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U.S. Economic Watch

**From bricks to clicks:
e-commerce of today**

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From bricks to clicks: e-commerce of today

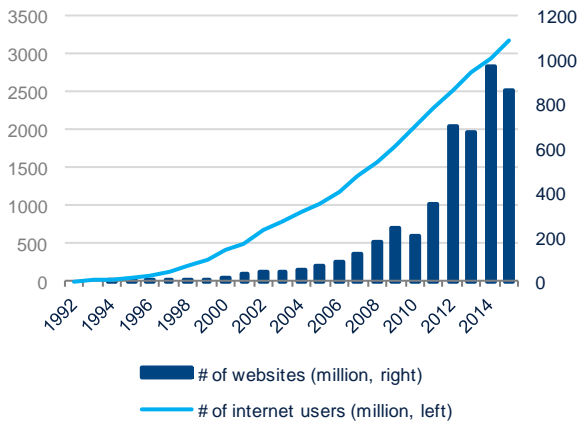
E-commerce has enjoyed rapid growth both in quantity and in variety. Still, both online only and traditional brick-and-mortar retailers are important players for total retail sales. In the future, brick-and-mortar stores should make better use of human resources and focus on high value-added services

Rapid expansion of U.S. retail e-commerce sales

Since the release of Mosaic, the predecessor of Microsoft's Internet Explorer, in 1993 and Netscape in 1994, the internet has become the go-to place for people to exchange information and inspired numerous business innovations. The number of active websites worldwide grows exponentially: There were only 130 websites in 1993, and the number quickly increased to 29 million in 2001 and more than 1 billion today (Figure 1).

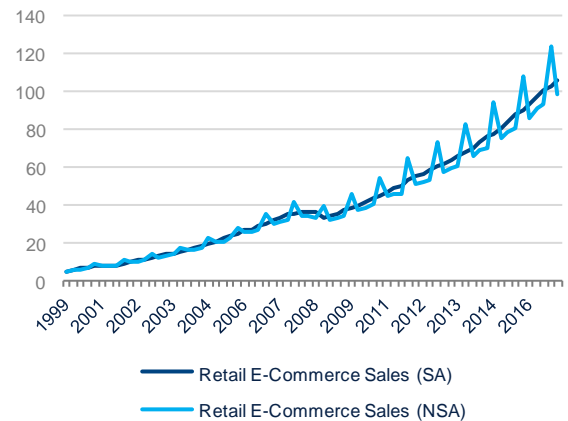
E-commerce is one of the earliest internet applications that bridge online and offline activities, and has enjoyed rapid growth during the last two decades (Figure 2). According to the Census Bureau, retail sales through e-commerce jumped from \$4.4bn in the last quarter of 1999, to \$105.7bn in the first quarter of 2017.

Figure 1. Internet: websites and users
Millions



Source: Internet Live Stats

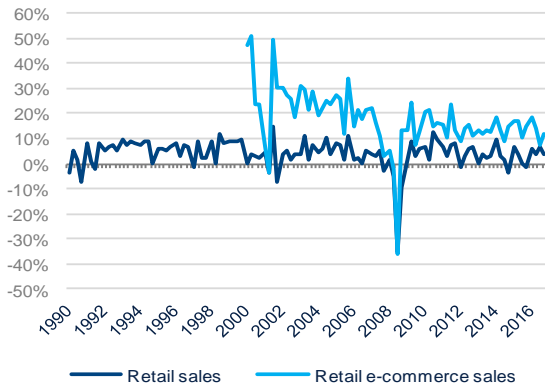
Figure 2. Retail sales: e-commerce
\$bn, quarterly



