

HAS ANYONE NOTICED THAT ONLINE SALES GROWTH IS SLOWING?

Would you believe us if we said the growth rate of U.S. online retail sales has slowed notably over the last three quarters? It seems improbable given the ongoing carnage in store-based retailing in 2019, but it's true. For the first time since the end of the recession, online retail sales growth has decelerated for a considerable stretch of time. It's hard to know exactly what to make of this abrupt growth slowdown, as overall retail sales growth has slowed as well. With online sales growth (YOY) still in the low double-digits, such worrisome talk might seem alarmist. After all, the migration of retail sales to the online channel is very much a story in progress that still has years to run. However, if online sales growth has indeed reached an inflection point (and we're not absolutely certain it has), this has big implications for the potential of the online channel in terms of its ultimate market share, which we'll discuss shortly. For years, it has been taken as an article of faith that online retail sales will grow at mid-teen rates indefinitely. It may be time to question that belief. (Note that we use the terms "online" and "e-commerce" interchangeably throughout this report, and that they refer to sales transactions consummated online by shoppers for retail goods from storebased, catalog or web-only retailers.)

Just when it seemed that U.S. shoppers were finally emerging from a multi-year funk, consumer spending growth unexpectedly pulled back to modest levels again beginning in the second-half of 2018 for no obvious reason, with retail sales growth (YOY) downshifting from a robust 5%-6% in early to mid-2018 to the mid-3% range later in the year. Several developments may have contributed to consumers' spending skittishness, including the looming government shutdown that materialized in December, the escalation of trade tensions and tariffs, and a sharp sell-off in financial markets in late 2018, but none alone could explain why most shoppers suddenly decided to curtail their spending heading into the back half of the year, including the all-important holiday season. More confounding, the U.S. economy has remained fairly healthy on balance, with only the lingering impact of tariffs and trade tensions persisting today, yet spending sluggishness has endured through the first half of 2019. This consumer spending growth slowdown is unlike any other we have experienced this decade in one critical respect — it has dented online spending growth as well.

Online retail sales growth in the mid-teens (14%-17% YOY) has been as consistent and reliable this decade as the chances of the New England Patriots making the playoffs. This has been true even in years when overall retail sales were sluggish, such as the period 2015-2016 (see **Exhibit 1**). But the script was flipped in mid-2018 when online sales growth began to decelerate towards the low-12% vicinity in the most recent two quarters. In fact, the mathematical difference between online sales growth and store-based growth recently approached its lowest point of the decade (**Exhibit 1**), meaning that online sales growth has fallen

more sharply than store-based growth in recent quarters. That's highly unusual and lacks a simple explanation. It's tempting to pin at least some of the blame for this on the volatility in financial markets, as hardcore online shoppers tend to be from more affluent households. However, this reasoning seems less plausible with financial markets having fully recovered in 2019 and flirting with all-time highs without a corresponding rebound in online sales growth.

It's time to consider the possibility that online sales growth has hit a natural inflection point at which growth inevitability slows simply by virtue of its underlying size, which topped \$500 billion in 2018. We are fond of saying that trees don't grow up to the sky, meaning that exponential growth cannot continue indefinitely. High growth is easy when something is small but becomes increasingly difficult as that thing becomes larger. That's nature. There may be nothing wrong at all with online sales except the inevitable encounter with natural growth limits. If that's the case, then this development has meaningful implications for the remaining growth trajectory of the online channel and its final ceiling.

EXHIBIT 1

Retail Sales Growth: Store-based vs. E-Commerce



Source: U.S. Census Bureau and FTI analysis

A REFLECTION ON INFLECTION

During the first two decades of e-commerce, while entrepreneurs and retail executives were working feverishly to transform their industry, the forecast horizon for most predictions of online sales from the armchair punditry was centered on the near-term future. There simply wasn't enough data history or deep insight into consumer adaptation to ponder the truly metaphysical questions about e-commerce — namely, where is all of this going, and how long will it take to get there? Forecast models that dared to venture into the distant future of e-commerce mostly were mathematical abstractions predicated on consumer adoption

patterns of game-changing products such as cell phones or flat-screen televisions, which weren't necessarily relevant to online shopping but provided a useable template. Nobody really knew where this journey was going, but we were well on our way. That lack of visibility has begun to change in the last few years. Today there is sufficient statistical evidence and accumulated wisdom to hazard credible predictions about the ultimate destination of e-commerce retailing. That distant shoreline is still miles away, but the rough contours of it are coming into sight.

