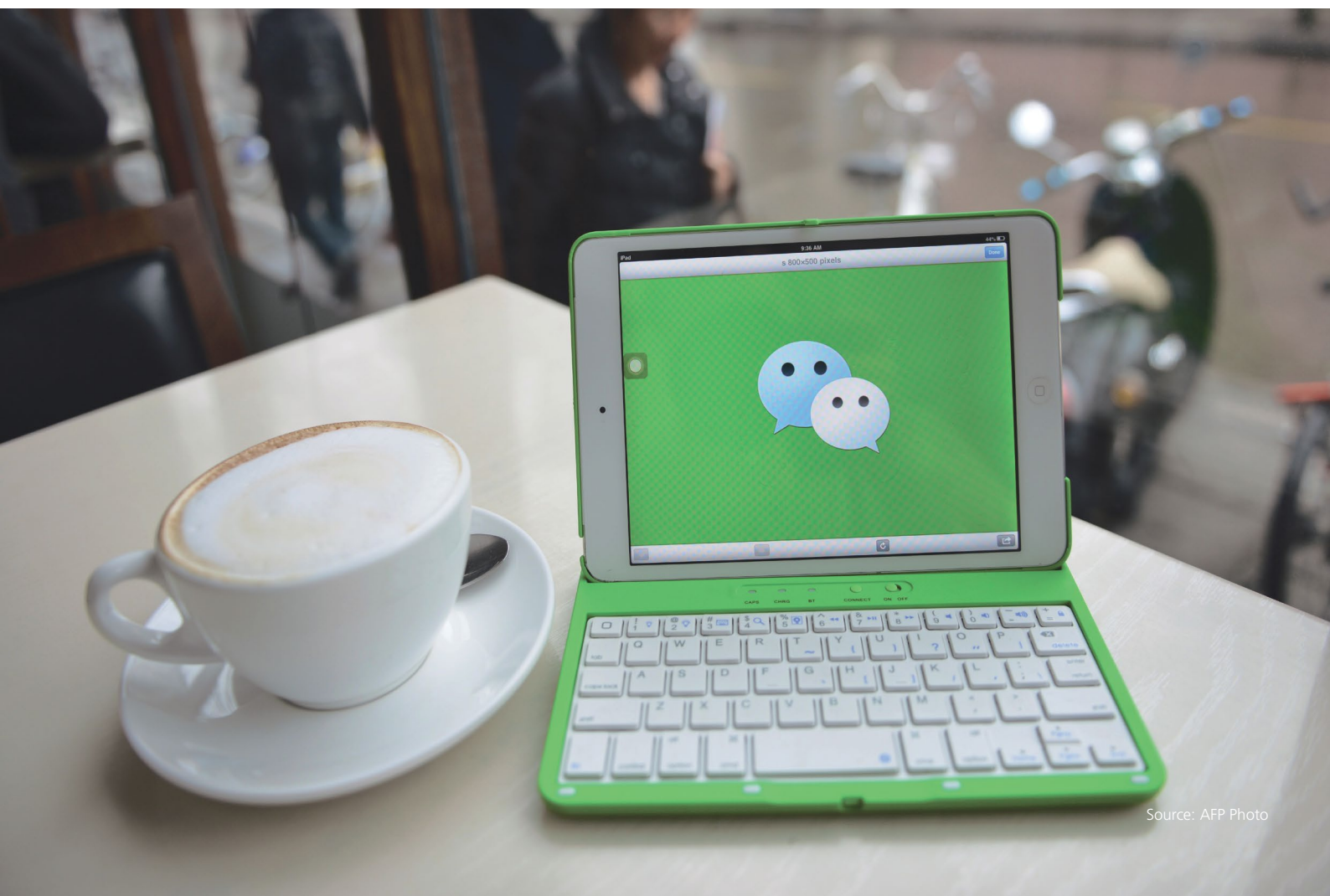


Investment Theme | 4Q18

# China Technology



Source: AFP Photo

# Investment Theme II: China Technology

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Strategist

In 3Q18, we brought you “Structural Winners” – a timely investment theme on the biggest technology trends changing the world. Then, we focused on how technology is disrupting traditional industries and delved into where the opportunities lie in this global seismic shift. In this follow-up report, we narrow our coverage to focus exclusively on China.

