

# Fintech development

Bohui Zhang

The Chinese University of Hong Kong, Shenzhen

Aug. 15, 2018



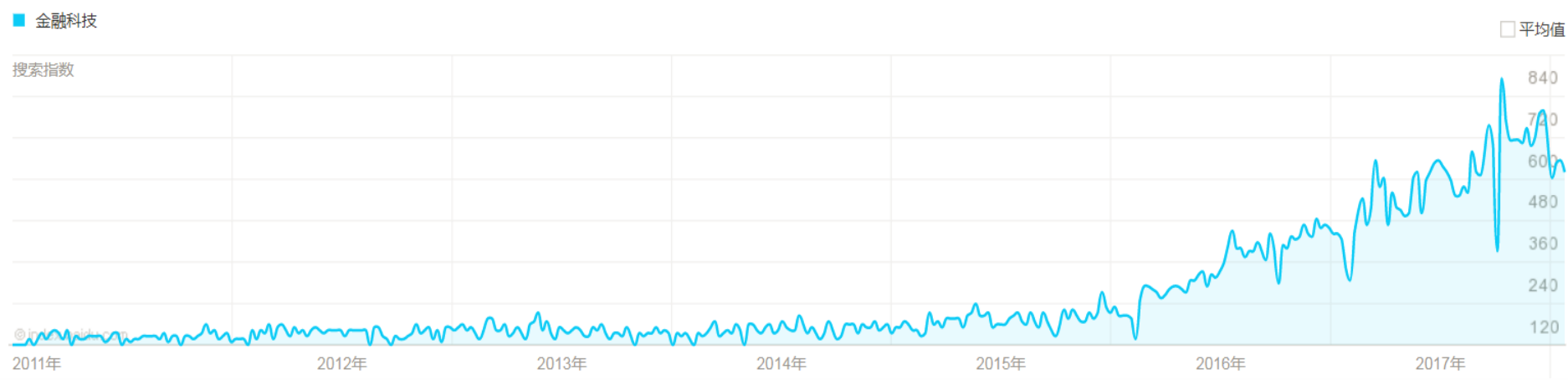
香港中文大學(深圳)  
The Chinese University of Hong Kong, Shenzhen



深圳高等金融研究院  
Shenzhen Finance Institute

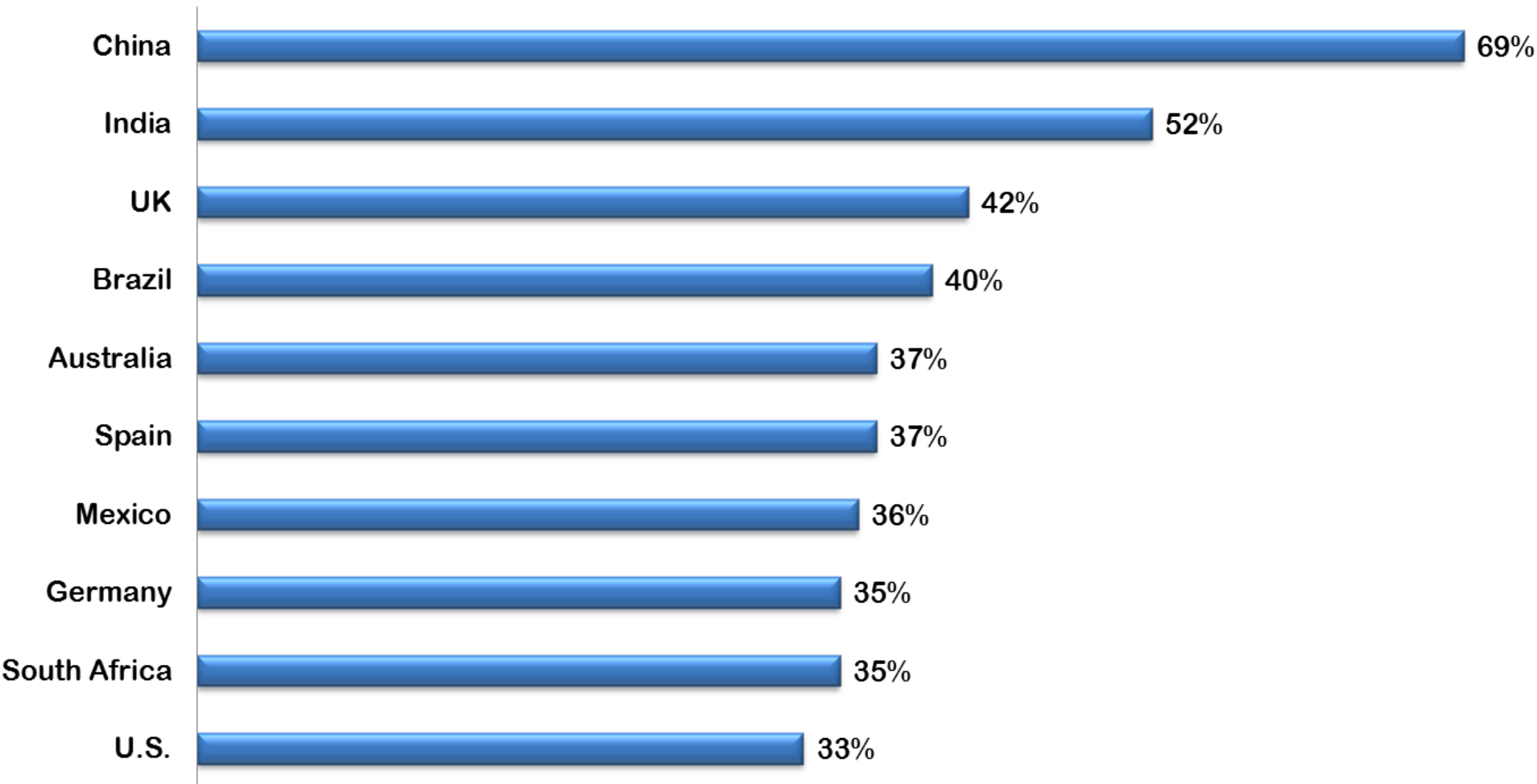
# The search volume index: “Fintech”