With nearly 20 years of historical e-commerce retail sales data at our disposal - both in the aggregate and by major product category - we can reasonably forecast online sales over the next decade via extrapolation, that is, from the historical data itself, assuming it conforms to the general model of logistic growth (or the S-curve), as we have pointed out in previous years. The logistic curve best describes the growth pattern of many naturally occurring phenomena as well as the adoption of technological innovations. The elegance of a logistic growth curve, regardless of its particular shape, is its symmetry around its inflection point — that moment when growth begins to decelerate and the concavity of the curve changes from up to down. Its utility as a predictive model derives from this symmetry, an attribute

that is particularly useful in forecasting: If you have just half of the curve then you'll know what the other half will look like, more or less. Reaching an inflection point is a defining moment in the natural life of anything whose growth trajectory is best described by a logistic growth curve. How do you know when you have reached an inflection point? It has occurred when it's evident that the logistic curve has begun to "bend back" and starts to form the upper half of its S-shape. An example is shown in **Exhibit 2**, where we plot the number of Americans with broadband internet access, which hit an inflection point in 2007.

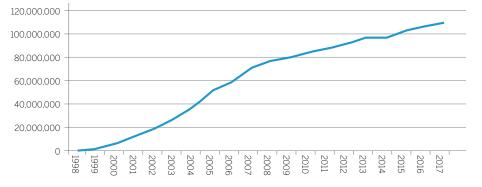
For omni-channel retailers, recognizing the inflection points for their product categories should impact business planning decisions. The failure to do so could result in over-investment in costly online expansion projects, such as distribution centers and logistics support, under a potentially erroneous assumption that high growth rates are sustainable for a prolonged period.

FTI CONSULTING'S 2019 ONLINE RETAIL FORECAST

Our forecast model for U.S. e-commerce retail sales in the aggregate indicates that online sales growth may have hit an inflection point and may experience decelerating growth going forward. However, it is by no means yet a certainty. An exception would be if the online spending slowdown were an early indicator of a pending recession, which would be a cyclical phenomenon rather than a secular one. We would need to see another two or three quarters of slowing online sales growth in the absence of recession to believe strongly that an inflection point has been reached. If so, we reiterate that there is nothing ominous about it. It's like realizing that your teenager won't be a power forward on his college basketball team because he isn't growing nearly as fast at the age of 17 as he was when he was 15. You just have to account for it. Not to worry - U.S. online retail sales will be a trilliondollar category by 2025, though all of our annual estimates have come down a bit compared to last year. We expect U.S. online retail sales will be \$575 billion in 2019 compared to \$513 billion in 2018, a 12.3% increase, then reach \$645 billion in 2020, a 12.1% increase, U.S. online sales of \$513 billion in 2018 missed our forecast of \$522 billion due to slowing online growth in the back half of 2018. Our forecast model implies a CAGR of nearly 9.0% over the next decade and maintains that e-commerce will achieve a market share of total retail sales (excluding auto and gas) of 21% by 2025 vs. 15% in 2019 and ultimately approach a forecast market share ceiling of 25% towards the end of next decade. By our estimate, the e-commerce channel captured about 43% of total retail sales growth in 2018 and continues to grow its market share by just over one percentage point annually, though that share gain is now decelerating.

Going forward we expect more retail analysts will be weighing in on the topic of the online channel's event horizon and how we get there. The vast abundance of historical online sales data and trends makes it too hard to resist such prognostications. The end is not nigh for e-commerce, but it is remotely visible.

EXHIBIT 2 U.S. Broadband Subscriptions



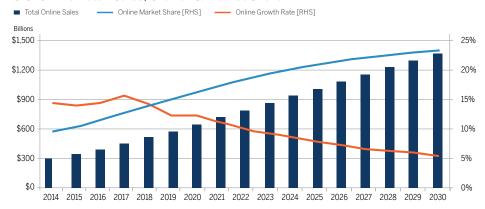
Source: The World Bank

We have seen some higher estimates of e-commerce market share potential from other analysts, but we go where the math takes us. Certainly, e-commerce market share is already above 20% in several product categories, but we are looking at the totality of retail sales (again, excluding auto and gas). However, our analysis does include grocery, a very large product category (about \$750 billion) that we firmly believe won't ever achieve significant online market share. If we were to exclude the grocery category from our market share analysis, then the ceiling for e-commerce share is closer to 30%.

