



# PAYMENTS OVERVIEW – CHINA

AN INTERNSHIP PROJECT ON BANKING AND PAYMENTS SYSTEM IN CHINA FOR  
FINANCE FINLAND AS PART OF HANKEN SSE'S BUSINESS LEAD PROGRAM

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08.11.2018

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## 1 Introduction

China's rise from a poor developing country to a major economic power in about four decades has been spectacular. Since opening up to foreign trade and investments and implementing free-market reforms in 1979, China has been among the world's fastest-growing economies, with real annual gross domestic product (GDP) averaging 9.5% through 2017. Thus the World Bank has rightly described China as "the fastest sustained expansion by a major economy in history". Such growth has enabled China, on average, to double its GDP every eight years and helped raise an estimated 800 million people out of poverty. China has emerged as a major global economic power. This report is a brief outline of the payments system in China and its various aspects.

The financial system plays a critical role in fueling the expansion of China, which has grown to be the second largest economy in the world. Thus the report begins with the financial evolution in terms of currency, banking and payment system. Then it moves on to the financial market and the impact of demographic transition on it.

China's banking system has evolved immensely from the previous system. It is important to understand the structures of the various legislative bodies in order to understand the market. The chapter on payments structure outlines the various payment systems prevalent in China. Also it covers the widely used mobile wallets giant Alipay and WeChatPay as a case study.

China is considered as the world's Fintech leader with its dynamic innovations. Hence a brief understanding of the Fintech market is given. Moving on to the various fraud cases. Though China has seen rapid growth in technologies but it has been left vulnerable with the equally slower growth of cybersecurity measures necessary to protect them.

Given China's sheer growth in economy, it has huge potential in foreign direct investments. Certain guidelines are given for the foreign players to consider. And finally the report concludes by summing up the challenges and opportunity areas.

## 2 Overview on the Financial Evolution

This chapter begins by tracing the journey of the Chinese currency and its evolution. Since there has been an immense change in the Chinese banking and payment system, the second part portrays the changing dynamics.

### 2.1 Evolution of the Chinese Currency

The Chinese were the first to introduce paper currency in 9th century. It was during the rule of Qin Shi Huang, the first Chinese emperor, a uniform monetary system was implemented. He discarded all the types of currency that China was using till then and introduced copper coins as China's official currency. This paved the way for the leather and paper bank notes, which were used alongside the copper coins until the late 19th century when the yuan was introduced as China's official currency.

Today all nations use some form of paper bank note and/or coin currency. This is, in large part due to the history of the Chinese currency and its impact on the exchange of goods for money. China, itself has three forms of active currency : The renminbi, Hong Kong dollar

and Macanese pataca. The renminbi is a derivative of the yuan and is the official currency used by the people of mainland China. The Hong Kong dollar and the Macanese pataca are the forms of currency used in Hong Kong and Macau respectively.

Literally translated as “the people’s currency” the renminbi (RMB) has been the currency of China for over 50 years. It is also known as the Chinese yuan (CNY). For many years, the Renminbi was pegged to the U.S. dollar. It was officially unpegged in 2005, and as of September, 2018 had an exchange rate of 6.86 RMB to 1 USD.

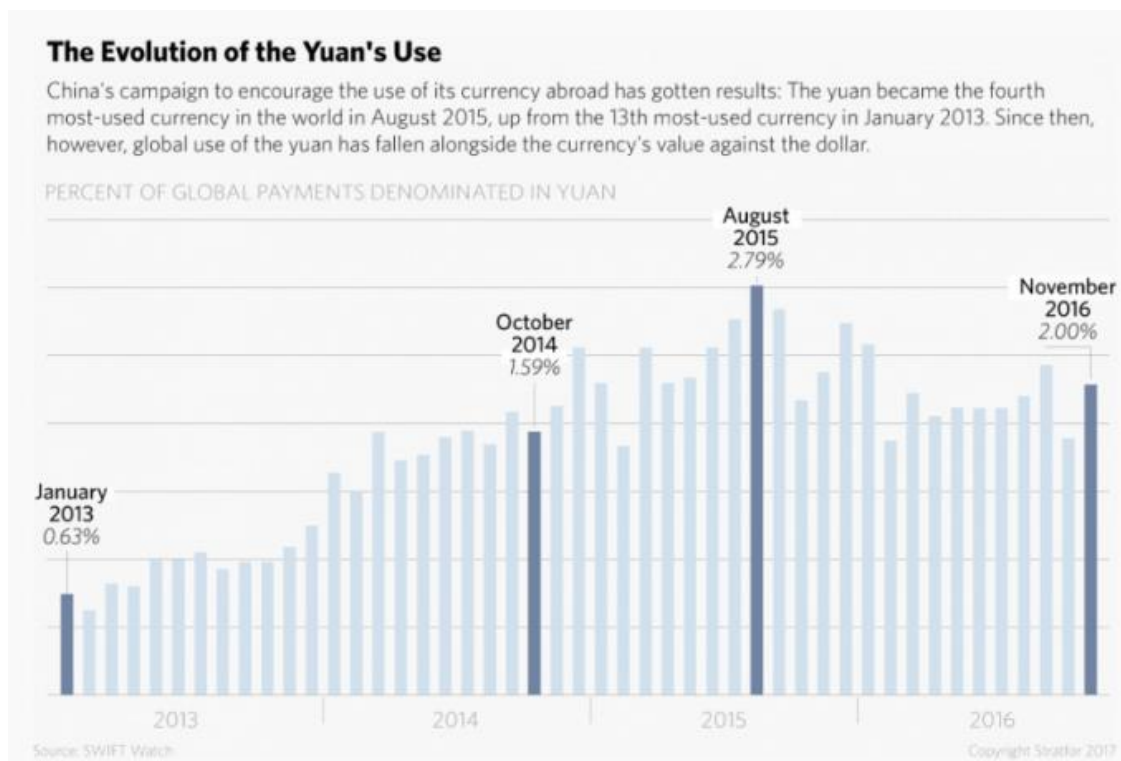


The renminbi was first issued on December 1, 1948, by the Chinese Communist Party's People's Bank of China. In 1955, the People's Bank of China, now China's central bank, issued its second series of the renminbi that replaced the first at a rate of one new RMB to 10,000 old RMB which has remained unchanged since.

With China's economic reforms in the 1980s, the RMB was devalued and became more easily traded, creating a more realistic exchange rate.

### Unpegging the Renminbi

From 1997 to 2005, the Chinese government pegged the RMB to the United States currency at about 8.3 RMB per dollar. On July 21, 2005, the People's Bank of China announced that it would lift the peg to the dollar and phase in a flexible mechanism of exchange rates. Following the announcement, the RMB was reevaluated to 8.1 RMB per dollar. In August 2015, the PBC devalued its currency by 1.9% against the dollar when the flow of investment into the Chinese economy reversed creating doubts in the market about China's long-term economic health. Over the next two years, the yuan's value dropped gradually against the dollar, managed by the PBC in part by its continued spending of foreign exchange reserves. Meanwhile China continues its work to internationalise the yuan by increasing the amount of Chinese trade that happens in yuan and struck numerous agreements with other countries.



## 2.2 Evolution of the Banking System

China's banking system has changed dramatically since 1970s when there was only a single government-controlled banking institution – the **People's Bank of China (PBOC)**. Since that time, there have been major market reforms and also foreign competition has begun to take market share.

The modern Chinese banking system started its evolution in 1979 with the spin-off of three banks from PBOC. This included The Agricultural Bank of China (ABC) which assumed rural banking activities from the PBOC; the Bank of China (BOC) which focusses on foreign currency transactions and international banking business; the People's Construction Bank of China (PCBC) which is mandated to finance construction and infrastructure projects.



In 1983, the State Council, the chief administrative authority in China, officially designated the PBOC as China's central bank. The Council also established the PBOC as the main regulator and supervisor of China's early-stage banking system. In order to strengthen its role as the country's central bank, on January 1, 1984, PBOC transferred its remaining commercial banking functions into a new bank (called the Industrial & Commercial Bank of China (ICBC)), whose mandate was to specialize in urban commercial financing. The Chinese Government also permitted the establishment of a number of other domestic banking institutions from the late

1980s, including the Bank of Communications (BCOM). An additional part of the evolution has been to separate policy-related lending from commercial banking in China. This has included the establishment of three policy banks in the mid-1990s — China Development Bank, Import and Export Bank of China, and Agricultural Development Bank of China. In

addition a law was enacted establishing the four specialized banks (ABC, BOC, CCB and ICBC) as state-owned commercial banks responsible for managing their own operations and risks, in accordance with regulatory compliance guidelines.

With the gradual relaxation of rules and restriction on foreign national banks, to a large extent driven by China's accession to the WTO in 2001, foreign banks have increasingly been entering the Chinese market believing that servicing local businesses and customers could generate significant profits.

The biggest risk for Chinese banks is an increase in non-performing loans and the subsequent economic consequences a bank crisis would have on an already slowing Chinese economy. Also as the financial services markets expand with the arrival of new competitors and alternative deposit and lending options, customers are becoming harder to keep. In short Chinese banks are finding it difficult to compete in a market where not only foreign competitors are increasingly challenging their turf, but also with new technologies are beginning to encroach on their traditionally stable funding base. For example two Chinese internet giants, Alibaba and Tencent, are moving energetically into financial services. The online financial products and services offered by these two companies have become an immediate hit and are especially popular among the younger Chinese. Moreover, these innovators already have volumes of proprietary data on the online purchasing habits and creditworthiness of consumers giving them a leg-up on the traditional bankers. For example, "Yuebao", which literally means "leftover treasure" in Chinese, is operated by China's biggest e-commerce firm Alibaba Group. It is a new financial service that made its debut in 2016 and has succeeded in collecting in excess of RMB 8 trillion (\$1.29 trillion) from 86 million customers as of mid-March 2017 and has become a threat to major state-owned commercial banks like the industrial and Commercial Banks of China. The deposits to this company are said to be still growing at more than 5 percent per month. The banking system in China although still controlled by the Chinese government has historically played an important role in the development of China's economy. However, with bad loans and new competition it is increasingly difficult to determine how effective they will be in promoting development and supporting the investment needed to grow such a large economy.

China's banking system is largely dominated by state-owned or state-controlled banks. In 2015, the top five largest banks in China in terms of assets were state-owned entities. The percentage share of assets held by state-owned commercial banks (including the five large state-owned banks), the three government policy banks, and joint-stock commercial banks (where government entities are a major stock holder), together accounted for 68.5% of total bank assets in China. Foreign participation in China's banking system is relatively small, accounting for 1.6% of total bank assets.

One of the biggest weaknesses of the banking system is that it lacks the ability to ration and allocate credit according to market principles, such as risk assessment. The Chinese central government uses the banking system to boost credit in order to help meet its GDP growth objectives and to, when needed, offset the impact of global economic downturns. From 2007 to 2016, China's domestic credit increased in dollar terms by 218%

## 2.3 Evolution of the Payment System

In order to meet the need of economic and financial reform, a new payment system infrastructure was launched. PBC launched the **National Electronic Inter-Bank System (EIS)**



based on satellite communications network on April 1, 1991, which marks the beginning of non-local inter-bank electronic transfer and settlement.

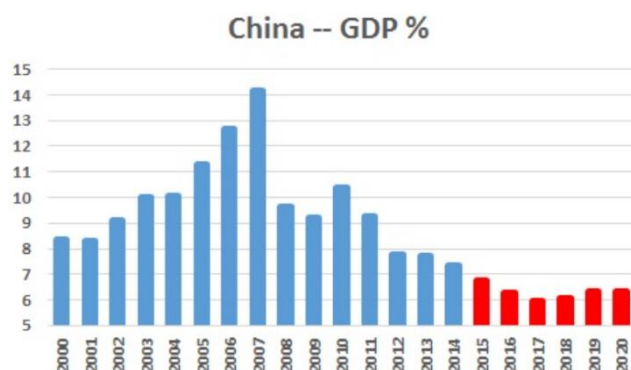
In the 21st century payment system enters a new era characterised by innovation and rapid development. The development of a safe and efficient national payment system sped up. The Centralized Account Booking System, providing fund transfer settlement for payment, was rolled out to the whole country. Meanwhile in **June 2006, BEPS (Bulk Electronic Payment System)** was completed and rolled out nationwide. BEPS represents a common platform for service innovation and expansion by banks and payment clearing institutions. PBC also improved the bill payment system to meet local, cross-regional and national economic needs. The banking institutions also developed a new generation of intra-bank payment systems based on network and ICT, which supports business innovation and risk management effectively. In March 2002, China UnionPay Co. Ltd was founded to develop and operate a new generation of inter-bank card information exchange system to promote interoperability of bankcard.

Application and extension of non-cash payment instruments accelerated tremendously. The use of cheques, commercial drafts and promissory notes grew extensively. Bankcard became the No. 1 non-cash payment instrument for individuals in China. Some major banks introduced reform on card business management by setting up credit card centres, which help grow the business. Other electronic payment tools such as internet payment, telephone payment and mobile payment developed rapidly.

New players emerged on payment service market. With the rapid development of computer network, ICT and e-commerce, and their integration with finance, banking institutions are outsourcing part of their payment and clearing services to non-financial institutions with advantages in technology and special business models. This not only helped to improve the efficiency and quality of services but also introduced a useful complement to the payment service market in China.

### 3 Overview of the Financial Market

China's economy has enjoyed three decades of tremendous growth, making it the world's largest. Its success was based on a mixed economy that incorporated limited capitalism within a command economy. The Chinese government's spending has been a significant driver of its growth.