One may ask: Why China? The answer is straightforward. Today, the economic giant boasts:

- The highest number of smartphone users in the world – estimated at more than 700m, which is roughly double the US population.
- The world’s second-largest consumer market, with household final consumption expenditure of USD4.7t.
- The biggest e-Commerce market globally, with revenue of USD1.1t in 2017 (vs. USD453b in the US).

Chinese companies have progressed by leaps and bounds over the years, thanks to their adoption of Western business models, and applying them to the rapidly-growing domestic economy.

Evidently, this strategy has since paid off handsomely; just look at the explosive growth of e-Commerce, gaming, and mobile payments in China. Indeed, China pioneered the “Super App”. Think of behemoths like WeChat (known as Weixin in Chinese), which combine every aspect of a consumer’s day-to-day living – ranging from their communication habits and financial transactions, to their retail purchases and social interactions.

**Smartphone growth potential in China – the sky’s the limit.** China’s swift adoption of e-Commerce and other online activities can be traced back to the explosive growth of smartphone usage. In 2015, China’s smartphone penetration rate stood at 53%. On the surface, this pales in comparison to the US, where smartphone penetration is at 74% (Figure 1). However, the sheer size of the Chinese population (1.4b) means that there are over 700m smartphone users in the country – more than double the size of the entire US population. Crucially, the remaining 47% remains untapped, representing the immense growth potential for China’s smartphone market.

According to a study conducted by KPMG, 71% of the Chinese who were surveyed would rather lose their wallets than their phones (compared to 26% in US and 43% in India). This result is in line with China’s plan to digitise literally “everything” – including physical national identity cards. Unsurprisingly, the Chinese are spending more and more time on their smartphones, with phone usage surging from 78 minutes per day in 2016 to 98 minutes per day in 2017 (Figure 2).

# CHINA

# TECHNOLOGY



1500  
LIKES



IN 2017, CHINA HAD

**483M**

SOCIAL MEDIA USERS,  
VS.