搜索短语：金融科技



**The FinTech adoption rate denotes the proportion of FinTech users as a percentage of digitally active population**

**FinTech adoption rate**



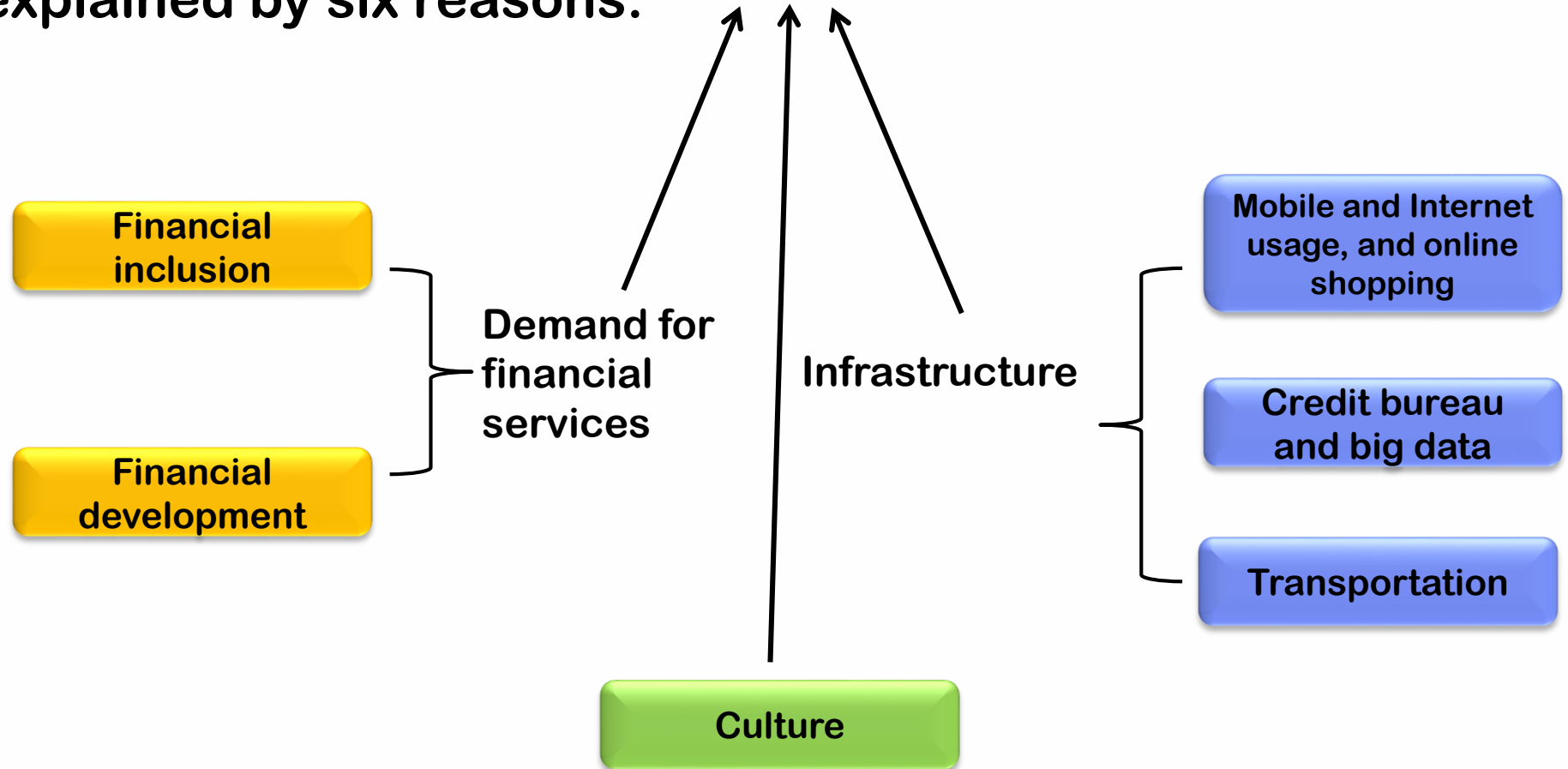
*See, the EY FinTech Adoption Index 2017: the rapid emergence of FinTech*