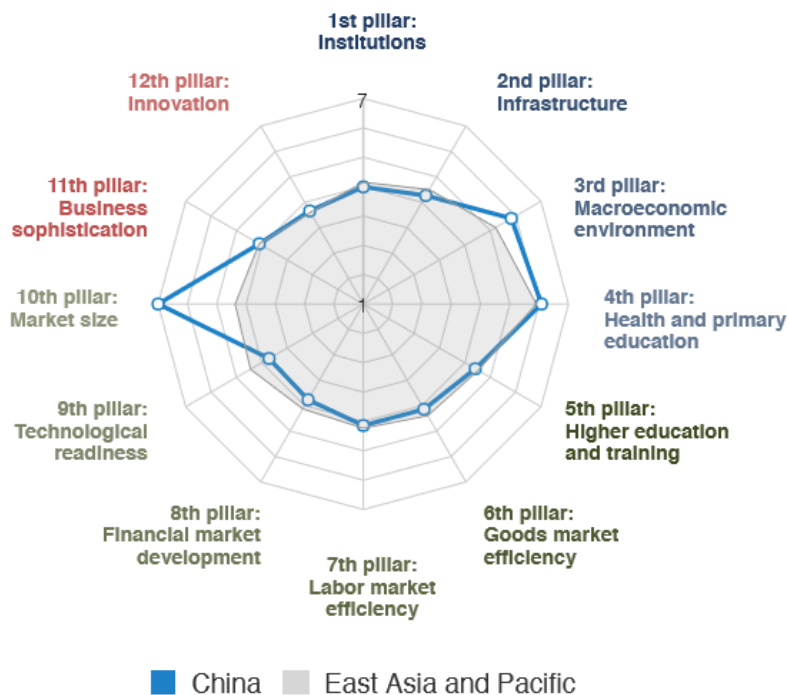


China's economy is measured by its gross domestic product (GDP). **In 2017, growth was USD 23.12 trillion, 6.8% more than in 2016, the largest in the world.**

China's rapid growth was made possible by a wide range of reforms, which transformed a state-dominated, planned and closed economy to a more market-based, urbanized and



open economy. As per World Bank, China's real per capita income increased 16 times between 1978 to 2014 which enabled its extreme poverty rate to fall from 88.3% in 1981 to 1.9% in 2013. China's remarkable progress in reducing extreme poverty has significantly contributed to the decline in global poverty. Over the past decades, China has experienced rapid economic growth and social changes. People's living standards have vastly improved.

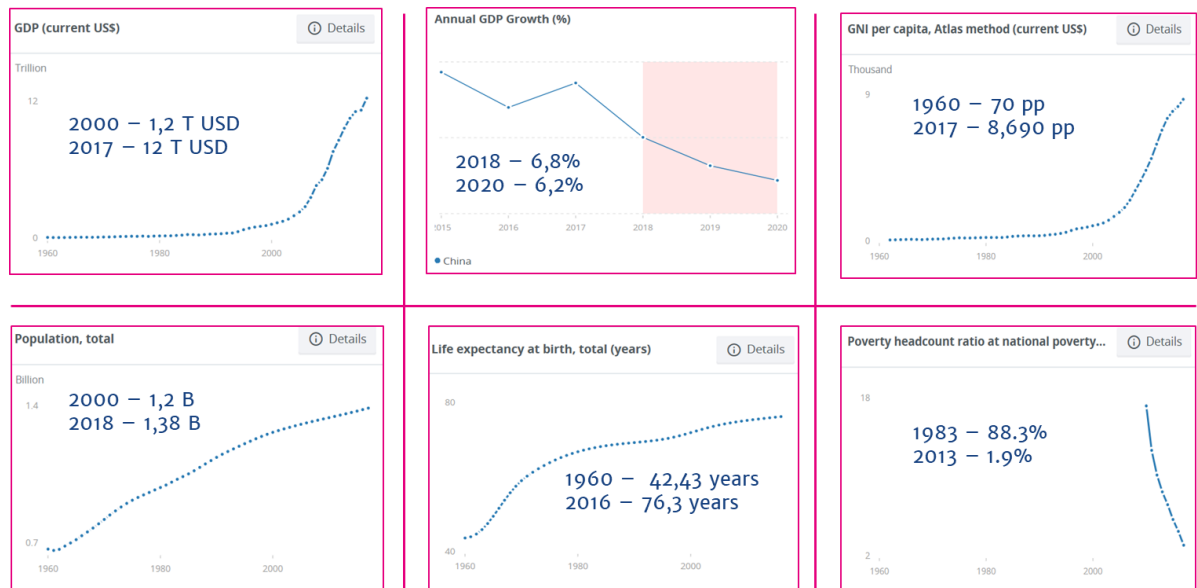


China's performance across the twelve (12) pillars of competitiveness as described in the World Economic Forum 2017-2018 Report, shows that the market size stands out significantly. But it is imperative for the other pillars to perform as well for the overall financial market development.

Source: World Economic Forum, Key Indicators 2017-2018

### 3.1 Key Economic Trends For China

China's economy has been growing steadily since 2016 and thus stabilization has become the most eye-catching feature of China's economy. China's current GDP is at 6.8% which already surpassed the projected rate of 6.5%. China has taken a tremendous leap in reducing its poverty rate to 1.9% in 2013. This clearly shows that the living standards have improved for a larger section of people. The consumption power of people has increased significantly. The strong performance of over 1.3 billion consumers has become a main engine of economic growth and a bright spot of China's economic prospects.



The key takeaways for the trend data set are as follows:

- In less than two decades the GDP has risen 8,5 times and purchasing power has risen tremendously as the GNI per capita has risen 10-12 times in 20 years.
- The population growth rate is among the lowest in the world and the poverty rate is less than 2%. This means that the wealth was distributed to the population across all ages.
- Health care systems are functioning well as the life expectancy has risen by almost 35 years within a span of 40 years.

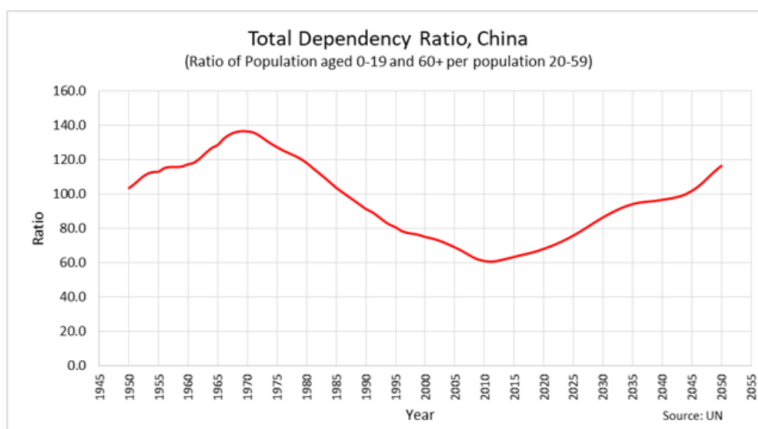
### 3.2 Demographic Factor in China's Transition

During the last two and a half decades, China has witnessed demographic change of historic proportions. It has transformed from a "demographic transitional" society, one where reductions in mortality led to rapid population growth and subsequent reductions in fertility led to slower population growth, to a "post transitional" society where life expectancy has reached new heights, fertility has declined to below-replacement level, and rapid population aging is on the horizon.

During its economic transitions of the last two and a half decades, China has also seen migration and urbanization processes that are unprecedented in world history for their sheer magnitudes. The massive volumes of migrants from the countryside or rural areas to cities, has not only fueled China's economic growth but also brought a number of far reaching demographic consequences. Young men and women are often choosing better earning opportunities over marriage and having children early in their lives. Migration exposed many to the urban consumer culture and the urban low-fertility environment.

Due to strict birth control measures by the Chinese government as well as changing family and work situations, population growth has almost subsided over the past decade. The annual average growth rate in population was reported at 0.6% in 2017. China's population growth ranks among the lowest worldwide.

However, China's biggest problem is its demographic shift.



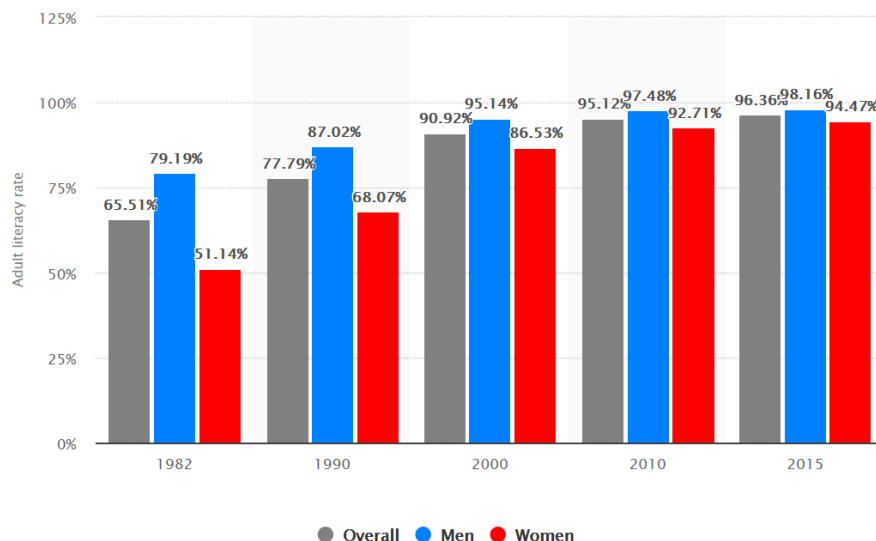
The chart shows the total dependency ratio of China from 1950 to 2050.

China's highest total dependency ratio was 139.7, in 1969. The lowest ratio was 60.8 in 2011.

### 3.3 Literacy in China

The chart below shows that China's adult literacy rate in 2015, for people aged 15 and above had reached 96,4%

#### Adult\* literacy rate in China from 1982 to 2015



Data visualized by tableau

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In China, the literacy rate has developed from 79 percent in 1982 to 97 percent in 2010, indicating that almost one million people per year have become literate over the past three decades.

The dramatic increase in literacy in China has a lot to do with the efficacy of numerous political, economic and educational policies. In 1982, compulsory education was written into

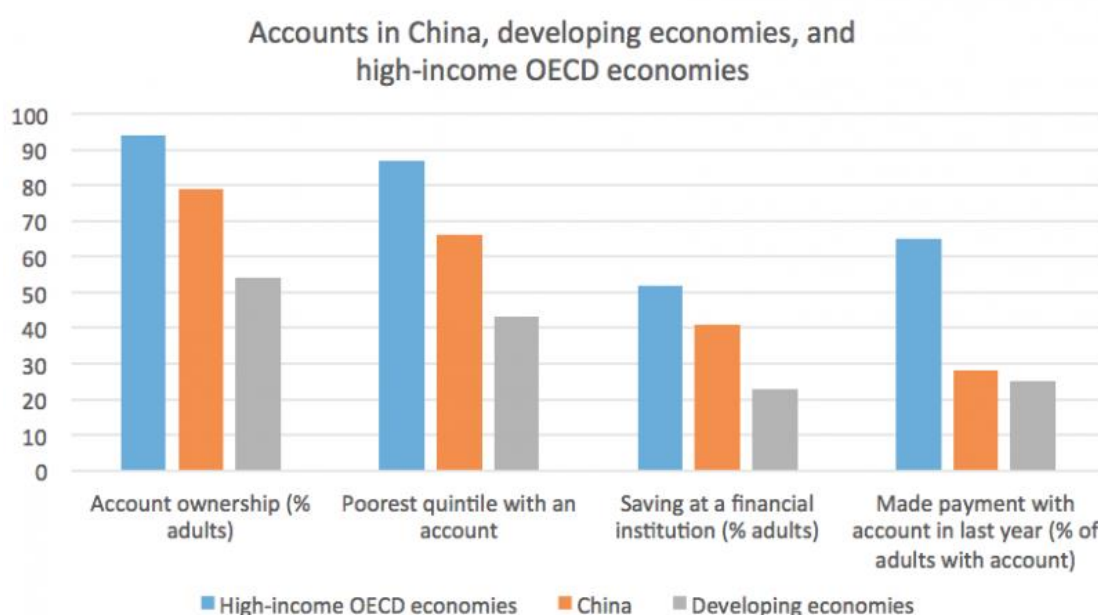
the Chinese constitution, postulating a nine-year compulsory education funded by the government.

### 3.4 Financial Inclusion in China

Nearly eight in 10 adults in China now have a bank account, according to the 2014 Global Findex. This represents a 15 percentage point increase since 2011. According to the survey, the number of global unbanked has decreased from 2.5 billion to 2 billion in the past three years, and China's progress has been a major driver of this change. In fact, the 2014 Findex found that of the world's 500 million newly banked adults, more than one third (180 million) live in China.

Three positive trends emerge from this data.

- Rural and poor people constitute many of the “newly banked” adults. Sixty-six percent of the poorest quintile in China now have a formal account which represents an increase of 28 percentage points over the past three years. The rural population – which includes most of the poor in China - also saw a major increase of 20 percentage points with 74 percent of rural adults formally banked in 2014. Women have significantly benefitted from this growth and are now almost as financially included as men.



