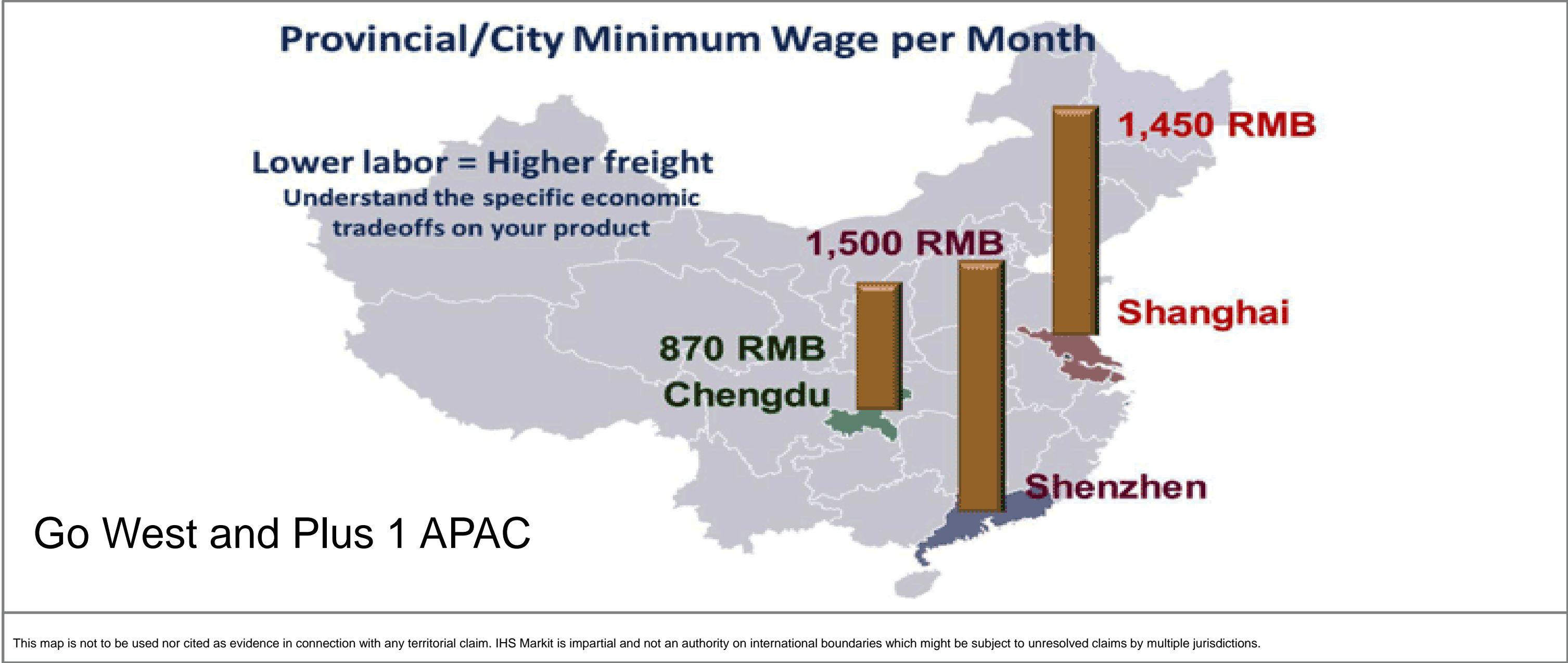
2nd Shift: Production methods

The end of low-cost labor?

Chinese manufacturers coming to the US?