Source: BBVA Research & Census Bureau

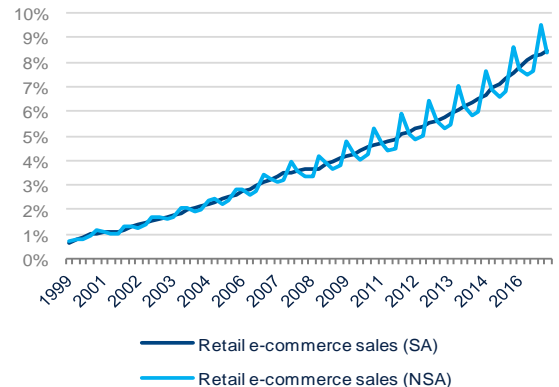
The rapidly increasing e-commerce sales continue gaining importance for the retail sector. As shown in Figure 3, the growth rate of e-commerce sales is much higher than the growth rate of total retail sales. For the last thirty years, the growth rate of total retail sales barely goes above 10%, while the growth rate of e-commerce sales, except in the recession, is always above 10%. The fast growth of e-commerce sales implies that online market places have become ever more important for retail sales. According to the Census Bureau, e-commerce sales in the first quarter of 2017 accounted for 8.4% of total retail sales (Figure 4).

Figure 3. U.S. total and e-commerce retail sales growth %, SAAR



Source: BBVA Research & Census Bureau

Figure 4. E-commerce sales as a percent of total retail sales (%)

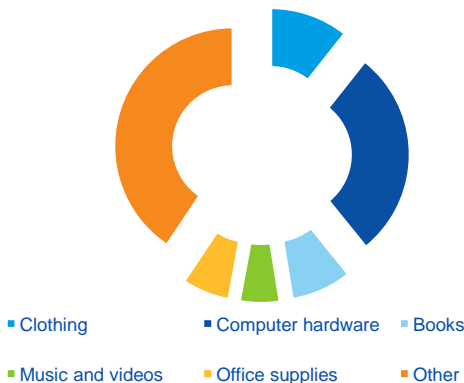


Source: BBVA Research & Census Bureau

Increasing variety of merchandises

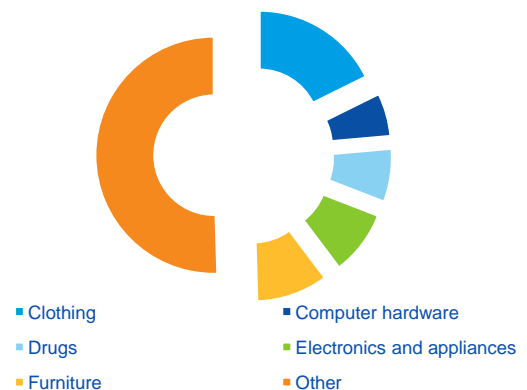
Another important aspect of the development of e-commerce is the increasing variety of merchandises sold by online retailers. In the early days of online shopping, the variety of goods that consumers could buy from a website was very limited. In 2000, the sales of computer hardware accounted for 30% of all retail e-commerce sales (Figure 5), reflecting that the user-base of internet was from tech-savvy consumers. In that period, e-commerce, to a large extent, meant buying and selling computer parts online. In contrast, in 2015, computer hardware almost fell out from the top 5, and clothing made the highest online sales. Also, the sales of other products and services are much less concentrated than in 2000. The user-base of e-commerce has been widened to include the less tech-savvy consumers, and online retailers today are working to grab more market share from their brick-and-mortar competitors in all kinds of goods.