Source: World Bank Findex 2014

- China is relatively well-positioned on usage of accounts, especially savings. Use and quality of financial services are crucial. Opening millions of accounts that people don't use does not solve the problem of financial exclusion. On this front, China is doing relatively well, only eight percent of accounts being dormant. 52% of accounts in China are “high use,” meaning that their owners use them for three withdrawals per month or at least one payment or instance of savings in the past 12 months. This statistic contributes to East Asia and the Pacific having the highest ratio of high-use accounts outside the high-income OECD countries.

- The number of adults making payments from their bank accounts using a mobile phone is growing fast. 19% of adults with an account in China make payments from their account using their mobile phones. The rapid growth of mobile phones with over 622 million unique users in 2014 contributes to this trend in mobile phone payments. It is noteworthy that over 80% of Chinese access internet on their mobile phones, which opens great opportunities for mobile banking.

## 4 Legislative Bodies

### 4.1 Role of the Central Bank and other Legislative Bodies

The People's Bank of China (PBC) was established on December 1, 1948 based on the consolidation of the Huabei Bank, the Beihai Bank and the Xibei Farmer Bank. In September 1983, the State Council decided to have the PBC function as a central bank.

The role of the PBC can be assessed based on its following major functions:

Drafting and enforcing relevant laws, rules and regulations that are related to fulfilling its functions	Making payment and settlement rules in collaboration with relevant departments and ensuring normal operation of the payment and settlement systems
Formulating and implementing monetary policy in accordance with law	Providing guidance to anti-money laundering work in the financial sector and monitoring money-laundering related suspicious fund movement
Issuing the Renminbi and administering its circulation	Developing statistics system for the financial industry and responsible for the consolidation of financial statistics as well as the conduct of economic analysis and forecast
Regulating financial markets, including the inter-bank lending market, the inter-bank bond market, foreign exchange market and gold market	Administering credit report industry in China and promoting the building up of credit information system
Preventing and mitigating systematic financial risks to safeguard financial stability	Participating in international financial activities at the capacity of the central bank
Maintaining the Renminbi exchange rate at adaptive and equilibrium level; Holding and managing the state foreign exchange and gold reserves	Engaging in financial business operations in line with relevant rules
Managing the State treasury as fiscal agent	Performing other functions prescribed by the State Council

Out of all these functions, three functions are of utmost importance;

- Formulating and Implementing Monetary Policy
- Regulating Financial Markets
- Managing Payment and Settlement Systems

On 13 March, 2018, the National People's Congress announced a plan to continue the overhaul of China's financial regulatory system. The key changes were as follows:

- The insurance regulator, the China Insurance Regulatory Commission (CIRC), and the banking regulator, the China Banking Regulatory Commission (CBRC), will merge into the China Banking Insurance Regulatory Commission (CBIRC). This merger is meant to resolve problems relating to cross-regulation and an unclear delineation of responsibilities. Its role is limited to policy implementation and compliance enforcement.
- The newly created CBIRC will cede some authority to China's central bank, the People's Bank of China (PBOC), which will assume responsibility for drafting key regulations and prudential oversight in banking and insurance.

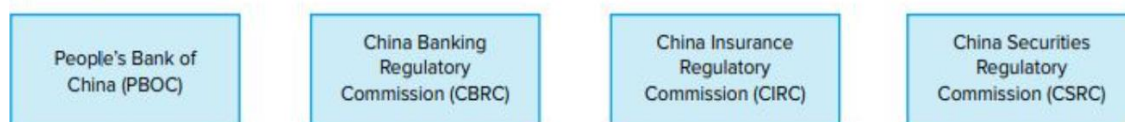
These reforms are meant to address the high systemic risk which has plagued China's financial system in recent years and which many observers have linked to the fragmentary nature of its regulatory system.

**Financial Stability Development Committee (FSDC) was officially established in November 2017.** Its main role is to develop strategies for financial sector development and reform. It seeks to tackle risks in four areas: shadow banking, asset management, internet finance and financial holding companies.

The role of PBOC was elevated after the reformation, as it absorbed policy-making powers previously held by the two banking and insurance regulators.

The pre-reform and post-reform alignments are described in the figures below

#### Pre-Reform



#### Post-Reform



Looking forward, it is expected that China's new regulatory framework will implement stricter regulations that will put the nation's financial system on a sounder footing. This will be a continuation of an ongoing trend towards increased regulation and stricter oversight. This should be propitious to foreign investors, which, relative to their Chinese counterparts are more experienced in dealing with a heavy compliance burden. As well, one of the stated goals of the FSDC is to coordinate efforts to further open China's financial sector to foreign investment.

The obvious rationale for institutional restructuring is to safeguard against financial risks by ensuring better regulatory coordination among the various government agencies.

## 4.2 Implications for Foreign Companies

The newly formed financial regulatory landscape and appointed regulators are both positive developments for foreign companies in China, as the new regulatory structure will be better at detecting financial risks and sustaining a healthy capital market. Monetary policies are likely to be pragmatic and aligned with central trends and market needs.

The recent changes show that China is ready to deepen its integration with the global financial market. China took steps to remove the caps on foreign ownership of banks and asset management companies, as well as raising foreign ownership ceilings to 51% for brokerage firms, fund management, futures and life insurance companies. It is best for the foreign companies to closely monitor government announcements of reform plans to get a head start in terms of market entry. However, broader financial market access does not guarantee a level playing field, with protectionism persisting in more subtle ways.

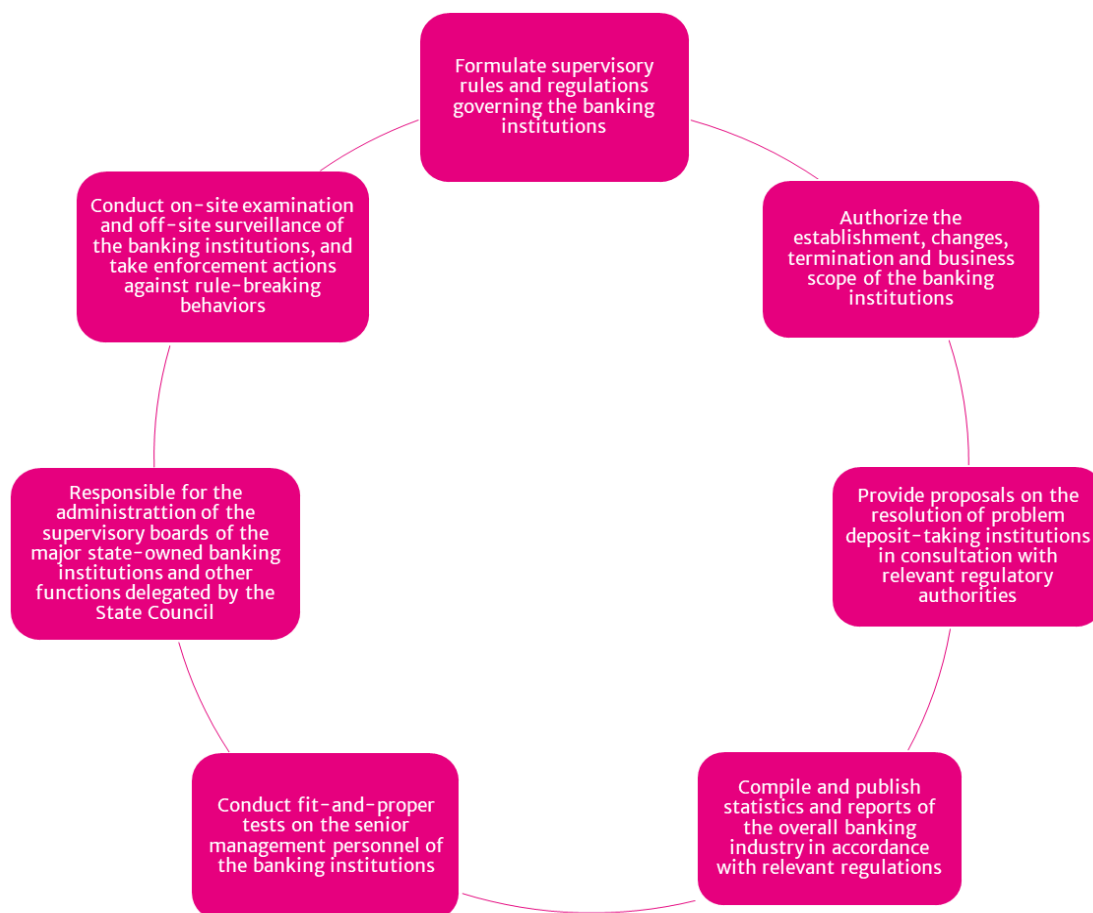
Foreign companies should familiarize themselves with the increasingly tightening financial environment and develop robust government engagement strategies with not only central but also local financial bureaus. The latter is especially important as the regulatory system is messier at the local level, and companies may experience sectorial stakeholder and regulator changes in the coming months as local governments enhance their financial scrutiny. Companies should keep abreast with regulatory changes in cities they tend to operate.

## 4.3 Chinese Banking Regulation

The main regulatory body that oversees the Chinese banking system is the **China Banking Insurance Regulatory Commission (CBIRC)**, which replaced the China Banking Regulatory Commission (CBRC) in **April 2018**. The CBIRC is charged with writing the rules and regulations governing the banking and insurance sectors in China. It also conducts examinations and oversight of banks and insurers, collects and publishes statistics on the banking system, approves the establishment or expansion of banks, and resolves potential liquidity, solvency or other problems that might emerge at individual banks.

The role of the CBIRC will be clear if we take a look at its functions:



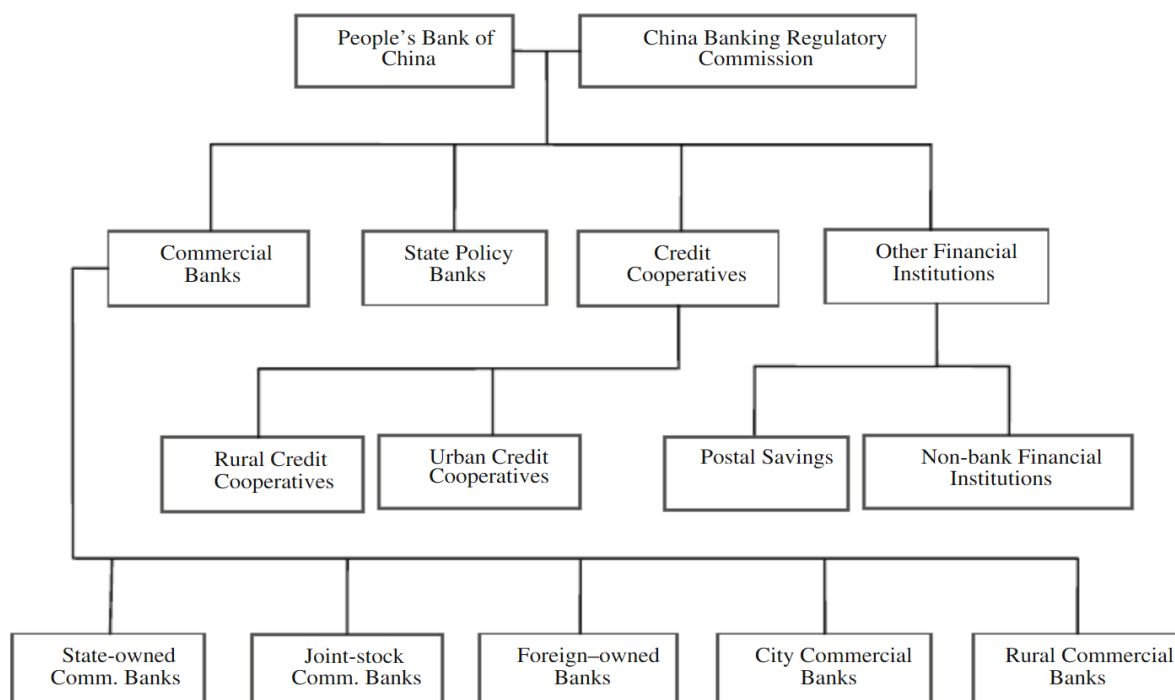


The People's Bank of China also has considerable authority over the Chinese banking system. Aside from the typical central bank responsibility for monetary policy and representing the country in an international forum, the PBC's role is to reduce overall risk and promote stability of the financial system. The PBC also regulates lending and foreign exchange between banks, and supervises the payment and settlement system of the country.

### Chinese Deposit Insurance

**China's Deposit Insurance Regulations went into effect in May 2015.** Deposit insurance is provided to protect depositors from the loss of their funds mainly. The Chinese banking system is undergoing a program of reform needed to help transition that system from state to private ownership, and support the economy's move to capitalism.

The structure of the Chinese financial system can be viewed in the following illustration:



#### 4.4 Different Layers of Banking

The banking system in China used to be monolithic, with the People's Bank of China (PBC), which is the central bank, as the main entity authorized to conduct operations in that country. In 1995, the Chinese Government introduced the Commercial Bank Law to commercialize the operations of the four state-owned banks, the Bank of China (BOC), the China Construction Bank (CCB), the Agricultural Bank of China (ABC) and the Industrial and Commercial Bank of China (ICBC).

Originally, these state-owned banks were created as special credit institutions competent in their respective fields but during the years this specialization is reduced and today they compete on all credit activities. In addition, the 'Big Four' are still used by the Government to support economic plans. With them, since the 1990s, there is also the gradual increase in commercial non-state owned banks and other financial companies often traded and invested in by foreign investors.