# **Outline**

- 1. Driving factors of Fintech development**
- 2. Types of Fintech solutions**
- 3. The impact of Fintech on financial institutions**
- 4. Fintech cities**
- 5. Fintech and policies**

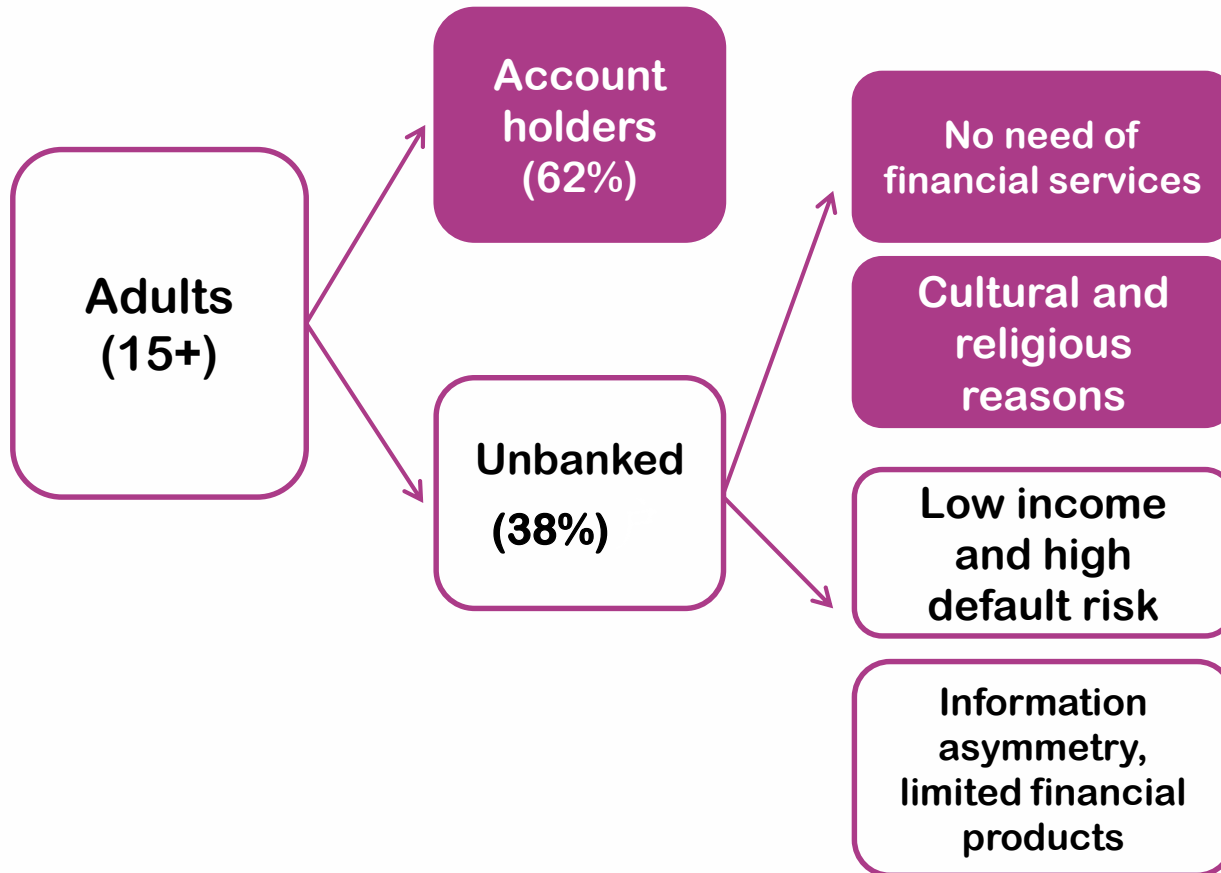
# 1 Driving factors of Fintech development in China