2nd Shift: Production location

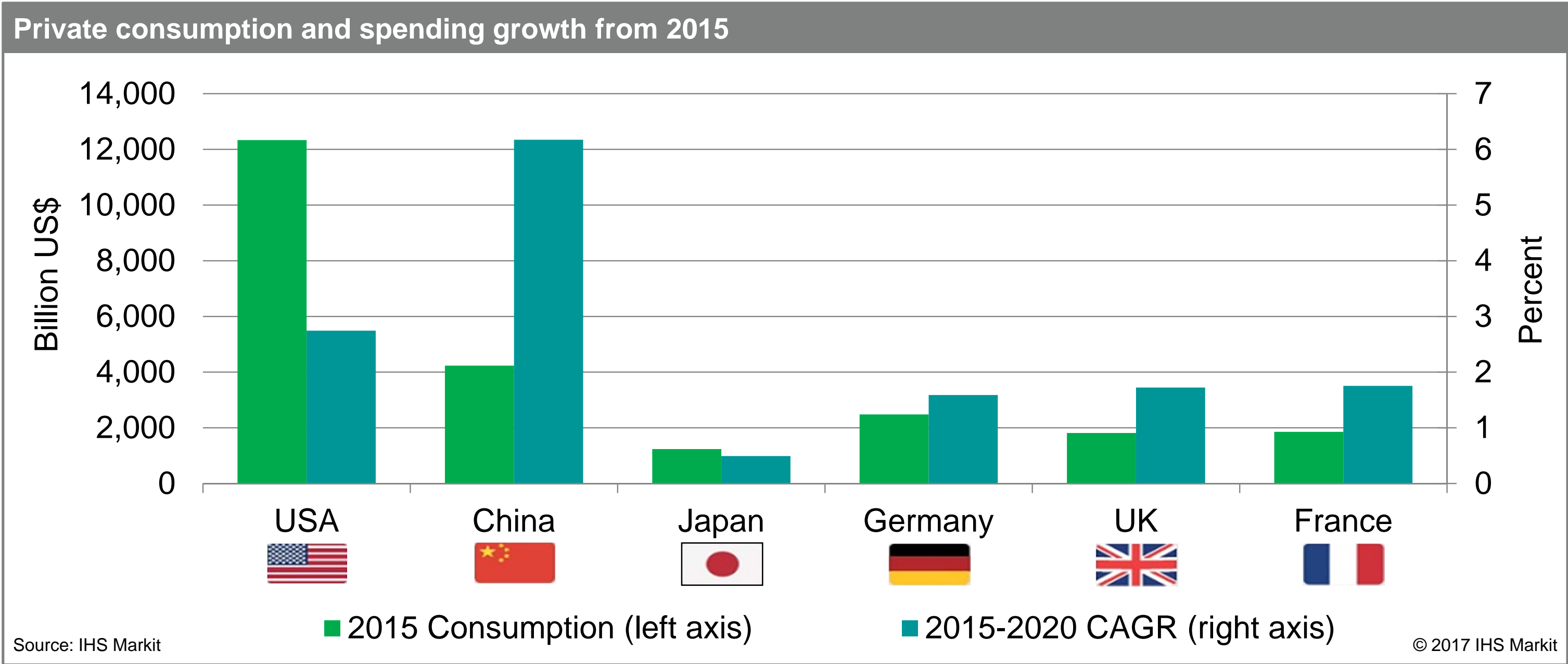