The Big Four have several branches and offices throughout the country, allowing them to maintain large and stable relations with the market. The government involvement in their management activities has generated an inefficient costs structure, weak corporate governance and high levels of non-performing loans. In order to avoid the risk that the Big four could be used as mere instruments for financial support to public projects and to focus their activities on better commercial criteria, three State Policy Banks were established in 1994:

- Agricultural Development Bank of China, focused on the financing of agricultural sector;
- China Development Bank, focused on state infrastructure programs and technological projects;

- Export-Import Bank of China, focused on international business promotion and its financial support.

China has also allowed a dozen joint stock commercial banking institutions and more than a hundred city commercial banks to operate in the country. The Chinese banking system is completed by Rural Credit Cooperatives. The firm connection of such banks to the local authorities, or to highly politicized public bodies, means that their management criteria are largely influenced by state mechanisms. Foreign banks were also allowed to establish branches in China and to make strategic minority investments in many of the state-owned commercial banks.

### The Big Four



The ICBC is the largest bank in China by total assets, employees and customers. It differentiates itself from the other State Owned Commercial Banks by being second in foreign exchange business and first in RMB clearing business. It is mainly focused on the commercial and industrial sector. Its activity is concentrated in the largest cities



The BOC characterized by a wider international orientation. It specializes in foreign-exchange transactions and trade finance.



The CCB established to finance real estate investment operations. It usually provides long-term financing, often referred to large infrastructure projects



The ABC specializes in providing financing to China's agricultural sector and offers wholesale and retail banking services to farmers, township and village enterprises.

### Policy Banks

Three new "policy" banks, the Agricultural Development Bank of China (ADBC), China Development Bank (CDB), and the Export-Import Bank of China (Chexim) were established in 1994 to take over the government-directed spending functions of the four state-owned commercial banks. These banks are responsible for financing economic and trade development and state-invested projects. ADBC provides funds for agricultural development projects in rural areas, the CDB specializes in infrastructure financing, and Chexim specializes in trade financing.

### Foreign Sponsored State Banks

In late 2016, due to massive debt problems facing the Chinese economy, the PBC introduced the Foreign Country Sponsored State Banks. This is a type of financial institution when a bank from different country is allowed to set up retail commercial operations in a joint venture with the PBC. The PBC will retain supervision of the bank and possibly remove leverage from the Chinese banking system while the foreign players will be incentivized to start operations in China.

### City Commercial Banks

The third significant group in Chinese banking market is the city commercial banks. Many of them were founded on the basis of urban credit cooperatives. The first one was Shenzhen City Commercial Bank in 1995. Most city commercial banks have strong ties to their local government and are majority or wholly state-owned. These banks' market orientation is towards supporting the regional economy, but also towards financing local infrastructure and other government projects. Since 2008, city commercial banks have started to extend business beyond their home region.

### County Banks

This development started since 2005. It is a kind of financial institution with the purpose of boosting rural economic development.

With the entrance of China into the World Trade Organization (WTO) in 2001, the Chinese banking activity has been directed more towards the logic of performance and efficiency, rather than logical tied exclusively to the national planning.

The Chinese government efforts, to open the financial system, have fostered the rapid expansion of the presence of foreign banks. Since China's accession to WTO, in 5 years the number of operational units of foreign banks has risen from 190 to 312 though the market share still remains only 2%.

The below figure illustrates the market share of the banks:

Banking institutions	Market share (%)
Big four commercial banks	52
Policy banks	10
Joint stock commercial banks	16
City commercial banks	5
Foreign banks	2
Other banking institutions	15

The increasing efficiency and modernization of the banking sector in the last few years have resulted in a gradual loss of market share by the Big Four in favour of smaller and more dynamic banks, more oriented to a careful management.

The total assets of the Chinese banking system were 254.3 trillion yuan, or US\$14.4 trillion, in mid 2018. The five specialized banks controlled 90.4 trillion yuan, or approximately 35.5% of these assets.

## 5 Payment Structures in China

### 5.1 Traditional Payment structures

The payment landscape in China has undergone changes in leaps and bounds. PBC has developed several interbank payment systems, which include the **High-Value Payment System (HVPS)**, the **Bulk Electronic Payment System (BEPS)**, the **Cheque Imaging System (CIS)**, the **Internet Banking Payment System (IBPS)** and the **China Domestic Foreign Currency Payment System (CDFCPS)**. These systems are owned by PBC. HVPS, BEPS

and IBPS are the three primary application systems of the China National Advanced Payment System (CNAPS).

### **High-Value Payment System (HVPS)**

HVPS mainly handles inter-city and local credit transfers above a given value as well as urgent low-value transfers electronically. Payment instructions are sent in real time and cleared transaction by transaction. Participants in HVPS are divided into direct, indirect and chartered participants. Direct participants are the commercial banks which have RMB reserve accounts with PBC, and are directly linked to HVPS through their internal systems. Indirect participants are the commercial banks which have no direct link to HVPS and entrust direct participants to submit and receive interbank payments. Chartered participants are approved by PBC to have direct access to the payment system as a third party. Transactions processed in HVPS are ordinary credit transfers, third-party funds transfers and local netting transactions.

### **Bulk Electronic Payment System (BEPS)**

BEPS deals mainly with local and non-local paper-based debit payments as well as low-value credit transfers below a given value. In June 2006, BEPS was put into operation nationwide. The system sends payment instructions in bulk, nets in real time and settles at regular times. Participants in BEPS are divided into direct, indirect and chartered participants. Direct participants include the commercial banks and the city-level branches of PBC which have opened clearing accounts in PBC, and are linked directly to BEPS. Indirect participants are the commercial banks and county-level branches of PBC which have no access to BEPS and thus entrust direct participants to submit and receive interbank payments. Chartered participants are approved by PBC to have direct access to the payment system as a third party. BEPS can process seven types of basic transaction: ordinary credit, periodic credit, real-time credit, ordinary debit, direct debit, real-time debit and information service.

### **Internet Banking Payment System (IBPS)**

IBPS mainly handles interbank retail payment transactions via the internet, enabling customers to submit online payments and obtain results in real time. IBPS has been put into operation nationwide since August 2010. IBPS has direct and indirect participants. Direct participants are banking institutions with direct access to the system. Banking institutions with direct access are commercial banks which have RMB reserve accounts with PBC, and are linked directly to IBPS. Other banking institutions can entrust direct participants with the submission/receipt of payments. IBPS mainly handles internet credit and debit transfers initiated by commercial banks.

### **Local Clearing Systems**

Local clearing systems conduct centralised exchange and netting of local electronic payments and paper-based instruments such as cheques, promissory notes and bank drafts that cannot be truncated. A majority of local clearing systems are owned by PBC and a minority of them are jointly owned by their members. The participants in local clearing systems are mostly banking institutions, accounting and treasury departments of PBC branches, and other institutions approved by PBC. Local clearing systems process debit and credit transactions.

### **Cheque Image System (CIS)**

CIS is a cheque truncation system supporting the use of cheques nationwide. It converts physical cheques into images, and then transmits the cheque image and related information to the drawer's bank. The system was launched in June 2007. Participants include banking institutions and local clearing houses. CIS primarily processes the inter-city image information of cheques with a value of less than CNY 500,000.

### **China Domestic Foreign Currency Payment System (CDFCPS)**

CDFCPS is an RTGS system developed by PBC for the foreign currency payments incurred by domestic purchases of goods and services. It was put into operation at the end of April 2008. CDFCPS can process payments in eight currencies: USD, HKD, GBP, EUR, JPY, CAD, CHF and AUD. It does not involve foreign exchange transactions. Participants can be divided into direct participants and chartered participants. Direct participants open foreign currency accounts with the settlement agents. Chartered participants are foreign currency clearing institutions which have joined CDFCPS but have not opened accounts with settlement agents. At present, the main type of transaction is interbank credit transfer.

China's eCommerce market is set to grow by 11% to US\$1.55tn by 2021, reinforcing its position as the largest eCommerce market in the world. Alternative payment methods are cementing their place at the heart of online shopping in China – echoing a global trend towards fragmentation in online payments, as options like mobile wallets, pre-paid cards and bank transfers are set to steal market share from more traditional payment methods like credit and debit cards over the next five years. Hundreds and thousands of small-scale shops including restaurants, grocery stores and tea houses have adopted the electronic payment method.

In major Chinese cities, paying by paper money is all but dead thanks to the convenience of mobile payment. Third-party payment services Alipay by internet giants Alibaba group, and Tencent Holdings, which offers Wechat Pay have found their way into hundreds and thousands of small-scale vendors. Chinese consumers have been fast adopters of online retail, financial and on-demand services and prefer the convenience of mobile payments to do it. **Most consumers prefer to pay with an e-wallet such as Alipay or WeChat Pay. E-wallets account for 62% market share in China in 2017.**

What follows in popularity, are credit cards (10%), bank transfers (8%), and cash on delivery (8%) each in 2017.

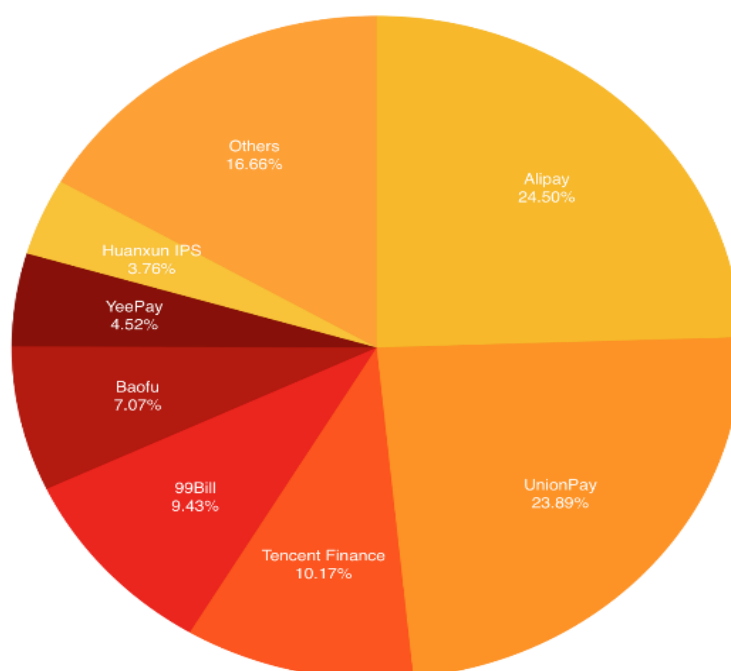
Bank transfers are set to overtake credit cards as the second most popular payment method in China, accounting for 14.2% of all eCommerce market share by 2021.

Credit cards are set to lose share in China in the next five years, shifting from 9.6% to 7.7%.

Conversely, debit cards are set to increase from 4.5% to 7.1%.

Discussing about online payments, based on data of Q4, 2017, Alipay was the most popular choice, leading the market with a share of 24.5%. UnionPay is not far behind with 23.89% while Tencent Finance has a market share of 10.17%





## 5.2 Mobile Payment Industry and Structure

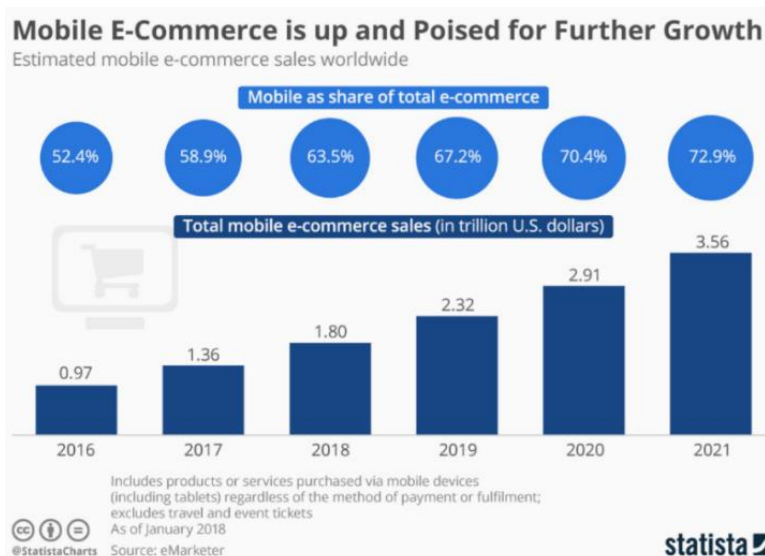
The Chinese government is playing an active role in building a world-class infrastructure to support digitization as an investor, developer and consumer. China is fast transforming into a world digital leader. When third-party payment platforms were just an up-and-coming industry, the Central Bank of China deliberately set a high registration capital requirement of RMB 100 million for national-wide companies; for regional operators, the registration capital was set at RMB 30 million. By setting such conditions, the Central Bank of China created a high standard for market access. By only allowing several big players into the market, the mobile payment ecosystem in China was relatively centralized. A centralized payment system could reduce confusion and compatibility issues, which would usually arise when there were multiple payment platforms in the market. The state had also been preventing the duopoly from gaining excessive market power and monitoring illicit transactions.

In August 2017, the People's Bank of China (PBOC) mandated all third-party payment platform to use a new clearing housing for all of their transactions. Moreover, PBOC recently addressed the problem of consumer data protection. The bank required non-bank payment platforms to upgrade their "Know Your Customer" measures to prevent fraud, and safeguard the storage of sensitive information.