The rapid development of Fintech in China tends to be explained by six reasons:



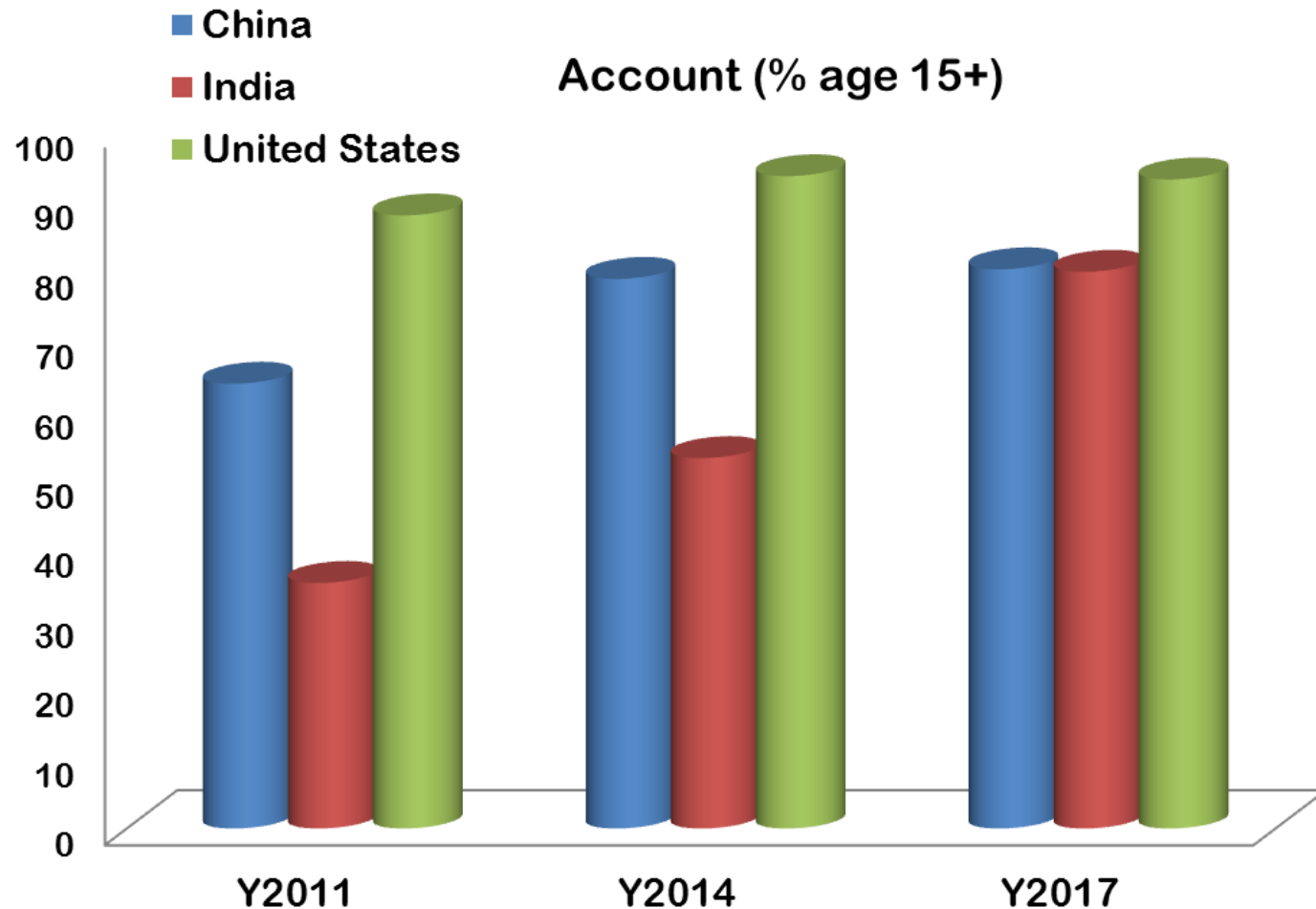
# 1.1 Financial inclusion

Financial inclusion is defined as the availability and equality of opportunities to access financial services .