3rd Shift: Consumer demographics

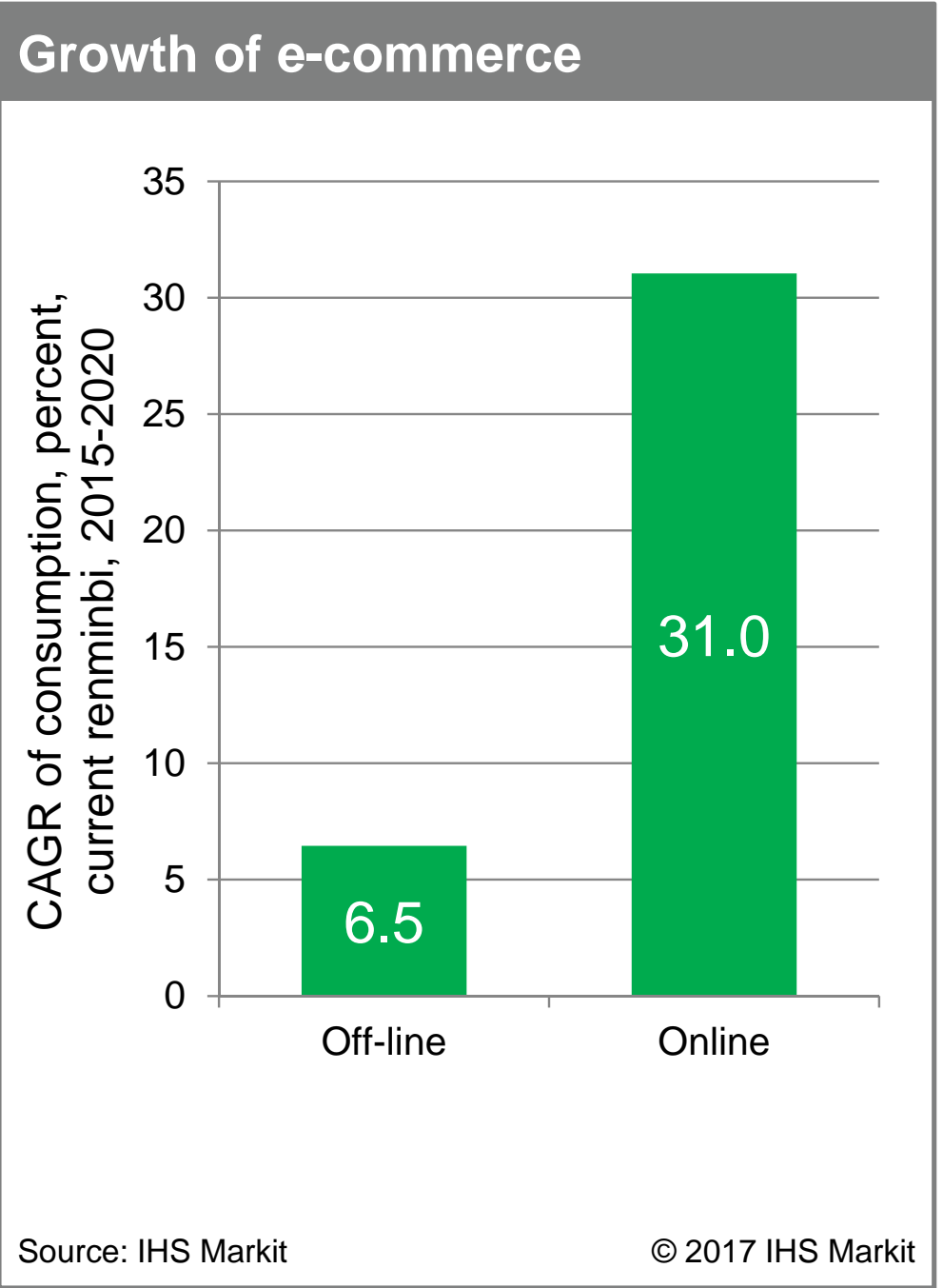
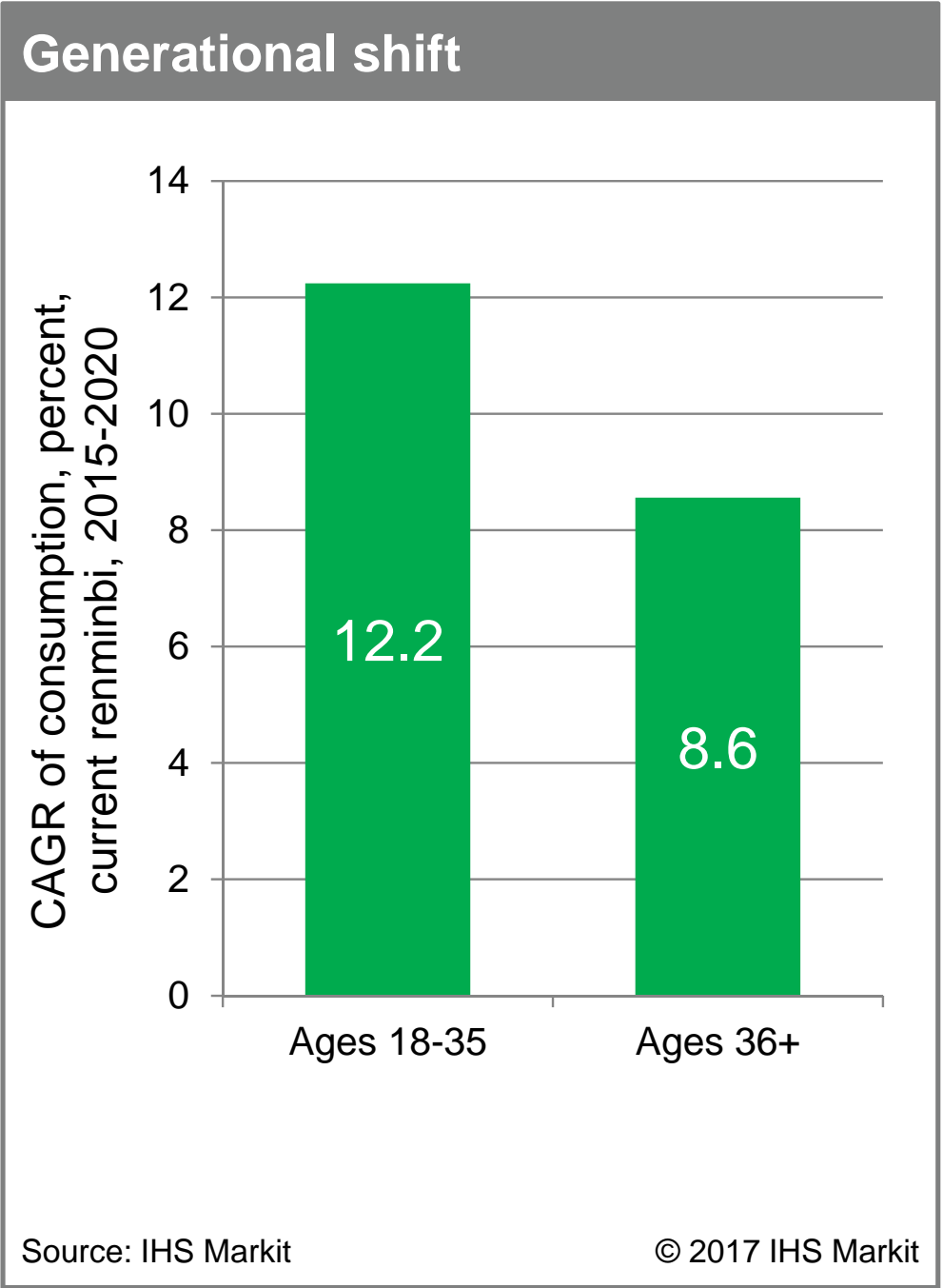