Figure 5. Top 5 merchandise lines sold online in 2000 %



Source: BBVA Research & Census Bureau

Figure 6. Top 5 merchandise lines sold online in 2015 %

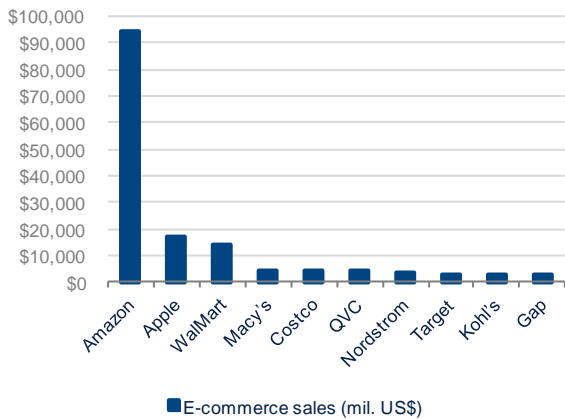


Source: BBVA Research & Census Bureau

Online only or online and offline

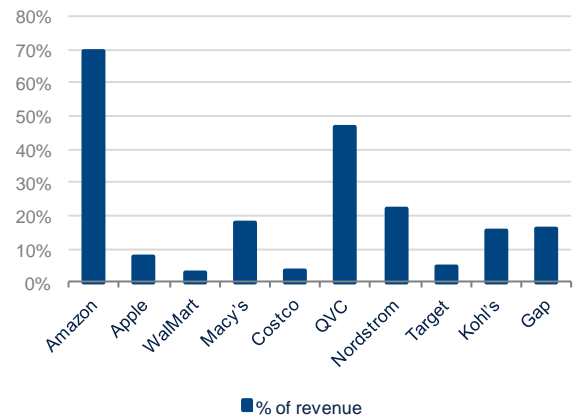
Nonetheless, brick-and-mortar retailers are another important player in e-commerce. Figures 7 and 8 show the top 10 companies in e-commerce sales in 2016. We can see that eight of the top 10 e-commerce companies own traditional brick-and-mortar stores. The online-and-offline (“bricks and clicks”) business model would help traditional retailers to get the market share of e-commerce without abandoning their advantage in the offline market. On the other hand, the stellar sales of Amazon demonstrate that the online only business model has its own strength.

Figure 7. Retail e-commerce sales in 2016
Mil. \$



Source: Emarketer

Figure 8. E-commerce as a share of revenue in 2016
%



Source: Emarketer

Implications on the retail industry

Retail trade has always been a dynamic industry that evolves with the society. From the consumer’s perspective, retailers provide solutions to meet households’ demand for goods and services. Therefore, as people’s life style changes, the retail business model will change as well. For instance, the invention of shopping spaces like malls and superstores made it possible for consumers to compare and buy various goods and services with one single trip, and thus helped them vastly reduce the cost of search and research. As baby boomers adopted the suburban life style en mass, the success of shopping malls and superstores in the last 50 years was a natural outcome since they provided the most cost-effective solution to suburban households.

Today, e-commerce provides a new solution to consumers, as they no longer need to travel the “last mile” to compare and pick up goods, or even services. Most of the research and the transaction can be done online. Thus the savings from less gasoline and travel time will encourage more and more people to substitute trips to shopping malls with clicks and swipes on their electronic devices. Moreover, for the same amount of goods, deliveries by logistics companies like UPS and USPS consume less resource than trips made by individual consumers. Therefore, the usage of e-commerce will also introduce an improvement of the welfare at the society level.

Digital natives, the population who grew up after wide usage of internet and other digital inventions, will be the driving force of e-commerce sales in the future. They are less likely to develop the habit of regularly visiting shopping malls or superstores than the previous generations. In fact, they may feel more natural to shop online than to chat with the sales person in a brick-and-mortar store. As they become the major spending force in the future, we may expect more sales to be made on e-commerce platforms than in brick-and-mortar stores.

However, the rapid growth of e-commerce sales does not imply that brick-and-mortar stores will completely fall out of favor. Although e-commerce retailers are generally more cost-effective than traditional stores, it is more difficult for them to provide value-added services, which are the expertise of human beings. For example, a knowledgeable sales person can make the shopping experience a pleasure, while conducting research online can bring a headache to many people. Therefore, for the less price-sensitive consumers, a well-managed brick-and-mortar store will be more attractive than e-commerce retailers. In that sense, providing value-added services will be the future of brick-and-mortar stores, and e-commerce retailers will compete in the arena of cost-cutting.

These trends will have significant effects in the labor market. Undoubtedly, some occupations will become less relevant or even disappear. This could be costly for lower-skilled individuals and create frictions that can reach the political divide. However, other occupations will grow faster and new ones will emerge, providing opportunities for individuals with different skills. Adapting may not be easy but as in the past, the opportunities from new technologies will boost the well-being of our society.

Bottom line

Online retail sales have enjoyed phenomenal growth during the last two decades. Today, e-commerce accounts for almost 10% of total retail sales and the share is still increasing. While Amazon shows the strength of the online only business model, the fact that eight of the top 10 e-commerce companies are also traditional retailers shows the resilience of the online and offline business model for the brick-and-mortar stores. In the future, we expect to see more online sales and more significant diverge of the two kinds of retailers. The advantages of online stores will make them more cost-effective, and the expertise of human resources will make brick-and-mortar stores to provide more value-added services. While some people may feel threatened, society as a whole will benefit from new shopping experiences.

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