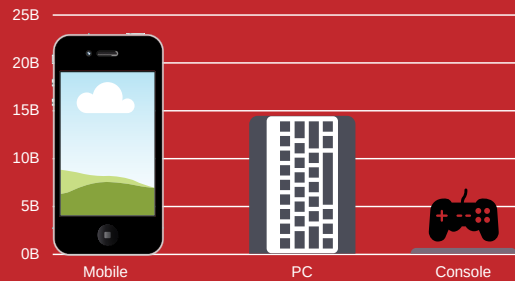
THE US POPULATION OF 326M

CHINA'S SOCIAL MEDIA  
USERS SET TO GROW

**30%**  
BY 2021



## MOBILE GAMING DOMINATION

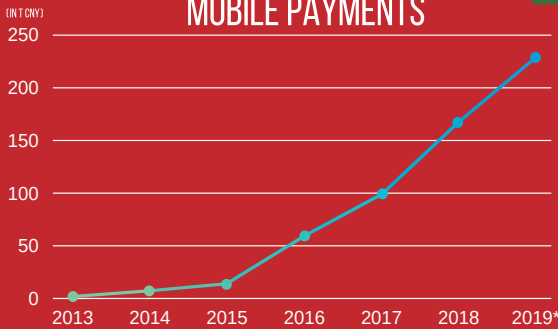


MOBILE MAKES UP

**61%**

OF CHINA'S  
GAMING  
INDUSTRY

## MOBILE PAYMENTS



BY 2019,

MOBILE PAYMENTS TRANSACTIONS  
VOL. TO GROW

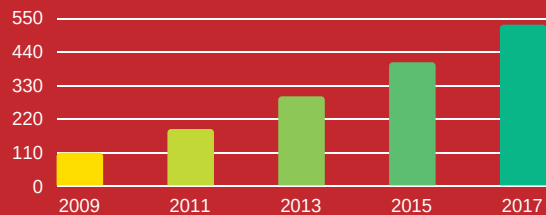
**132%**  
TO CNY229T

CHINA'S ONLINE SHOPPERS

HIT 533M  
IN 2017,

**5X**

2009'S  
LEVELS



SMARTPHONE PENETRATION RATE AT 53%; HIGHEST NO. OF USERS GLOBALLY



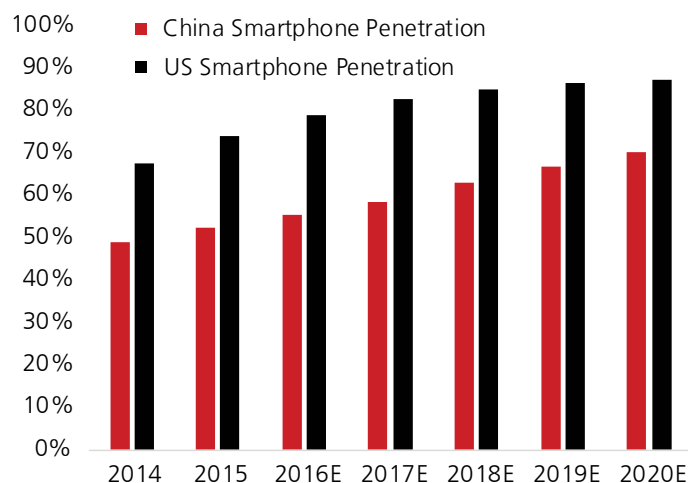
WORLD'S LARGEST E-COMMERCE MARKET WITH USD1.1T REVENUE IN 2017



MOBILE PAYMENT PENETRATION TO HIT 79% IN CHINA VS. 28% IN US BY 2021

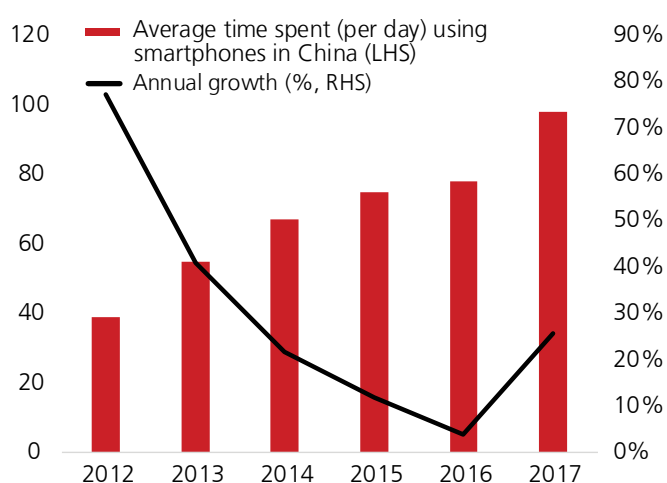
SOURCE: EMARKETER, CNNIC, NEWZOO

**Figure 1: Smartphone penetration as a % of population – China vs. US**



Source: eMarketer

**Figure 2: Average time spent on smartphones in China**



Source: eMarketer

China's rapid Internet and smartphone usage growth means that several traditional industries are already facing major disruptions. These include:

- Retailing
- Advertising
- Gaming

Chinese technology companies that successfully capitalise on this trend will come out tops, as China's structural winners.

### Disrupting Chinese retail: Penetration rate for online shopping hits 69%

Online shopping penetration rate has tripled between 2009 and 2017

Merchandise trade plays an important role in China's economy, accounting for 33.5% of gross domestic product (GDP) in 2017. Today, given the vibrant growth of e-Commerce and mobile payments, online sales account for about 15% of retail sales in China (as of 2017); this is expected to grow in the coming years. Data show that China's online shopping penetration rate has almost tripled, from 28% in 2009 to 69% in 2017 (Figure 3).

e-Commerce is entrenched in China's everyday life

**Fusing online shopping with everyday life.** Online shopping platforms have successfully integrated themselves into the Chinese consumer's daily life. According to PwC research, 61% of Chinese e-Commerce shoppers surveyed say they start their product search from online shopping platforms, compared to 39% for global respondents. This is significantly higher compared to global respondents' behaviour, highlighting just how entrenched e-Commerce is in China.