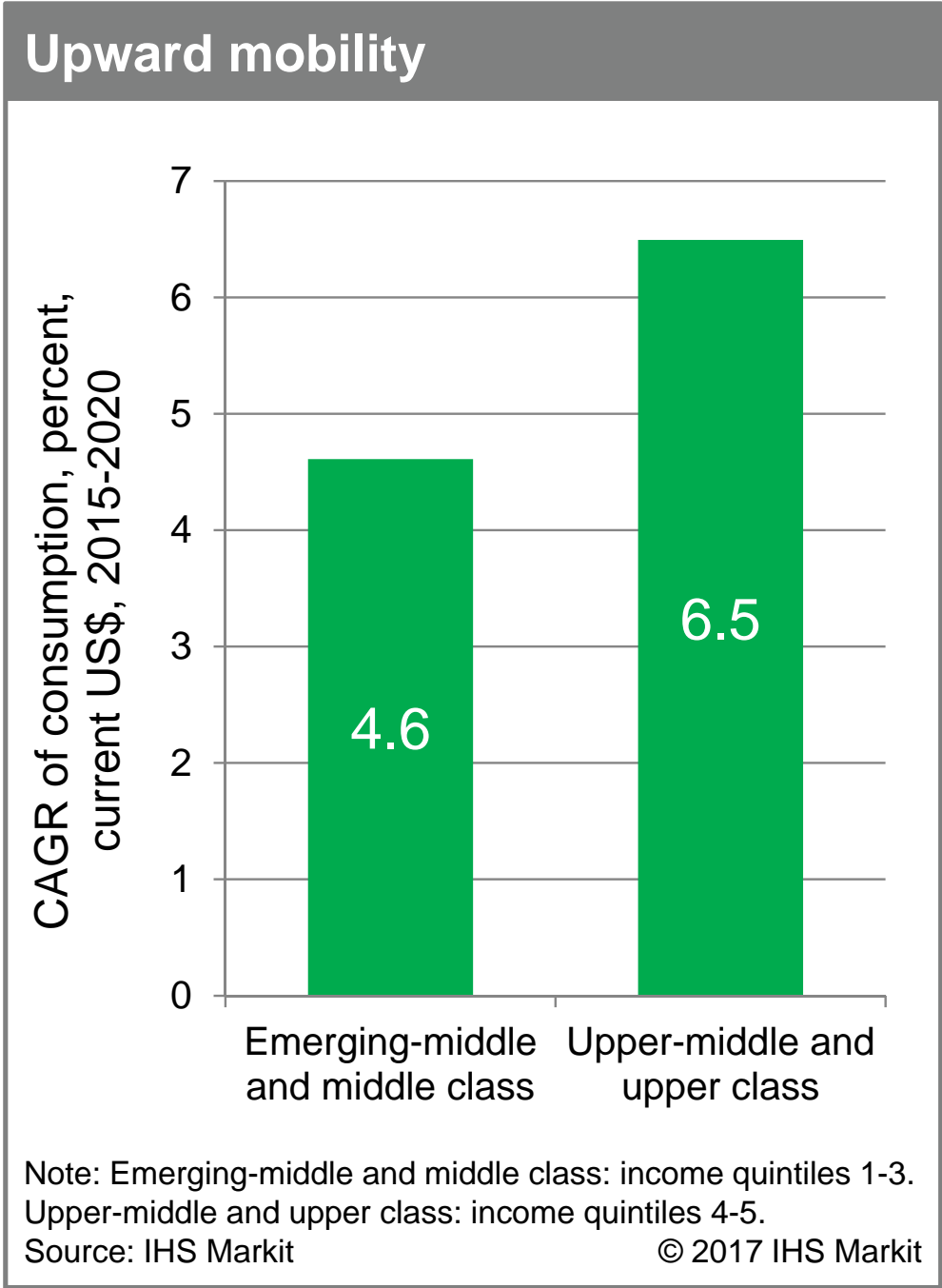
Producer AND consumer