China's rapid development in the mobile payment market was also a result of its late-mover advantage. Led by the popular mobile apps, AliPay and WeChat Pay, Chinese consumers go straight from cash to smartphones, skipping the use of credit and debit cards. In contrast to other economies, China's credit card system had yet to achieve maturity. Furthermore, despite its rapid economic growth and emerging middle class with immense purchasing power, China's banking infrastructure such as commercial bank branches and ATMs were not fulfilling the needs of the Chinese consumers. Under such conditions, the technology giants were able to fill the gap in the underdeveloped banking system. Thus money in China flows through a digital system that combines social media, commerce, and banking. Also the fact that the Chinese culture opposed the idea of owning anyone money. Hence,



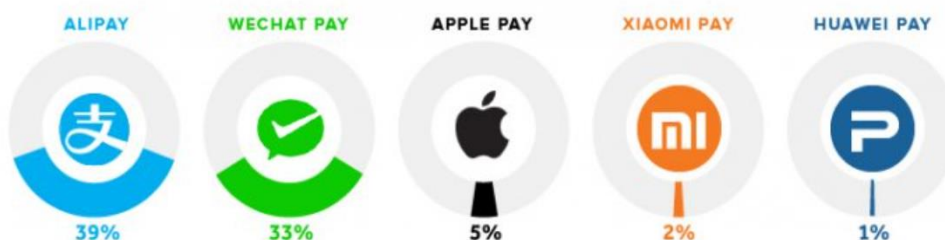
credit cards were less appealing to Chinese consumers. However, mobile payment was not only about being able to pay for products services using your phone. China had gone to a step further in integrating e-payment systems such as Alipay with the livelihoods of the Chinese people.



In recent years, China also witnessed the state's transition from a referee to an active participant in the fintech and mobile payment game. Recently, state-owned institutions such as China Investment Corp, China Life, and China Development Bank Capital had all made large investments into Ant Financial, the parent company of Alipay.

Mobile payment has already become a way of life in China so much so that, if a tourist visited China in 2018, he or she would soon realise that cash had become obsolete in the country and credit/debit cards were rarely seen. Street vendors, convenient stores, restaurant, and even high-end department stores were more likely to ask to scan the QR code in your mobile payment application when you wished to make payment. In 2016, China's mobile payment transactions hit USD 5.5 trillion, accounting for 74% of all online payment and dwarfing any other economies in the world.

#### MOBILE PAYMENT SERVICES, CHINESE MARKET SHARE



SOURCE: World Core, as of Early 2017

In China, **mobile payment market is dominated by two big players – Alipay and WeChat Pay**. The former is an affiliate of Alibaba's Ant Financial Service Group, one of the most valuable financial fintech companies in the world and was once the undisputed leader in mobile payments, but the company has recently seen its market share eroded by an increasingly scrappy WeChat. WeChat has smartly leveraged its popularity and massive user base to get people using it as a payment tool as well.

And the latter is an affiliate of Tencent, one of the biggest technology giants of the world.

ApplePay, which had high hopes for the Chinese market, continues to lag far behind domestic brands.

Together, Alipay and WeChat Pay captured 93.08% of the market in 2017 giving them the dominant position in the Chinese market. It is important to discuss the success story of Alipay in order to show how China is leading the mobile payment market and this is where the next sub section come into picture.

### 5.2.1 Case Study – Alipay

The success of Alipay cannot be discussed without mentioning China's biggest online shopping platform, Alibaba or Taobao. Initially, Alipay was created as a platform to safeguard the online transactions between consumers and merchants. In the early stage, Alipay's users linked their user accounts to their bank accounts. When they made the purchase, Alipay would hold the money until consumers received the product. As for the merchants, they knew that the cash would be there for them to collect after they dispatched the products. In a society where consumers and merchants lacked mutual trust, Alipay's role was necessary and crucial. Therefore, Alipay soon became ubiquitous as online shopping was transforming consumers' consumption habits.

Alipay did not stand still, but sought opportunities when smartphone became cheaper and mobile network services gradually improved in service and stability in China. In 2008, Alipay tapped into the mobile payment business. Initially, users could use Alipay Wallet to pay for Taobao's products and utility bills. Later in 2011, Alipay designed the QR code payment method which allowed offline partnering stores to accept payment in real-time by scanning an individual's QR code in Alipay Wallet. Because of its convenience and cost-effectiveness, Alipay attracted 200,000 offline partnering stores, and 500,000 taxi partners. In 2016, Alipay's real-name users hit 450 million, and 71% of the transactions occurred on the mobile end.

One could argue that the reason behind Alipay's success was actually the success of Taobao. Alibaba's business model was focused on serving small businesses so that consumers could enjoy a variety of goods and services. Consequently, Alipay captured a huge share of China's market since people had to rely on Alipay do transactions.

However, the success of Alipay was not solely a by-product of Taobao's popularity. Alipay was innovating constantly to expand its business, with the QR code payment method being the most prominent example. Moreover, Alipay has made its service cheaper than conventional payment methods such as the point-of-sale (POS) machines. For instance, an offline partnering store only had to pay 0.6% per transaction value to Alipay,10 compared to the maximum of 1.25% for accepting cards using POS machine; 11 not to mention that businesses had to purchase and maintain the machine itself, incurring an extra cost.

On top of its conveniences, in 2017 alone, Alipay had invested RMB 1 billion into a promotion campaign to enhance consumer stickiness to its mobile app. In this promotion, consumers would get a digital "red envelope" containing a random amount of cash, which could be used in either online or offline stores. Furthermore, to attract and keep its users, Alipay created an internet finance ecosystem within the application itself by including services such as Yu'e Bao (money market fund platform), Sesame Credit (social credit scoring system), and Ant-micro (micro-loan provider).

These services, together with Alipay Wallet, transformed Alipay from a single payment application to an integrated consumer and financial ecosystem where the users were able

to enjoy holistic services without leaving the application. By creating such a comprehensive user experience, Alipay successfully captured the users and integrated itself into their daily activities.

Last but not least, Alipay's security system had also gained the trust of the Chinese users. According to a recent survey, 90% of the survey respondents thought that Alipay was safe and their data was secure with the company. This was a result of Alipay's huge investment (US\$6.5 million by 2015) in research and partnerships with software companies to develop security measures in order to safeguard users' money and information.

### **Difference between Alipay and WeChat Pay**

A relative latecomer to the mobile payments market when compared with Alibaba's Alipay, Tencent's WeChat Pay launched in 2013, with a number of approved merchants, and has rapidly grown since. The service aims to be as convenient as possible, allowing users to pay for an endless variety of goods and services both on and offline. WeChat Pay borrows Alipay's model for offline purchasing by using system generated QR codes – it's common to see codes for both platforms at points of sale.

Alipay shares much of the same functionality with WeChat, enabling users to make payments using QR codes, and both services offer no transactions fees except for large withdrawals. Both WeChat and Alipay control over 90% of China's \$5.5 trillion mobile payment market.

WeChat Pay's most notable feature is 'red envelope', which allows users to virtually send money to family and friends on special occasions. Reportedly, 768 million people sent out red envelopes in celebration of the Lunar New Year back in February 2018, 55% of China's billion-plus population.

A huge difference between the two mobile payment systems is WeChat Pay's integration into China's most popular social media platform, WeChat, which recently passed one billion monthly active users. WeChat's popularity is bolstered by how it comes pre-installed on 90% of Chinese smartphones, and every WeChat user has access to WeChat Pay as long as their account is linked with their bank. This has had an evident effect on Alipay's growth – Alibaba's market share fell by nearly half at the end of 2017, while Tencent witnessed growth of more than a third.

Though Alipay has a transaction limit in Europe of 40,000 euros, where WeChat Pay's limit is 10,000. Furthermore, they both recently formed partnerships with tax refund companies, allowing for Chinese tourists to use either mobile payment method to receive rebates on their purchases. WeChat now offers instant tax refunds for Chinese tourists departing from Madrid airport, and Alipay introduced a similar service for Chinese tourists returning to Changi airport in Singapore.

### 5.3 China UnionPay



As the name suggests, China UnionPay (or UnionPay) was established in the Peoples Republic of China, with the blessing of the Chinese government, primarily to provide a payment processor for four major Chinese banks. But rapidly expanding into a global payment brand. It was launched in 2002 in Shanghai and is widely used by Chinese citizens domestically and abroad. It is currently the third largest payment network by processing volume behind Visa and MasterCard.

With a Monopoly on clearing for domestic Chinese payments, UnionPay grew rapidly as the wider Chinese economy flourished. CUP, is a state-sponsored provider of financial services to include debit and credit card services, as well as online banking and ecommerce transaction services.

UnionPay, the world's largest bank card service, lags behind WeChat Pay and Alipay in terms of mobile payments, having first introduced their QR code-based payment method in 2017. UnionPay's QR code-based payment method witnessed huge growth in volume over the Chinese New Year holiday period this year – specifically a 150% year-on-year increase.

The Company is a provider of bankcard services to 20 Chinese banks, as well as nearly a dozen other banks outside China who are authorized to issue China UnionPay cards within the country of China. Foreign member banks include Citibank and HSBC, as well as the Bank of East Asia and the Development Bank of Singapore.

The Chinese loved to travel hence the number of countries where UnionPay was accepted exploded. This growth was partly driven by the fact that Chinese tourists often prefer to use a familiar brand abroad, but also because a dispute between Visa and UnionPay saw dual processor cards (which featured the logos of both payment processor) disappear from Chinese customers. Visa and MasterCard (and even American Express) products continued to be offered by Chinese banks for customers travelling abroad, but to ensure Chinese customers could pay easily, many foreign retailers (especially luxury goods retailers) adopted UnionPay as an additional payment method. As a result, UnionPay can now be used in over 150 countries.

However, at its heart, UnionPay is a credit card and the market has moved on to mobile payments, while UnionPay runs to keep up.

### 5.4 QR Payments

Given its high levels of internet and mobile penetration, it is perhaps not surprising that China has become the world's largest and most developed retail e-commerce market. Competition for market share has propelled innovations that connect online payments with face-to-face retail transactions.

Diagram 8: QR codes are key in China in enabling interaction between online and offline worlds



QR codes, a type of matrix barcode, have been key in facilitating the offline-to-online interaction and are widely used in China's retail businesses, from street food vendors to Starbucks. It is used both by a shopkeeper who displays a code that customers scan with their mobile phone to

initiate a payment, or a customer's WeChat or Alipay account generates a unique, transaction-specific code that a retailer scans to complete a transaction. In either case, the mobile phone acts as a kind of payment card. Money transfer between parties is also as simple as sending a text message.

Diverting from today's norm of acquiring customers online, a rising number of Chinese retailers (both bricks-and-mortar and e-commerce companies) have started using QR codes on billboards, posters and flyers to offer discounts and product information. By scanning the codes, smartphone users can use mobile payment options to immediately purchase the product or service – promoting impulsive purchasing. Recognising this growing trend, PBOC recently revealed plans to regulate QR based payment technologies and has authorised the China Payment & Clearing Association to draft standards for mobile purchases linked to QR codes.

**In 2017, mobile payments yielded an extraordinary total sum of \$32 trillion USD**, according to the People's Bank of China. However, since mobile payments are not yet widely accepted outside China, the usage rate of mobile payments by Chinese outbound tourists abroad is currently lower than that of cash and bank card payments at 65%. This is still significantly higher than the usage rate among non-Chinese tourists, which stands at 11%. All in all, destinations should look to accommodate Chinese mobile payment apps to ensure the widespread availability of Chinese tourists' preferred payment method.

## 6 FinTech market in China

Aspects of China's traditional financial services sector may be somewhat underdeveloped compared to those in other developed markets, but the nation is emerging as the world's FinTech market leader. China has leapfrogged ahead of the West to become the undoubted centre of global FinTech innovation and adoption, with developments across multiple hubs, such as Shanghai, Hangzhou, Beijing, and Shenzhen. The speed, sophistication, and scale of development of China's FinTech ecosystem have been at a level unmatched in more established markets.



China's FinTech revolution is a consequence of multiple factors – not least the scale of unmet needs being addressed by dominant technology leaders, combined with regulatory facilitation and easy access to capital. Underserved by China's incumbent banking system, consumers and small-to-medium-sized enterprises (SMEs) are increasingly turning to alternative providers for access to payments, credit, investments, insurance, and even other non-financial service offerings.