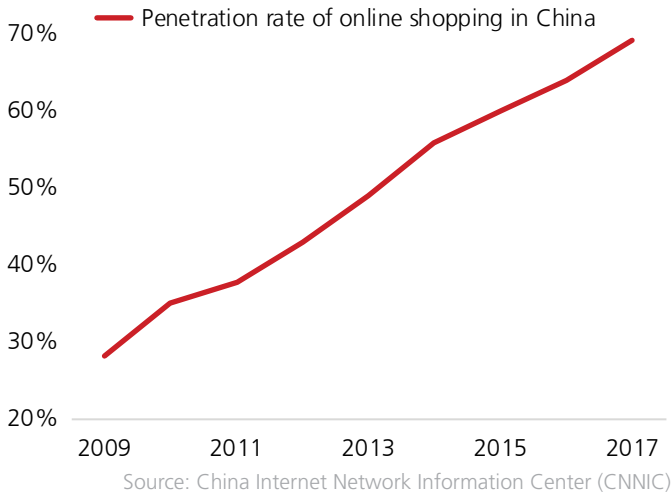
Number of online shoppers registered CAGR of 19% between 2009 and 2017

**From daily consumer experience to social phenomenon.** The number of online shoppers in China registered a compound annual growth rate (CAGR) of 19% between 2009 and 2017 (Figure 5). After the initial years of robust expansion as result of base effects, growth has settled in the 13-14% range in recent years.

As online shopping platforms increasingly implement more large-scale promotions during their shopping festivals (such as Alibaba’s “Double 11”), online shopping will gradually evolve from a daily consumer experience to a social phenomenon – one that excites the online community. Given the popularity of its shopping festival, Alibaba’s Tmall dominates the Chinese B2C retail market with a 60% share of total transactions in 1Q18, followed by JD.com at 25%, and Suning at 5% (Figure 5).

Based on data from eMarketer, eCommerce revenue growth is expected to register a CAGR of 22% during 2017-22E – a level significantly higher than the US’s (Figure 6).

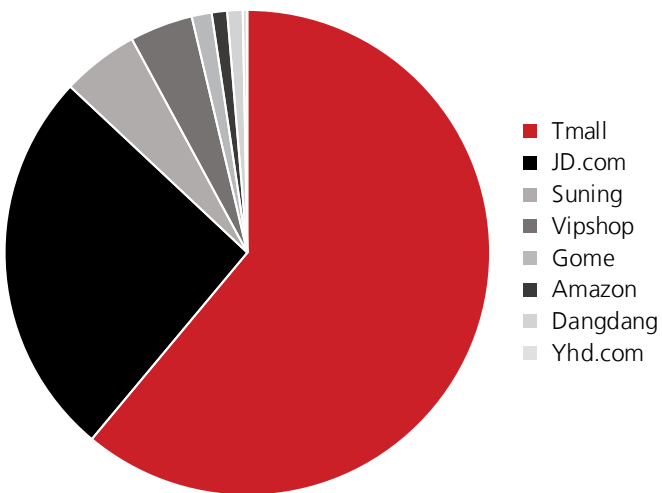
**Figure 3: Rising online shopping penetration rate in China**



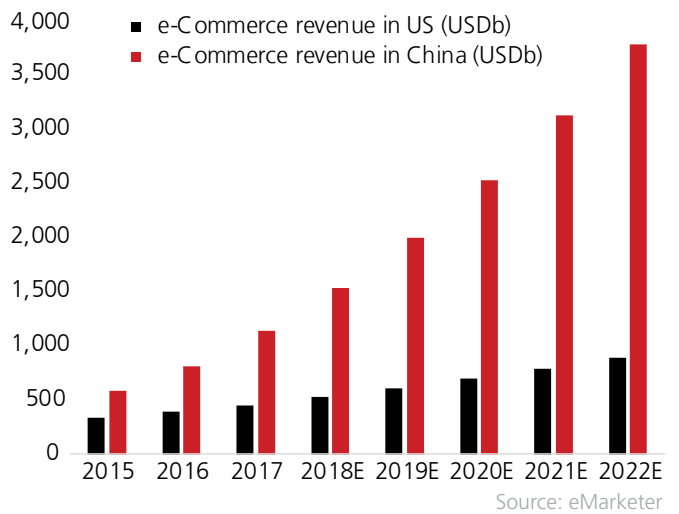
**Figure 4: More and more customers begin to shop online**



