ClearBridge Investments

# Technology-Driven Growth Softens China's Landing

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## Key Takeaways

- The growth of high-speed rail, mobile pay, online shopping and dockless bike shares in China are helping the private sector shape economic growth.
- Often a lack of existing infrastructure allows China to rapidly leapfrog old generations of structure or technology.
- Technology in China is driving higher-quality growth and helping it become an industry leader in some emerging uses of technology.

In our recent paper on China's credit outlook, we noted how technology-driven private sector growth could be the enabler for orderly structural reform and deleveraging, helping China carry out its reform agenda while minimizing any negative effects on growth. Here we look at some of the ways technology is helping the private sector improve the quality of China's growth with a few highlights of China's recent technological transformation.

## High-Speed Rail Network

China's high-speed rail network, begun less than a decade ago, has been truly transformative. The trains reach top speeds of 217+ mph, with 2,600 pairs of trains connecting 200 cities and covering 32 of China's 34 provinces. They link Beijing and Shanghai, two megacities 800 miles apart, in 4.5 hours. China's current high-speed rail network is over 13,600 miles long, more than the rest of the world's combined, and has cost $360 billion to build. The government's proposed 25% increase in network length will allow it to cover 80%+ of the country's major cities. A study found that high-speed rail coverage increased most studied cities' GDP growth, in some cases by more than 30%.[1]

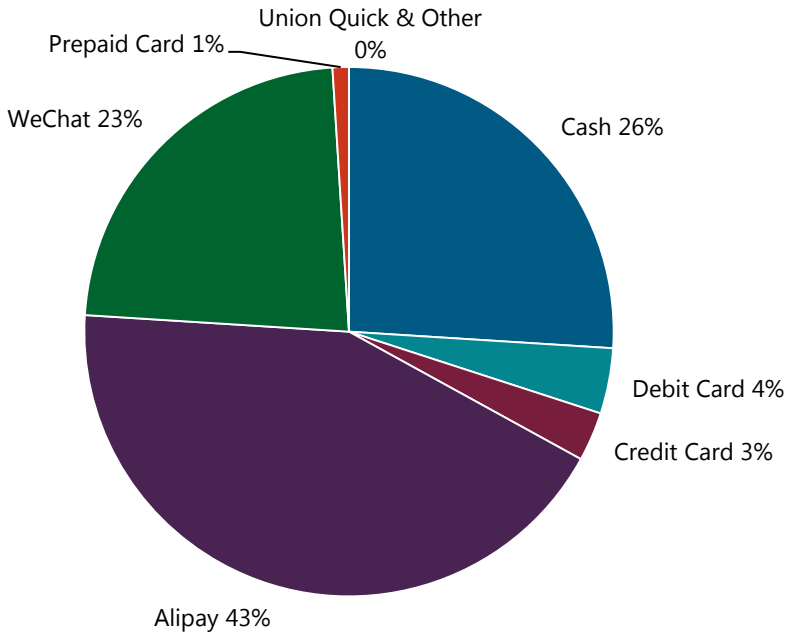
## Mobile Pay

Mobile payment is not just used for online purchases anymore. In fact, for many consumers in China, their cell phone is the only thing they need when they go out. They either order services such as taxis or movie tickets online, through mobile pay accounts already linked to the order platforms, or scan a QR code at the point of consumption (restaurants, department stores, grocery stores). A survey shows that the combined use of Alipay and Weixin (Tencent's China-based version of WeChat), the two most dominant mobile payment platforms, have exceeded the use of cash in convenience stores.[2]

[1] Ke, Xiao; Chen, Haiqiang; Hong, Yongmiao; Hsiao, Cheng. "Do China's High-Speed-Rail Projects Promote Local Economy?" China Economic Review, 2017.

[2] Korella, Jan Lukas, Deutsche Bundesbank. "Cash and Cards vs Smartphone? - Outcomes of a Comparative Study on Retail Payment Behaviour in China and Germany." 2017.