## 6.1 The Seven Key Fintech Vertical Market

China's FinTech industry is leading by huge margins in Asia-Pacific with segments like payments and insurance already beyond the tipping point. Chinese FinTech activity spans seven key vertical markets:

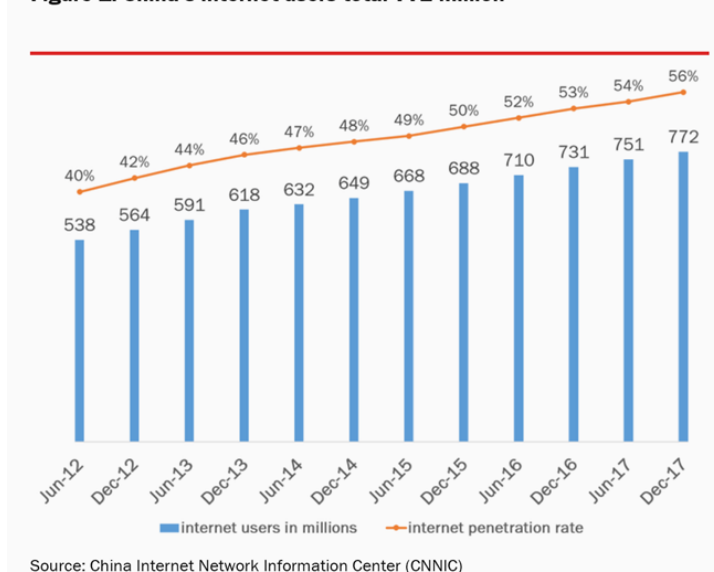
- **Payments and e-wallets** A mobile payments ecosystem facilitated by e-commerce and social media players, of which Alipay (of Ant Financial) and Tenpay (a Tencent company) dominate the market. Other notable players include UnionPay, ICBC e-wallet, JD Pay/Wallet (of JD.com) and 99bill (of Dalian Wanda Group).
- **Supply chain and consumer finance** E-commerce players lend to underbanked or unbanked individuals and small medium enterprises (SMEs) by leveraging users' merchant data on the platform. Key participants include Ant Financial and MyBank (Alibaba), WeBank with WeChat (Tencent), JD Finance (JD.com) and Gome Electronic Appliance, which recently ventured into providing financial services for individual customers and suppliers.
- **Peer-to-peer (P2P) lending platforms** P2P platforms create a marketplace for peers to lend to individuals and SMEs underserved by the traditional lending sector. Market leaders are Lufax (Ping An Insurance), Yirendai (CreditEase), Rendai, Zhai Cai Bao (Alibaba) and Dianrong (the co-founder of Lending Club).
- **Online funds** Funds linked to payment platforms that offer ease of access and more competitive returns than the historically low deposit rates. Primary participants are Yu'e Bao of Ant Financial, Li Cai Tong (Tencent) and Baifa (Baidu).
- **Online insurance** E-insurance sold through e-commerce and online wealth management (WM) platforms. Notable brands are platforms by the People's Insurance Company of China (PICC), Ping An, and Zhong An (in partnership with Ping An).
- **Personal finance management** Recently developed mobile-centric finance solutions providing access to mutual funds through stock trading apps. These platforms offer offline-to-online activity, with online brokers accounting for over 92% of new clients. Key players include Ant Financial (Alibaba), Li Cai Tong (Tencent), Baifa (Baidu), Wacai, Tongbanjie, Zhiwanglicai (CreditEase) and JD Finance (JD.com).
- **Online brokerage** Investment, social network and information portals for investors in China, providing thematic investing via websites and mobile apps, and offered by FinTech firms such as Snowball Finance, Xianrenzhang and Yiqiniu.

Of the 27 fintech “unicorns”—fintech startups with valuations exceeding \$1 billion—in the world, nine are Chinese (including one from Hong Kong) and 12 are American. Behind China’s fintech miracle lies the country’s unique technology ecosystem: a tech-savvy population, an underdeveloped banking industry, and an initially relaxed regulatory environment. While per-capita income in China remains low—\$4,044 in 2017—the country’s rapid urbanization process has spurred the growth of a large middle class.

The exponential growth in both China’s economy and middle class, with their new-found spending power, has been paving the way for a corresponding rise in financial services in China. China’s remarkably unsophisticated banks stand in marked contrast to its well-developed technological infrastructure and soaring demand for financial services. For a long time, commercial banks in China, which are mostly state-owned, have focused mainly on servicing Chinese state-owned enterprises, neglecting the growing financial needs of small-to-medium-sized enterprises (SMEs) and ordinary Chinese people with rapidly accumulating wealth. Traditional banks are seen as offering homogeneous, uncompetitive, unimaginative financial products that are pushed out to customers, rather than responding to customers’ needs.

Although China may have much less extensive physical banking infrastructure compared to the US and Europe, its digital infrastructure is far more mature, with a population ready and able to use their smartphones for mobile banking. The smartphone is becoming the universal internet access device.

**Figure 1: China’s internet users total 772 million**



As of December 2017, China had 772 million internet users, or more than the entire population of Europe. And yet, that figure represents only 55.6 percent of China’s population. Perhaps most significant of all, more than 95 percent of China’s internet users—or 772 million people—access the web via a mobile device.

Fintech firms, noticing this surplus of underserved individuals and SMEs, have stepped in to fill the void. Mobile payments and online lending, which directly address consumers’ spending and credit

demands, are the two most prominent sectors in the Chinese fintech industry.

## 6.2 Mobile Payments

The numbers speak for themselves when it comes to Chinese mobile payments. In 2016, Chinese consumers spent approximately \$22.8 trillion (RMB 157.55 trillion) through mobile payment platforms, far exceeding the volume of transactions in the United States (\$112 billion). Over 90 percent of that sum stemmed from mobile payment apps that belong to China’s two biggest tech conglomerates: Alibaba’s Alipay (54 percent) and Tencent’s TenPay (37 percent).

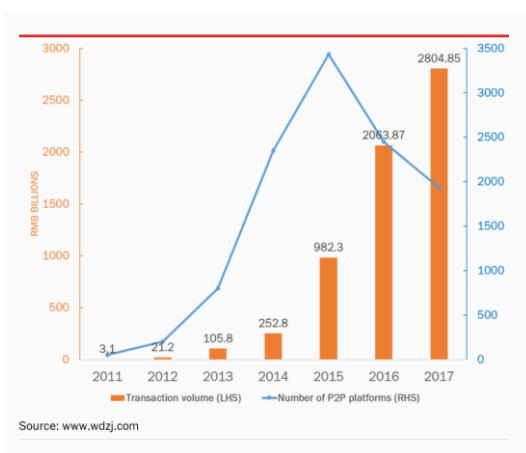


Alipay, as discussed earlier, was launched in 2004 as a PayPal-type service to facilitate transactions on its e-commerce website Taobao. It quickly grew into the largest platform for online transactions and remained the dominant player until a decade later, when its market monopoly was interrupted by Tencent, another tech giant in China best known for its social media platform WeChat with 889 million active users. Tencent's "Weixin Pay" burst onto the scene with digital *hongbao*, or "red envelope"—a reference to the stationery commonly used for cash gifts during the Chinese new year. The ability to send *hongbao* online via WeChat accounts revolutionized a centuries-old practice.

It is used both by a shopkeeper who displays a code that customers scan with their mobile phone to initiate a payment, or a customer's WeChat or Alipay account generates a unique, transaction-specific code that a retailer scans to complete a transaction. In either case, the mobile phone acts as a kind of payment card. Money transfer between parties is also as simple as sending a text message.

Unlike the disaggregated mobile payments market in the United States—where PayPal and Visa Checkout are used for online shopping, Apple Pay and Android Pay serve as mobile-phone wallets, and Venmo and Facebook Messenger are common for transferring money between friends—single platforms in China integrate all of these functions.

### 6.3 Online lending

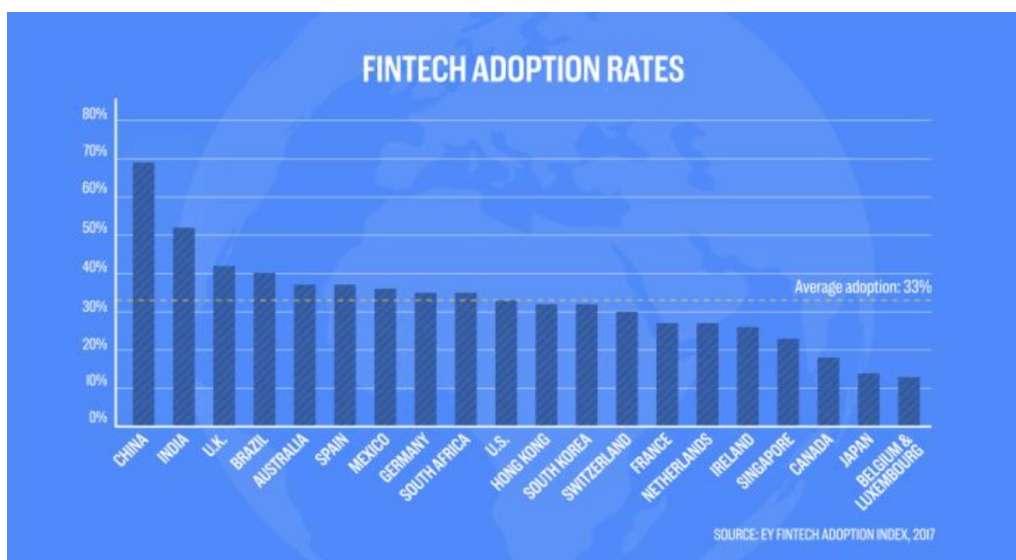


China has become the global leader in online lending, accounting for three-quarters of the global market. The majority of China's online lending is peer-to-peer (P2P). Online lending platforms connect potential borrowers with lenders who are seeking returns higher than bank-offered interest rates. As P2P lending platforms have taken shape, private capital that once sat idle due to limited investment opportunities has started to pour in. P2P lending platforms mushroomed from only 200 in 2012 to more than 3,000 in 2015.

Absence of regulation sparked the boom but also gave rise to a market brimming with scams and high-risk financial models.

This figure shows that the total number of P2P online lending platforms plummeted in 2016, even though transaction volume more than doubled that same year.

A study from accounting firm EY examined fintech adoption rates across 20 major economies. It found 69 percent of Chinese consumers had used at least two fintech services in the last six months. India came in second with 52 percent of consumers using fintech, followed by the United Kingdom at 42 percent.



## 6.4 Credit Reporting System

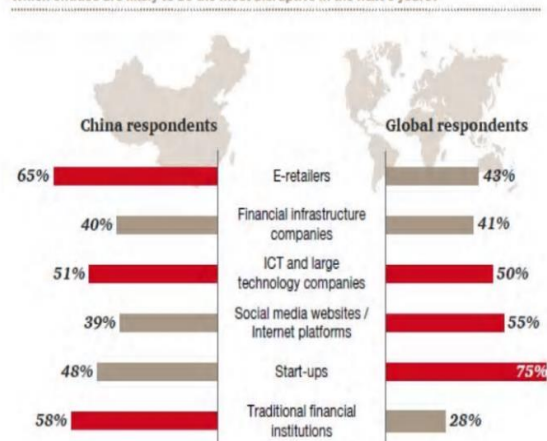
With reams of user data, China's largest fintech firms are ahead of the curve in setting up their own credit measurements. Alibaba, the world's largest e-commerce firm, rolled out Sesame Credit in 2015. Sesame Credit has direct access to data related to the more than 500 million consumers who use Alibaba's Taobao and Tmall marketplaces on a monthly basis, as well as payment histories of the more than 400 million registered users on its mobile payment app Alipay. Sesame Credit assigns users a score ranging from 350 to 950 based on five criteria: credit history, online transactional habits, personal information, ability to honor an agreement, and social network affiliations. Those with high credit scores have access to special privileges, including online credit, express service at hotels and airports, deposit waivers on rentals, and expedited visa applications to Singapore and Luxembourg. Tencent stepped onto the credit-scoring battlefield this past August when it introduced Tencent Credit, which also derives scores from five indices.

Alibaba and Tencent were only two of the eight technology companies the Chinese government tapped to develop pilot programs in consumer credit reporting in 2015. Companies have developed their credit systems almost like loyalty programs—customers gain access to special promotions and products as their credit scores increase. Unsurprisingly, companies have proven reluctant to share data with their rivals. However, the government is determined to merge the individual efforts into a comprehensive credit reporting system. In January 2018, a new company led by the National Internet Finance Association of China (NIFA) submitted an application to People's Bank of China for a license to operate the country's first centralized personal credit reporting agency. The application, publicized by the central bank on its website, shows that NIFA will become the leading shareholder, with a 36 percent stake in the new company, while eight credit reporting firms, including Sesame Credit and Tencent Credit, will each hold 8 percent. They are aiming to serve not only traditional commercial banks, but also new Internet-based financial institutions such as online micro-lenders, P2P-lending intermediaries, and online shopping platforms.

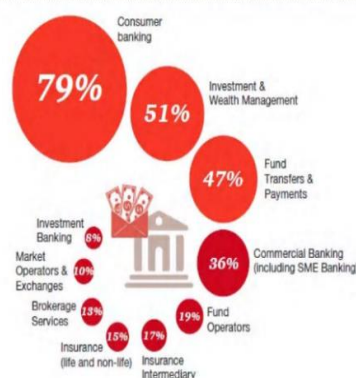
## 6.5 Opportunity Areas

The three main areas to be disrupted by FinTech in China over the next five years are consumer banking, investment & wealth management, and fund transfers & payments. E-retailers, financial institutions and large technology companies will be the biggest sources of disruption.

Which entities are likely to be the most disruptive in the next 5 years?



Which parts of the financial sector are likely to be the most disrupted by FinTech over the next 5 years in China?



## The Future of Chinese FinTech

By any measure, China has become the world leader in the fintech industry. Though largely reliant on China's relatively closed domestic market, several industry leaders are setting their sights abroad. China's expanding outbound tourism industry offers an easy entry point for Chinese fintech firms. According to the U.N. World Tourism Organization, 135 million Chinese tourists spent a total of \$261 billion abroad in 2016, far outstripping the United States, the world's second-largest market for outbound tourism. In popular destinations such as Hong Kong, Thailand, Japan, and Korea, WeChat Pay and Alipay are aggressively expanding their reach by forming local partnerships with places frequented by tourists, including airport duty-free shops, scenic spots, shopping malls, and restaurants. In the coming years, China looks set to continue to dominate the global FinTech industry with a very strong domestic market.

But Chinese fintech firms will not be satisfied with only serving Chinese tourists. They are eager to replicate their success in other markets. Alibaba's approach is simple: Go after populations underserved by existing financial institutions, develop and promote mobile solutions, and collaborate with local partners. Since 2015, Alibaba's financial affiliate and Alipay's operator, Ant Financial, has invested in a series of mobile wallet and other fintech startups in India, the Philippines, Thailand, Singapore, and South Korea. Over the next four years, Alibaba expects more than half of its growth in users to come from overseas markets.