There are plenty of large omni-channel retailers already getting 20%-30% of their sales online. That is not to suggest they soon will be approaching some theoretical wall, though it's possible. It depends on their product categories and historical experiences and success with online retailing. Retailers should try to understand the unique S-curve(s) that underlie their own online business. But we will say this: Retailers that have a large percentage of their total sales (say, 20% or more) coming from the online channel without having taken meaningful market share in those product categories have likely disappointed shareholders. There are plenty of omni-channel retailers whose "success" online is achieving little more than shifting sales from their own stores, causing profitability to stagnate. Under this scenario, more aggressive store closings are required, something we've been calling attention to for quite a while.

In previous years we have also provided our online market share estimates for broad product categories, which we calculate based on e-commerce retail sales data collected by the U.S. Census Bureau and released annually in May in the Bureau's E-STATS report. The Census Bureau did not release that report this past May, telling us that this compilation was behind schedule (thanks a lot, government shutdown!) and would not

EXHIBIT 3 U.S. Online Retail Sales, Growth & Market Share



Source: U.S. Census Bureau and FTI analysis

be available until September. We cannot update our estimates of online market shares and projections by product category without this data from Census, so we'll provide a supplement to this report in autumn when that data is released and we have a chance to crunch the numbers.

AND WHAT ABOUT AMAZON?

No discussion about the state of online retailing would be complete without giving Amazon its due. With its fifth Prime Day, Amazon certainly seems intent on making this a permanent shopping holiday in mid-July to rival Black Friday, and other large retailers are rolling out their own competing deals. How many retailers can say they've created their own shopping holiday? Amazon began Prime Day as a way to boost Prime membership, which it certainly has done. Yet with an estimated 100 million U.S. Prime members according to Consumer Intelligence Research Partners, Amazon may soon encounter its own S-curve limits to that growth, which will then start to slow going forward. Incredibly, Amazon reported \$14 billion in Prime subscription fees in 2018 - an amount exceeding the total sales of JC Penney and its 900 department stores. Prime Day may

be starting to take on the feel of Black Friday's door-buster specials, with the best deals offered on select merchandise — mainly Amazon-branded stuff, and in limited quantities — and less fabulous deals on other brand-name merchandise. That's okay, though, as Amazon's branded product lineup continues to grow in breadth and popularity.

Prime Day is also a vital part of Amazon's strategy to ramp-up and prepare its distribution network for the back-to-school and holiday seasons. This provides two key benefits: It reduces the intense distribution center (DC) ramp-up by shifting some of these sales to July and it allows DCs to be stress-tested, both of which mitigate capacity constraints often experienced by retailers during the holiday season.

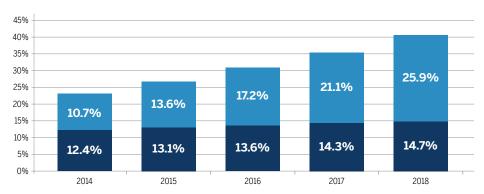
Amazon's dominance of the e-commerce realm is common knowledge. What is less well known is how dramatically Amazon's retail business has changed in the last few years — and, perhaps most surprisingly, that its retail sales growth also has slowed notably in recent quarters. The parabolic growth of Amazon Web Services (AWS) and other fast-growing revenue streams such as advertising has deflected much of the Amazon conversation away from retail.

Lost amid the many accolades heaped on Amazon is its increasing reliance on thirdparty (3P) retail sales. In contrast to firstparty (1P) sales where Amazon owns, holds and has legal title to inventory, the 3P sales are of unowned merchandise listed on Amazon's site and/or fulfilled by Amazon, and Amazon takes a commission on each sale, plus storage and fulfillment fees if applicable. Much has been written about the ambivalence of some vendors to listing on Amazon: They certainly get the eyeball traffic and sales, but Amazon takes a sizeable cut and sometimes rolls out competing private-label products. Amazon clearly has pivoted more of its retail business to 3P sales, and it is evident in their numbers.