Exhibit 1: Payment Method Usage in Chinese Convenience Stores




As of October 1, 2017. Source: Deutsche Bundesbank.

## Online Shopping

Although online retailing has been cannibalizing brick and mortar sales everywhere in the world, its adoption in China has been even more advanced and broad, going way beyond electronics, books, apparels and tools. For on-demand home delivery, consumers can order groceries from the supermarket or fresh food stores for delivery within hours, sometimes in just an hour. For on-demand services, consumers order services like home cleaning, laundry and manicure or massage services, and somebody will come to their home to perform the services. Online ordering and just-in-time grocery delivery is already a common experience in urban Shanghai. Meal delivery is routine, including delivery of breakfasts that cost less than $1.

## Public Bike Shares

China is also the origin of dockless bike sharing, in which, rather than picking up and returning shared bikes at docking stations, riders use smart phone apps and GPS to locate public bikes. A GPS app tells you where the nearest bikes are; you scan a QR code on the bike to unlock it. When you're done, you leave the bike locked in any public location for the next user. Bikes self-charge their GPS while being ridden. A half-hour journey costs $0.07, or you can subscribe and pay a monthly fee of $0.15. Public bike shares only started to take off in China in mid-2016. The industry leader, ofo (the letters resemble a bike), already has over one million bikes on the streets of 34 Chinese cities.

Dockless bike sharing is just getting underway in the U.S., but in China both its benefits (for urban planning and the environment) and its frustrations (parking requires etiquette, and the business model needs refining) are well known. The data it provides help guide public transportation infrastructure decisions like where to put a new subway stop and how to develop infrastructure around it. The data also help to fill public transportation gaps where no transit service exists and to more efficiently dispatch subways to meet shifting traveler demand patterns.

On the environmental side, according to a recent study, bike share users reported taking 55% fewer trips by car (including private cars, taxis and ridesharing); users of Mobike, the second-largest bike share in China, have traveled more than 2.5 billion kilometers — the equivalent of reducing carbon emissions by 540,000 tons, or taking 170,000 cars off the road for a year, or planting 30 million trees, or saving 29 million tons of oil.[3]

### Why China's Technological Growth Stands Out

Technology is transforming the world, but two factors benefit China disproportionally. First, the Chinese government's powerful control over the country's economy and society allows it to be more effective in driving change. One example is China's ability to quickly build up its high-speed rail network; if needed, the government can mandate households residing on the proposed rail routes to move. Another example is the rapid construction of the country's broadband and wireless network. With a strong internet structure deemed a strategic imperative, China's current 4G network covers 98% of its population, even though for some sparsely populated areas this is not immediately economic. In addition, under the government's instruction, wireless carriers have been reducing the price of wireless data consumption every year. Last year, the broadband download speed increased by 43%, while the price was down by 65% year over year. The result is excellent affordability. China Mobile's family plan (for three people) of broadband, cell phone and cable TV use starts at $20 per month, easily affordable for even immigrant workers.

The second factor is China's lack of existing infrastructure, which has actually helped technology growth. For example, China's lack of expansive retail outlets, especially in rural areas, enabled faster adoption for ecommerce. In addition, China's limited credit card penetration has facilitated the more rapid penetration of mobile payment. In many cases not having existing infrastructure allows China to leapfrog old generations of structure or technology and rapidly adopt new technologies without being slowed down by the incumbent system or consumer inertia. In this way China is driving higher-quality growth and becoming an industry leader in some of these emerging uses of technology.

[3] "Bike-Sharing and the City: 2017 White Paper." Published by Mobike with the support of the China New Urbanization Research Institute and in association with the Beijing Tsinghua Tong Heng Planning and Design Institute and based on quantitative and qualitative analysis of Mobike's travel data and the results of a survey of 100,000 people across 36 cities in China.

## About the Author

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- 15 years of investment industry experience
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