By 2020, Chinese consumption will have grown by \$1.4 trillion – even as GDP growth slows



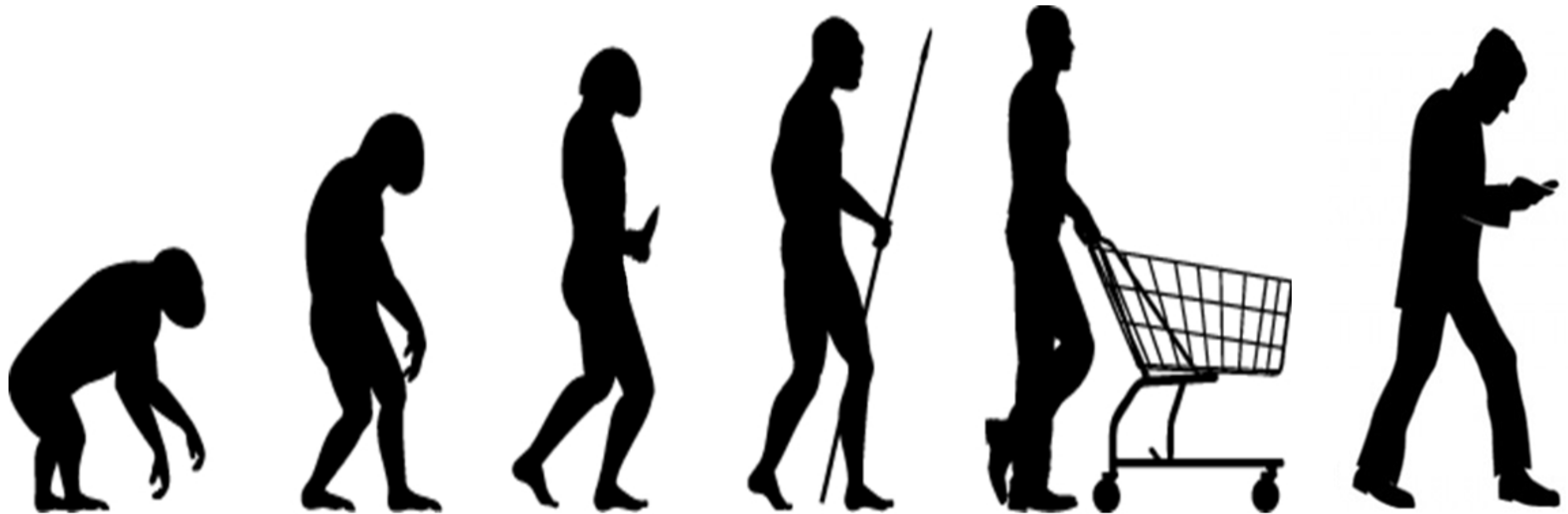
Three forces of change are creating a two-speed economy in China