**Figure 5: Market share of China’s B2C online retail market in 1Q18 (based on transactions)**



**Figure 6: Increasing number of online shoppers in China translates to rising e-Commerce sales**



Over 80% of domestic retail sales still occur in brick and mortar stores

**O2O commerce and the rise of “New Retailing”.** Chinese tech companies are adopting a hybrid approach to delve further into Chinese retailing. There is no doubt that e-Commerce has seen tremendous growth in China. Still, despite the significant progress, the reality is that more than 80% of domestic retail sales still take place in brick-and-mortar stores. Chinese tech companies see an opportunity here.

“O2O” concept brings online customers to physical stores

“O2O”, short for “Online-to-Offline”, refers to the concept of bringing online customers to physical stores. In addition, the term “New Retailing” refers to the amalgamation of online, offline, logistics, and data analytics into a single consumer experience. Together, these new retail concepts include:

- Consumers scanning a QR code to get product information while shopping in-store, but using a smartphone to do the rest – placing an order, making a payment, and arranging a delivery.
- Brick-and-mortar stores reinventing themselves to function as order-and-delivery stations for goods purchased online. This is particularly popular in the food delivery space.
- Chinese technology giants capitalising on their huge database to source for and deliver goods to mom-and-pop stores. In return, tech companies gain invaluable insights into consumers who shop offline.

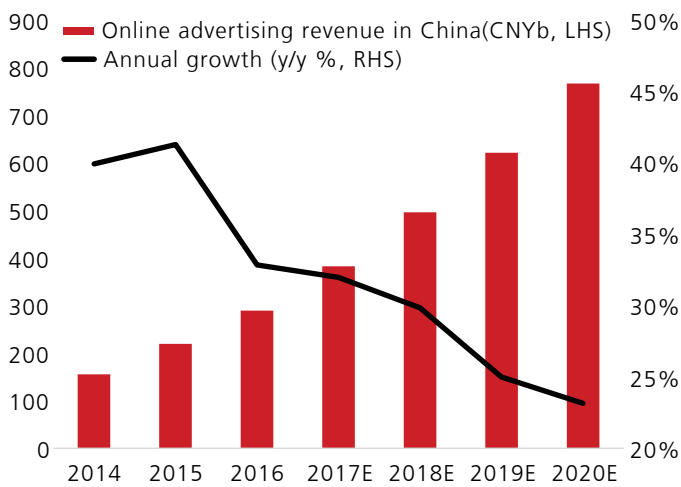
Today, China’s technology giants are making heavy investments in physical stores, given that in time to come, pure e-Commerce plays will be outdated; “New Retailing” will be the new normal.