Overseas, Chinese FinTech firms will also play an increasingly important role in the global collaborations driving technological innovation. Of course, Chinese fintech firms will face new hurdles as they march into developed economies like the United States. For instance, Ant Financial's yearlong effort to take over MoneyGram, a money transfer company headquartered in Dallas, Texas, was submitted to CFIUS—the authority responsible for reviewing and approving foreign investment in the United States—three times before finally being rejected at the beginning of 2018.

As 2018 unfolds, Chinese fintech firms attempting to enter developed markets will likely experience further setbacks given the current geopolitical climate and rising concerns over personal data being acquired by foreign groups. In the meantime, China's vast domestic market, along with markets in developing countries, still leave plenty of room for these firms to expand over the coming years.

## 7 Fraud and Preventive Measures

The speed of economic growth in the country detracted attention from cost savings; a more competitive market now means businesses need to build stronger anti-fraud programs to protect margins and improve efficiency. But preventing and detecting fraud is not getting any easier. The pace of regulatory reform and the grey legal areas these reforms can create make a space where businesses can begin operating halfway between right and wrong.

As we all know that mobile payments are wildly popular in China, their growth outstripping the use of credit card payments common in the rest of the world. However, mobile payments' ease of use and popularity creates challenges for businesses trying to detect and stop payments fraud. The patterns that tip off fraud detection teams to suspicious payments made with credit cards – such as multiple payments of similar amounts transacted by an account during a short timeframe – don't necessarily carry over to mobile payments in China. To stop fraud, merchants and payment processors operating in China need local knowledge of how people pay, and how fraudsters exploit these preferences.

To understand how payments fraud in China deviates from other countries, it's good to get a sense of the uniqueness of the Chinese payments market. First of all, mobile payments are vastly preferred by consumers: mobile payments in China totaled USD 9 trillion in 2016, compared with just USD 112 billion in the United States.

What's more, Chinese consumers don't just use mobile payments for day-to-day shopping. With their mobile devices, they can even make purchases for pricey tangible assets, since single transaction limits for mobile payments can run as high as RMB 300,000 (USD 47,500). Therefore, mobile payments are a useful substitute for other forms of payment such as checks and cash.

The relative rarity of credit card transaction fraud in China is not simply due to the availability of alternative payments. In China, credit card holders are usually responsible for fraudulent charges – the opposite of markets like the US, where cardholders can easily dispute a charge and merchants are the ones hit by chargebacks. Since Chinese credit card users are on the hook for fraud, they often employ two-factor authentication to protect their transactions – much more so than in other countries, where such user-driven protection is not typical even for sensitive financial accounts.

The rapid growth of advanced technologies, coupled with the slower growth of the cybersecurity measures necessary to protect them, has left the Greater China region vulnerable to increased cyberattacks focused on traditional cybercrime, cyber-physical system attacks that could impact the region's rapidly "smartified" infrastructure, and cybercrime reputational consequences that could devastate region's economic development aspirations that are increasingly linked to technology adoption and technology exports.

Chinese officials first voiced public concern about cybercrime against their citizens in 2001. Online crimewave started spreading to different industries and even smaller and remote cities in some of which phishing and other cybercrime has started supplanting traditional crimes. Most hackers were technologically unsophisticated, buying pre-packaged hacking tools from professional hackers on the underground Internet. Chinese law enforcement focused on shutting down online marketplaces where these tools were sold, but with mixed success.

Cybercrime increasingly spread from simple phishing, a crime against individuals, to attacks on financial institutions. In the next five years, Chinese officials shut down some of the largest online marketplaces and training sites, but cybercrime still skyrocketed.

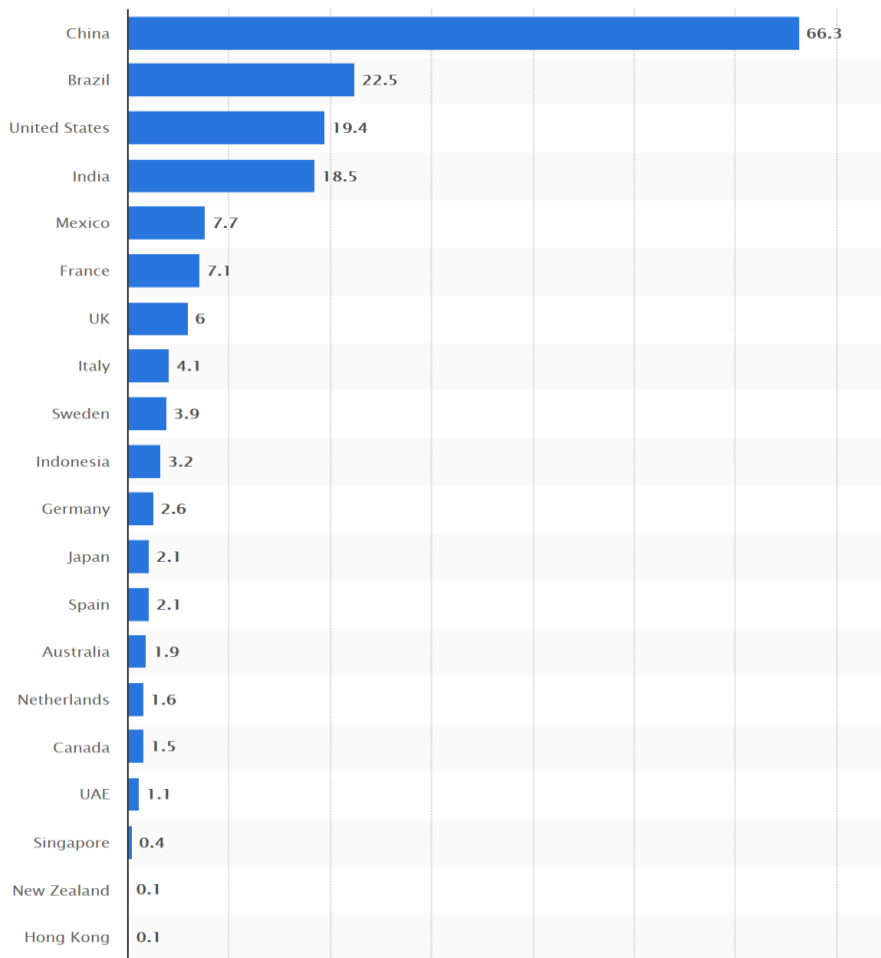
The scope of attacks continued growing. A massive cyberattack forced the Hong Kong stock exchange to temporarily suspend trading of seven major companies in 2011. Although trading systems were not believed to have been compromised, investors were temporarily blocked from receiving crucial announcements scheduled for release by those companies. The Norton 2012 Cybercrime Report listed 85% of Chinese citizens as having been victims of cybercrime—the highest percentage of any nation's citizens. VTech, a Hong Kong toy company, suffered a 2015 attack that exposed the personal information of 4.9 million adult customers and their 6.4 million children. In 2015, Taobao, a Chinese consumer-to-consumer sales platform like the US eBay, saw 21 million of their members' accounts compromised in a massive scheme to give the appearance of legitimacy to fraudulent sales offers. A 2015 government report places the yearly impact of cybercrime to China's economy at 80.5 billion Yuan (US\$11.9 billion). The most headline-grabbing case was Ezubao, a platform that lured investors with promises of double-digit annual returns. It attracted \$7.6 billion from nearly one million users in just 18 months before it was identified as a Ponzi scheme, with more than 95 percent of its borrowers being fictitious. In 2016, about 1,300 platforms were pegged as problematic, and over 900 closed by the end of the year.] While some closures were due to legitimate mergers and acquisitions, many shutdowns were the result of new regulations. And in November 2017, approvals for all online lending companies were halted, a measure that further chilled this fast-growing sector. Clearly, cybercrime has already had a major effect on the Chinese economy.

Just because credit cards are not a favored form of payment doesn't mean fraud is under control in China. A survey from China UnionPay shows that 60% of consumers were exposed to mobile-payment security threats such as information leaks or malicious attacks. In an effort to clamp down on fraud and money laundering, the country's central bank, People's Bank of China, put a limit on some QR code payments of RMB 500 (about USD 80).

This explosion of cybercrime occurs as the Chinese government seeks to emerge as the chief global superpower, and thus encourages Chinese businesses to adopt the newest, most advanced in technologies and it also opens the doors to further vulnerabilities.

This figure shows the ranking of the countries most affected by cyber crime in 2017.





## 7.1 Preventive Measures

To combat fraud, merchants and payment processors need to fine-tune their fraud detection systems to reduce the likelihood of false positives.

The risk of fraud in the credit market has moved Chinese authorities to impose stricter regulations and establish a national credit reporting system. This system could also help narrow the credit gap by facilitating lending to hundreds of millions of Chinese who want access to small business loans or consumer credit, but who have no collateral or financial history. Yet, the Chinese government's national credit agency, the Credit Reference Center of the People's Bank of China has fallen short in achieving such a system. Although it claims to have credit profiles for over 20 million businesses and over 850 million individuals, only a quarter of China's population of 1.4 billion has a documented credit history.

The Chinese government is one of the front-runners in cybersecurity expertise, investing heavily in developing advanced capabilities for its government infrastructure and critical services. While China has developed parallel and comprehensive standards in software, hardware and encryption and is continuing the development of related regulations, adoption of those standards in general business is largely lacking. Effort in that direction could slow

the speed of achieving technological supremacy over foreign competitors. So, Chinese companies gamble that the overall economic growth from rapid adoption will outweigh the losses that cyberattacks inflict on individual businesses.

For cybercriminals it was often easier to target vulnerable Chinese nongovernmental networks than those protected by other governments or global enterprises with significantly higher cybersecurity budgets.

Even as cybercrime grew, government and law enforcement primarily focused on trying to shut down cybercrime marketplaces and training sites and rarely on deterring cybercrime by applying the impressive government cybersecurity expertise to vulnerable business networks. The continued willingness of Chinese businesses to accept some losses as a cost of rapid technological advancement created an environment where cybercrime still thrive.

Many Chinese businesses still eschew effective cybersecurity as a luxury. In this, the pressure to adopt ever more advanced technologies while downplaying the importance of protecting those technologies only reinforces their thinking. This mindset places businesses in China at an ever-increasing risk.

The Chinese President Xi Jinping has been consistently speaking about the importance of cybersecurity and has put himself in charge of the new body to coordinate cybersecurity. China is investing significantly in development of local regulations and technologies, and has recently passed a wide-ranging cybersecurity law that includes restrictions on technology imported from outside of China.

China region contains one of the fastest-growing and most technologically advanced economies in the world. Yet the more that businesses in this region under-emphasize cybersecurity, the more vulnerable they will become. Consequences of under-emphasizing protection of infrastructure and sensitive data could be devastating.

If China wants to remain the leading manufacturer of electronics and be the leading exporter of advanced technologies, they should consider their reputation. Cyberattacks repeatedly exploit the vulnerabilities of Chinese networks, infrastructures and devices. Those attacks lead potential buyers to question the safety of using Chinese devices, especially as those devices increasingly enter the realm where they being compromised could jeopardize lives, well-being or the environment.

The biggest bet China is making for its economic growth is the development, adoption and export of advanced technologies such as IoT, AI, robotics and “smart” everything. The biggest threat to Chinese ambitions of dominating these new technological fields are the ongoing cyber vulnerabilities that afflict them.

Thus in China, a high growth market where legislation and enforcement capabilities are developing, it is advisable to dedicate special attention to building fraud prevention programs at their organization. Every business is unique and its fraud prevention programme must be tailor-made.

## 8 Guidelines and regulations for foreign players entering Chinese financial market

China has become one of the most important destinations for foreign direct investment flows in the world, consistently ranking among the top five FDI host economies over the past years according to the World Investment Report published by UNCTAD. In 2017,

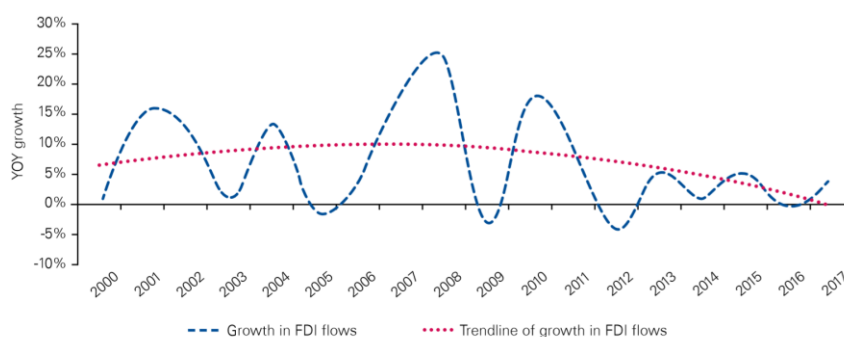


China ranked as the number three destination for FDI, behind the US and UK. Having experienced a sharp decline in 2016, foreign investment flows into China rebounded in 2017, achieving YOY growth of 4%.

## 8.1 Key reasons for China's inward foreign direct investment

Despite experiencing a relative growth slowdown over the past years, given the sheer size of its economy, China still has a tremendous demand for investment. Furthermore, China's economic transformation process is increasing the demand for high-quality investment, in turn enhancing China's capacity to absorb foreign capital, and creating important opportunities for foreign investors.