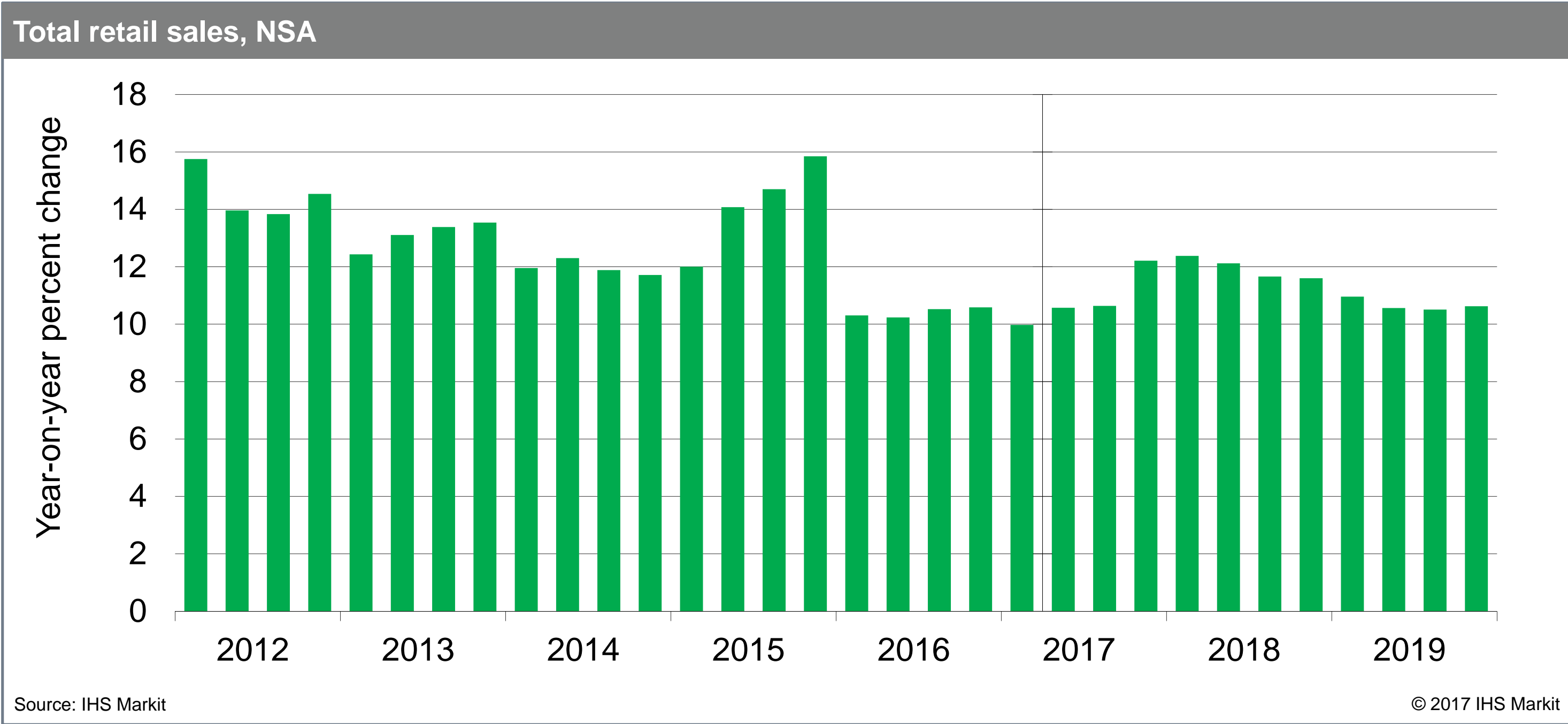
4th Shift: Consumption patterns

Evolution of the Chinese consumer

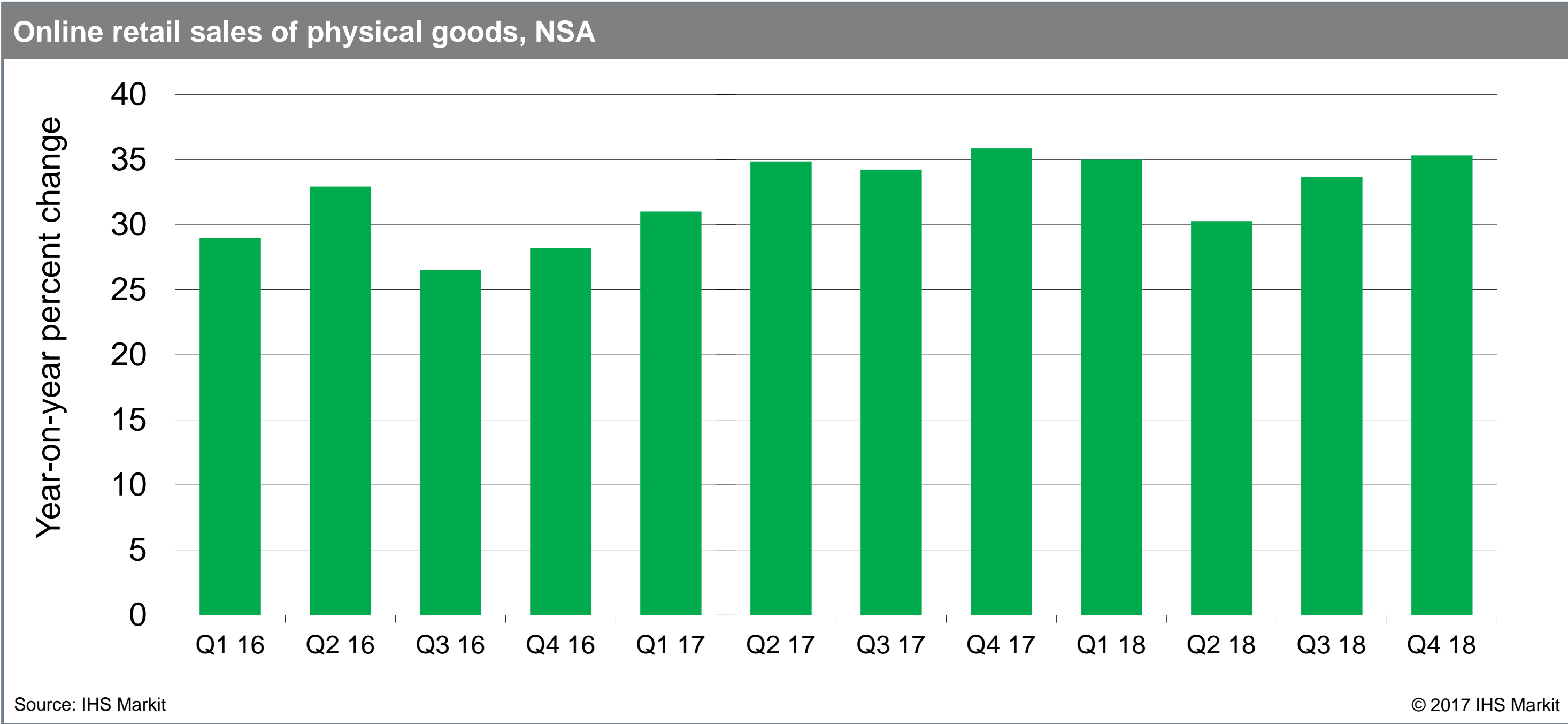
From EPZ to e-commerce



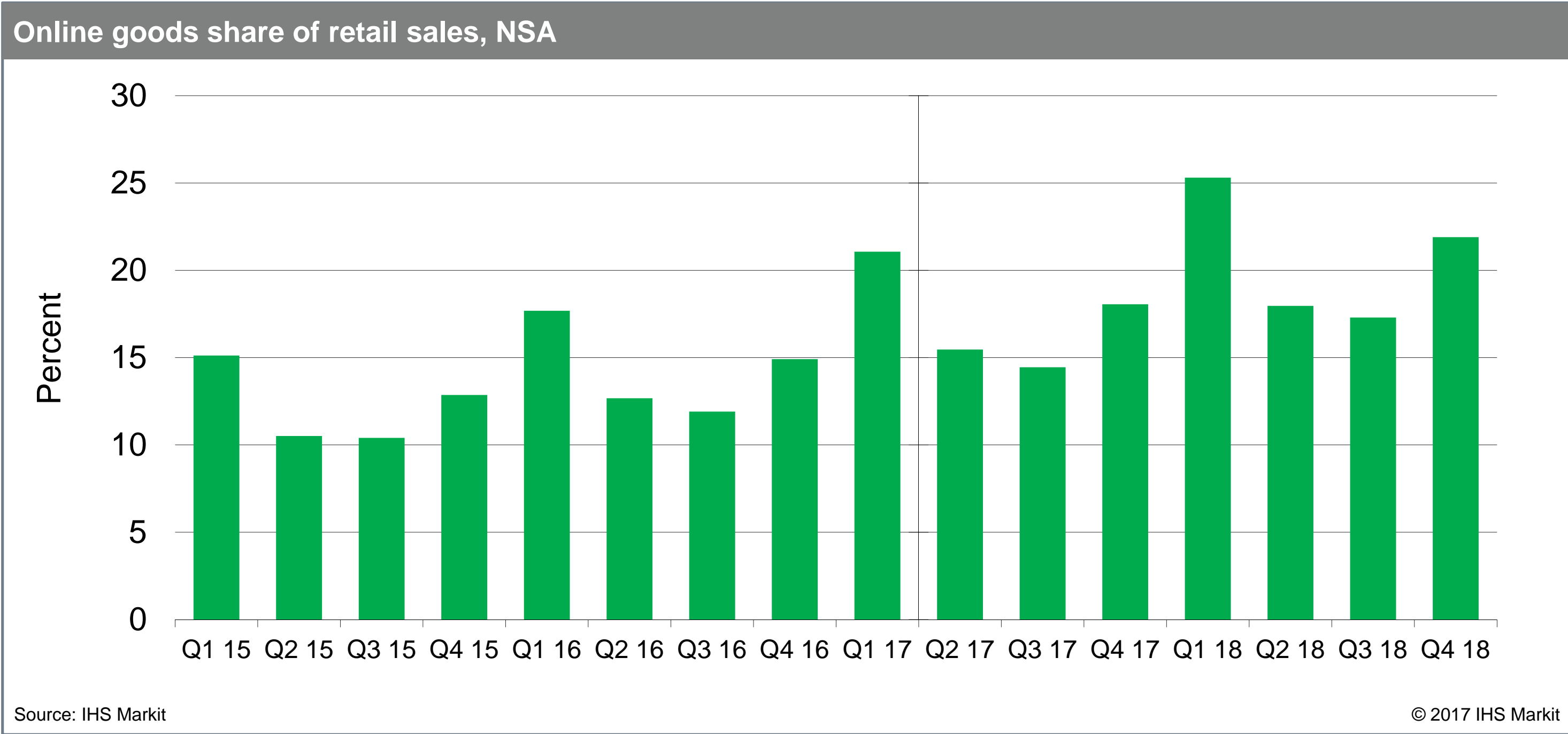
Total Chinese retail sales growth rate is hovering around 10%



Meanwhile, growth of online retail sales of goods is three times stronger



China's online goods share of retail sales is expanding



4th Shift: Consumption patterns

More e-commerce sales in one day in China than 1 year in Brazil!

Singles' Day rang up an eye-popping \$17.8 billion in sales

82% of 11.11 sales were mobile

27% of purchases were from international brands or merchants

75% of those on the Tmall app are under 35