**Disrupting Chinese Advertising – China to account for 20% of global online advertising by 2020**

Digital ad spend in China registered CAGR of 40% between 2012 and 2016

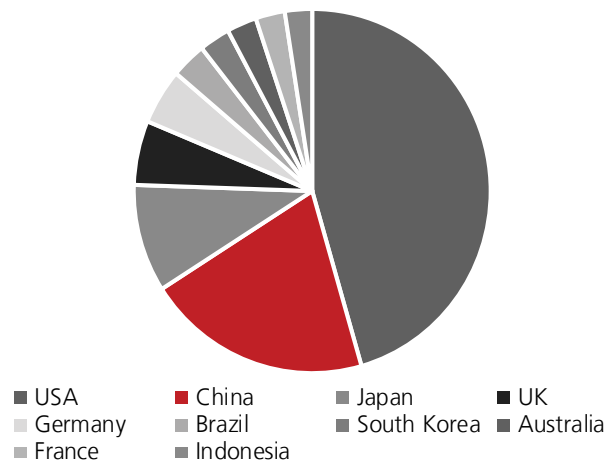
Following in the footsteps of Silicon Valley tech giants, Chinese tech players are increasingly riding the wave of online advertising. Retailers who distribute their products through online shopping platforms are also increasing their expenditure in online advertising. Digital ad spend in China registered CAGR of 40% between 2012 and 2016 and this is expected to hit CNY765b by 2020 (Figure 7). According to Zenith Global, China is expected to contribute 20% to global online ad spend by the same year (Figure 8).

**Figure 7: Online advertising revenue in China is on the rise**



Source: iResearch

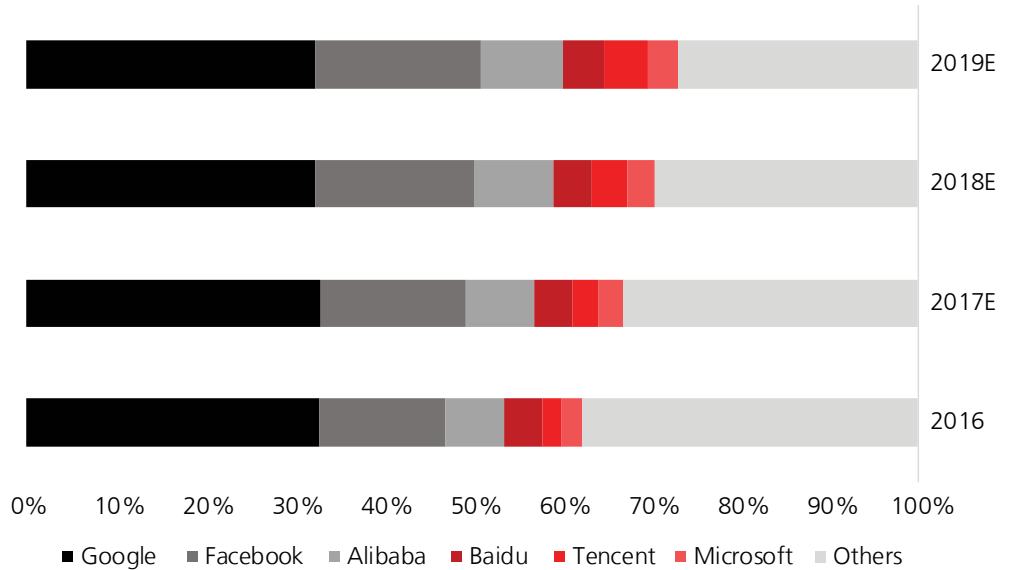
**Figure 8: Expected contribution to global ad spend in 2020 (by country)**



Source: Zenith Global

**Chinese digital ad spend: Huge room for growth.** Going by the experience of their US counterparts, Chinese tech companies have enormous room for growth. Data from eMarketer show that a huge gulf exists between US and Chinese tech companies' online ad revenue (Figure 9). Given the huge smartphone user base in China, the potential in this space is huge.

**Figure 9: Global net digital ad revenue share**



Source: eMarketer

### Disrupting Chinese gaming – The rise of the millennials and the virtual world

Online gaming market on a tear

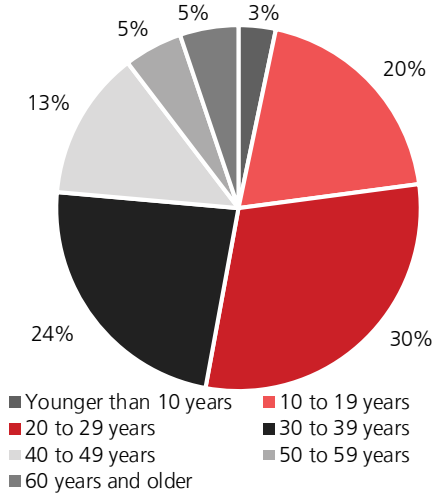
The online gaming market in China has been on a tear, given strong underlying demographic tailwinds. Indeed, young millennials and Generation Z born in the 1990s and 2000s account for about half of all Internet users in China (Figure 10). This segment is the biggest driver of the online gaming market in China, which is estimated by Newzoo to consist of 619.5m players in total.