Today Amazon (1P + 3P) claims a 41% market share of all U.S. e-commerce sales versus 27% in 2015 (Exhibit 4). To put that in perspective, consider that Wal-Mart's share of U.S. online sales is barely 4% after several years of considerable effort to grow that business, which it has done nicely. Amazon is growing its market share by taking an ever-larger share of the online channel's sale growth. Hard as it may be to believe, we estimate that Amazon took approximately 70% of the channel's total sales growth in 2018. We also estimate that Amazon's 3P sales accounted for 63% of its Gross Merchandise Value (GMV) in 2018 compared to 51% in 2015 (Exhibit 5). Nearly all of the increase in Amazon's market share of e-commerce since 2015 has come from 3P, which has nearly doubled in market share versus 1P's slight increase in that period (Exhibit 4). 3P is likely a very lucrative business for Amazon relative to the cost of the services it provides, as well as a lowerrisk business that ties up considerably less working capital. For Amazon, this all makes sense. It is tougher decision for third-party sellers, since partnering with Amazon also means giving it access to your sales and customer data, which many merchants believe Amazon then exploits. However, Amazon's search traffic

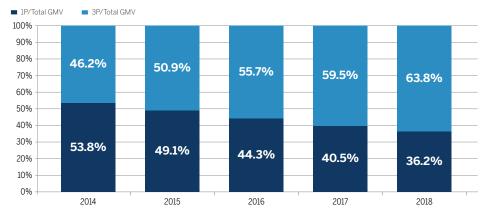
EXHIBIT 4
Amazon Market Share of U.S. Online Sales

■ AMZN 1PG MV USA ■ AMZN 3PG MV USA



Source: SEC filings and FTI estimates

EXHIBIT 5
Amazon's 1P/3P Breakout of Online Retail Sales



Source: SEC filings and FTI estimates

dominance makes it increasingly difficult for merchants to shun that alliance altogether, despite these misgivings.

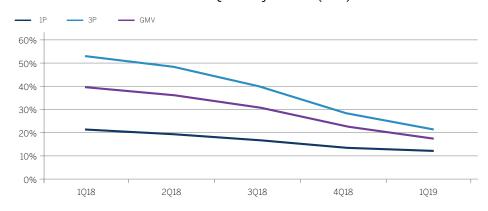
Even less noticed of late is the slowing growth rate of Amazon's retail sales (1P and 3P) since mid-2018. We suppose this shouldn't really be surprising. If U.S. online sales growth is slowing and Amazon claims a large share of those sales, then it too should be feeling these effects — and it has been, especially in the last two quarters (**Exhibit 6**). A strong 2018 for Amazon's retail side of the house consisted of an exceptionally strong first half and a less-than-stellar second half. Amazon's retail sales growth rate (YOY)

in 1Q19 was approximately one-half lower than a year earlier. In fact, 1P sales were up "only" 11.9% (YOY) in 1Q19, a merely yeoman figure for the king. Fortunately for Amazon, its retail sales are still growing faster than the overall channel, so it continues to gain market share despite the growth slowdown. However, let's not sugarcoat what's happening here: online sales growth at Amazon and across the e-commerce platform definitely is slowing. We expect Amazon's retail sales growth rate (1P + 3P) to slow to 19% in 2019 from 30% in 2018 while its online market share will grind higher to 43% this year and eventually top 50% in 2024.

Another underreported Amazon retail story is the quite unspectacular results to date with its Whole Foods acquisition of 2017, either as a standalone business or as an integrated part of the larger Amazon ecosystem. No one expected this to be a home run in the first inning, but from the little data Amazon provides on its physical stores, it is likely not exceeding anyone's expectations so far. Amazon is a long-term player that likes to tinker with things, so there's plenty of time to make this better but so far we don't see an indication that this experiment has gone smoothly. Grocery is arguably the toughest of all retail segments to achieve consistent outperformance and profitability, and online grocery is doubly difficult no matter who is doing it, which Amazon has discovered. We marvel at the effort, bucks and determination by all players to make online grocery work on a large scale — despite the reluctance of consumers to fully embrace online food shopping and the slow inroads made after two decades. The size of the opportunity is too big to resist.

Amazon's aura of invulnerability in retailing may take a hit should overall online sales growth continue to moderate or the consumer economy weaken further. It hardly matters in the bigger picture. As we mentioned earlier, Amazon can still expect to take market share even in a slowing economy, but we believe those gains too will be moderating compared to its gains in recent years. As the growth of new Prime members slows, which it surely must fairly soon, Amazon's efforts increasingly will focus on getting existing members to spend more — something it has always done well with its huge captive audience.

EXHIBIT 6
Amazon NA Retail Sales Growth – Quarterly Growth (YOY)



Source: SEC filings and FTI estimates

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