Figure 34: FDI growth in China



Source: Ministry of Commerce of China

As China's economy is so large, maintaining a 'medium-to-high' growth rate provides ample room for foreign investment to grow. It is important to note that, China's FDI growth is inherently

volatile. In 2017, for instance, even though China's FDI experienced weak to negative monthly YOY growth during the first seven months of 2017, growth rebounded in the later part of the year. As China gradually enters a 'new economic cycle', the slowdown in FDI growth is likely to be halted and reversed, eventually maintaining a medium-high rate of growth. Foreign companies should take a rational view of the underlying causes of the slowdown in FDI and in the Chinese economy more generally. Looking at the size of China's economy; the need for foreign capital, technology and expertise to enable China's economic transformation and upgrading; and the Chinese Government's intention to continue advancing the country's opening up process, as well as its efforts to address current macroeconomic risks, we believe that China continues to be one of the world's most attractive destinations for FDI.

The Chinese Government is using and will use various measures to gradually achieve the new state of reform. Strong policy support in 2017, as well as policies that will be introduced to implement the 'new vision of development' that President Xi Jinping declared will accelerate China's opening up process and directly shape the institutional environment for future foreign investment in China.

Foreign players have experienced varying levels of success in China, with many facing challenges despite being global brands, dominating many other markets. For example, PayPal has captured 35% market share (only second to Alipay) for online purchases in China when buying from foreign websites, even though it has not been able to secure a license for domestic payments. Less successful was US-based Uber Technologies that ended up selling its China operations to rival, Didi Chuxing in August 2016.

Nonetheless, the financial services market of China is too big, too valuable and has too much untapped potential for international players to ignore. For a successful entry, following are certain collaborative opportunities in the market;

As Chinese consumers increasingly shop and invest overseas digitally, a flurry of activity is arising in wealth management and capital markets, driving cross-border transactions. In particular, Baidu, Alibaba, Tencent (BAT) affiliated or big FinTech players seeking overseas exposures offer foreign players attractive collaboration opportunities with massive domestic scale and scope.

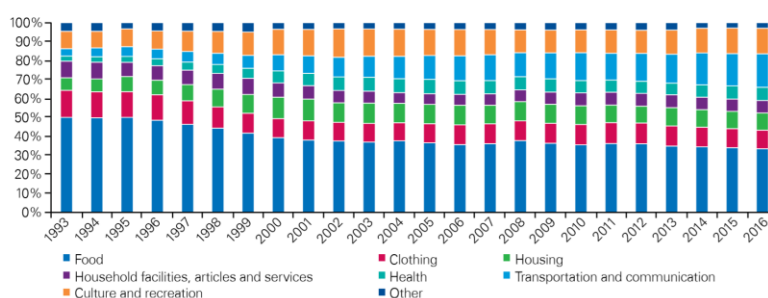
Despite their exponential growth, China's FinTech players lag behind counterparts in the developed world in certain areas, such as risk management, WM and banking system automation, giving foreign players important opportunities to bridge the gaps.

Whereas China was once a destination for inexpensive factors of production, relatively lax environmental regulation and generous policy incentives, high-quality inputs, a vast end-user market and a well regulated business environment are steadily taking shape as the new advantages for attracting foreign investment.

The quality of China's human resources has improved significantly in recent years. Compared to some developed economies, China's high-quality human capital and low-cost labour offers better value for money. Foreign companies should adapt to and take advantage of these changes in China's labour market by increasing investment in service, hightech and other human capital-intensive sectors.

In recent years, as China's per capita GDP has approached the USD 10,000 mark, urban household incomes have steadily increased and consumer trends have further shifted to a focus on leisure (i.e. spending on entertainment, culture, household appliances and other consumer goods and services). Furthermore, China's middle class has surpassed that of the US and Japan as the world's largest middle class. For this reason, China is emerging as the world's largest consumer market for mid-range to high-end products, which is another major advantage that the country offers for FDI. Foreign companies should be proactive in leveraging the opportunity presented by the growth of China's mid-range and high-end markets by investing in related sectors and product categories.

Figure 46: Urban household expenditure in China



Source: National Bureau of Statistics of China; WIND; KPMG analysis  
Note: 2014-2016 data estimated based on trends

The Chinese Government has been working to enact internal reforms and increase openness to cultivate a positive business environment and ensure a level playing field for both foreign and domestic companies:

Firstly, China is accelerating market pricing reforms, allowing market forces to set prices for a wide range of important goods and services. Only 3% of goods and services are now priced by government fiat, allowing market forces to be the main determinant of prices. Secondly, the government is accelerating the reform of sectors monopolised by the state. Substantive progress has been made in easing restrictions and encouraging mixed-ownership structures in SOEs operating in sectors such as power, oil and gas, civil aviation, telecommunications etc. Finally, Chinese authorities are also working to build an open, even and orderly market for competition.

Thus China's future efforts to attract foreign investment will not lie in preferential policies, but rather in offering a fair, open and just market environment. This will be conducive to foreign companies being accorded the same position in the market as domestic companies. These measures will also encourage companies to grow their business in China in ways which comply with laws and regulations.

## 8.2 Key Guidelines

### Taxation

Foreign companies play an increasingly important role in boosting China's economy and promoting industrial and technological upgrades. Since the passage of the 2008 Enterprise Income Tax Law, China's corporate taxation system now has foreign and domestic companies under the same tax regime, eliminating the previous bifurcated system. China in 2017 exempted foreign companies from paying provisional withholding income tax on profits they re-invest in the country, in a measure to lure foreign and domestic environment.

Companies in China pay a standard 25% tax on all income earned. According to China's corporate taxation law, a corporation is considered to be a tax resident of China if it was established in China or if it is effectively controlled and managed from China. If a company is registered in China (regardless of if it is domestic, foreign invested (FIE) or foreign-owned (WFOE)), it is considered a Tax Resident Enterprise (TRE). For TREs, the enterprise income tax of 25% is imposed on the global income of the company. If a company is not a TRE, the enterprise income tax applies only to income sourced in China.

Unrestricted market competition will always be a much stronger force for sustaining technological development and innovation than economic policy. Beijing is likely to open new FDI doors as they are needed, steadily diminishing its negative list and setting up more special trade zones and free trade agreements. An increasingly mature Chinese economy is also reshaping the nature of foreign investment. The flow of FDI into China through mergers and acquisitions, according to China's Ministry of Commerce, increased from 6.3 per cent in 2014 to 14.1 per cent in 2015, and this upward trend is likely to continue.

### Intellectual Property Rights (IPR)

Over the past decade, China has become increasingly innovative and has enforced an effective IPR regime. Though it is debatable, gone are the days when China was termed as the land of copycats, incapable of innovation with no respect for IPR. Many of the concerns raised by foreign companies operating in China like local judicial protectionism, challenges in obtaining evidence, small damage awards, and a perceived bias against foreign firms, have been addressed by legal reforms and new enforcement mechanisms.

China has taken important steps to eliminate local judicial protectionism and ensure a fair adjudication process in IP cases. Not only China has reformed its IP laws to expand admissible evidence and increase damages for violations, but it has also reformed its legal structures and implemented new policies to limit bias against foreign litigants.

While the system is far from perfect, the impact of these reforms should not be understated. These changes represent a positive trend in China's commercial environment and as the laws continue to nurture domestic innovation, foreign firms ignore this progress at their own risk.

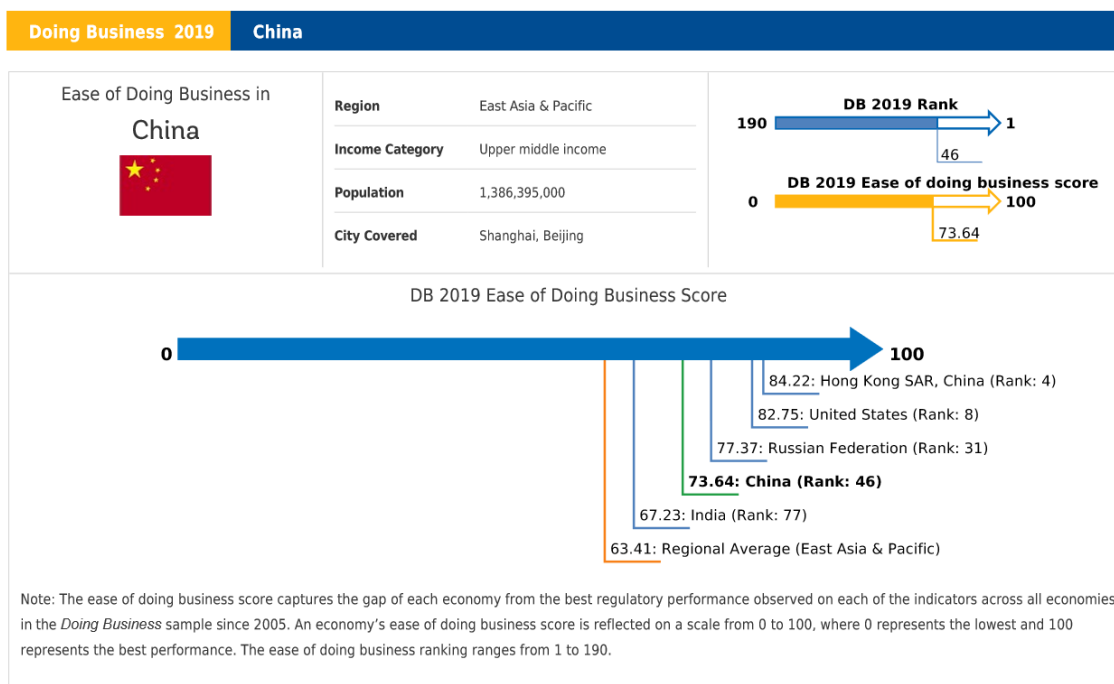
In 2017, China came up with the **Five-in-One system** which combines a business' tax registration certificate, organization code, business license, social security registration certificate, and statistical registration certificate into a single document with one social credit code. This has made setting up a business in China faster and easier for foreign investors. China dramatically reduced the **days needed for starting a company from 22.9 days to 9** by cutting the number of procedures needed to start a business from seven to four and slashing other bureaucratic red tape.

The introduction of the **"One Window, One Form" policy in 2018**, created a simplified digital channel to register a business, have contributed to China's improvements in this area. This policy is designed to make business registration easier by cutting red tape and bureaucratic steps for businesses. Foreign-funded enterprises can now submit a single form to a single office, rather than register separately with various government offices.

China is an increasingly attractive destination to do business indeed, and as the country keeps rising as an interesting option for many, it can be challenging for businesses to achieve a successful leading position in China's fast moving markets. It is important to keep in mind that procedures in China takes time, patience and money. Companies need to take a long term approach to building their businesses and must focus on building a solid foundation. Part of building a solid foundation in China is building a strong local management team that is empowered to take decisions.

## 9 Conclusion

As per the latest **Ease of Doing Business World Bank Report**, China ranks **46<sup>th</sup>** showing dramatic improvements to its business environment over the past year. The report presents various indicators that measure, among others, the ease of starting a business, registering a property, obtaining construction permits, getting credit, paying taxes, enforcing contracts and resolving insolvency. This clearly shows the government's concerted efforts in creating a more attractive environment for establishing a business.



Conducive government policies for the expansion of banks and the emergence of new technology-driven models helped drive China's accomplishments in financial inclusion. Recent policy changes have led to the emergence of microcredit companies and township banks to serve the unbanked segments. The Chinese government now delivers subsidies to beneficiaries through bank accounts.

On the other hand increased internet access and use has enabled the expansion of hundreds of e-commerce businesses, including Alibaba, which now uses e-commerce data to make small loans to its customers. Technology companies like F-Road have also contributed to increasing usage by enabling millions of low income customers to access their bank account from remote using a SIM card overlay on any kind of phone.

While financial inclusion in China has made great progress in rural areas and with the poor, there is still a long road ahead. China has the largest unbanked adults with 55% of them being women and 71% living in rural areas.

The one-child policy have a significant impact on the Chinese economy. China's fertility rate fell from 5,8 births per woman in 1964 to 1,6 in 2012. This is not only affecting the size of the workforce now but has also resulted in a rapidly aging society.

Demographic transition due to population aging is an emerging issue throughout the developing world, and especially in China, which has undergone demographic transition more rapidly than most industrial economies. China is among the few developing countries that have stepped into the aging population society. With a declining working population and a rising elderly population, the Chinese government will face challenges trying to boost worker productivity and expanding spending on health care and elderly services.

The initiative **"One Belt, One Road" (OBOR) launched in 2013**, for better economic integration and connectivity such as infrastructure, trade and investment, could provide a big boost to China's economy and soft power image. Despite all the challenges, China's emergence as a major economic power and the rapid economic growth have given China's leadership increased confidence in its economic model.

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## 11 Abbreviations

GDP – Gross Domestic Product  
 RMB – Renminbi  
 CNY – Chinese Yuan  
 PBC/PBOC – People's Bank of China  
 BEPS – Buld Electronic Payment System  
 GNI – Gross National Income  
 FSDC – Financial Stability Development Committee  
 CBIRC – China Banking Insurance Regulatory Commission  
 ICBC – Industrial and Commercial Bank of China  
 BOC – Bank of China  
 ABC – Agricultural Bank of China  
 CCB – China Construction Bank  
 WTO – World Trade Organization  
 HVPS – High Value Payment System  
 IBPS – Internet Banking Payment System  
 RTGS – Real Time Gross Settlement  
 CUP – China Union Pay  
 P2P – Peer to Peer  
 FDI – Foreign Direct Investment  
 WM – Wealth Management  
 SOE – State Owned Enterprises  
 TRE – Tax Resident Enterprise  
 IPR – Intellectual Property Rights  
 OBOR – One Belt One Road



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