Mobile gaming accounts for an estimated 53% of the revenue share in 2017

Mobile has proven the most popular gaming platform in China. According to Newzoo, this segment accounts for an estimated 53% of the revenue share in 2017, while the rest comes from PC and console games. On a global basis, gaming revenue is slated to hit USD180.1b by 2021, with mobile accounting for 59% of that.

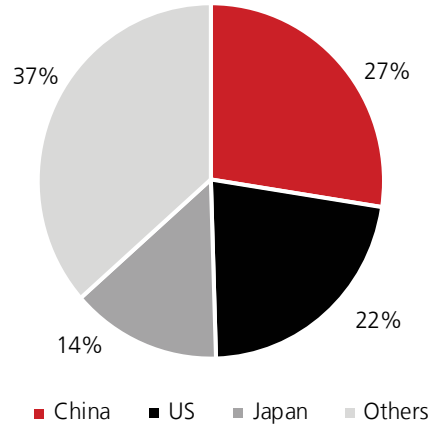
China is indeed the “gaming capital of the world”. The market is expected to generate revenue of USD37.9b in 2018, constituting 27% of global gaming revenue (Figure 11).

Figure 10: Breakdown of China Internet users by age group



Source: CNNIC

Figure 11: Gaming market revenue (by country)

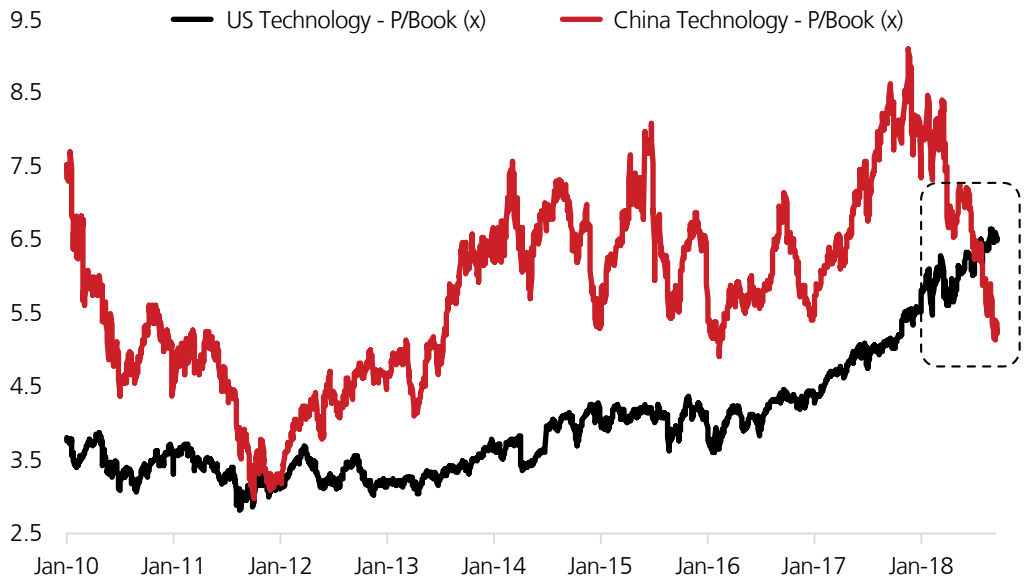


Source: Newzoo

### Investment implications – A brave new world for Chinese tech companies

In the brave new world of online retailing, gaming, and advertising, Chinese tech companies which can ride this wave will be structural winners in the years to come. The China technology sector has undergone a substantial de-rating this year and we see value emerging (Figure 12). The current bout of weakness presents investors with a window of opportunity to gain exposure to this long-term growth story.

Figure 12: Value emerging for the China Technology space



Source: Bloomberg, DBS



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