# 1.1 Financial inclusion

The promotion of financial inclusion provides opportunities for the development of Fintech firms in China and India



*See, the Global Findex Database 2017: Measuring Financial Inclusion and the FinTech Revolution*

## 1.2 Financial development

**Financial institutions** include banks, insurance companies, mutual funds, and pension funds.

**Financial markets** include stock and bond markets.

**Financial development** is defined as a combination of:

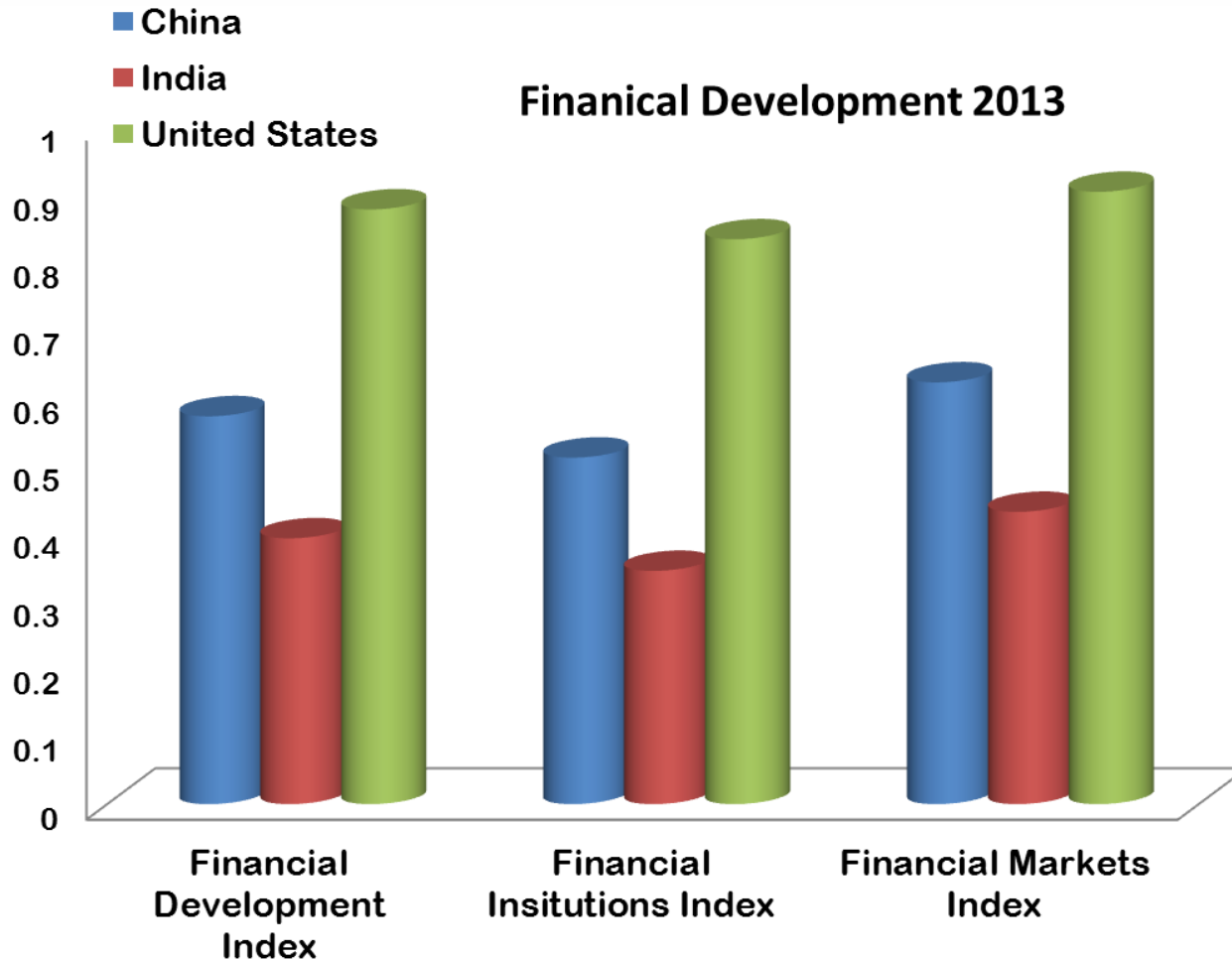
- **Depth** – Size and liquidity of markets
- **Access** – Ability of individuals and companies to access financial services
- **Efficiency** – ability of institutions to provide financial services at low cost and with sustainable revenues, and the level of activity of capital markets

**China's financial institutions and markets are underdeveloped.**



## 1.2 Financial development

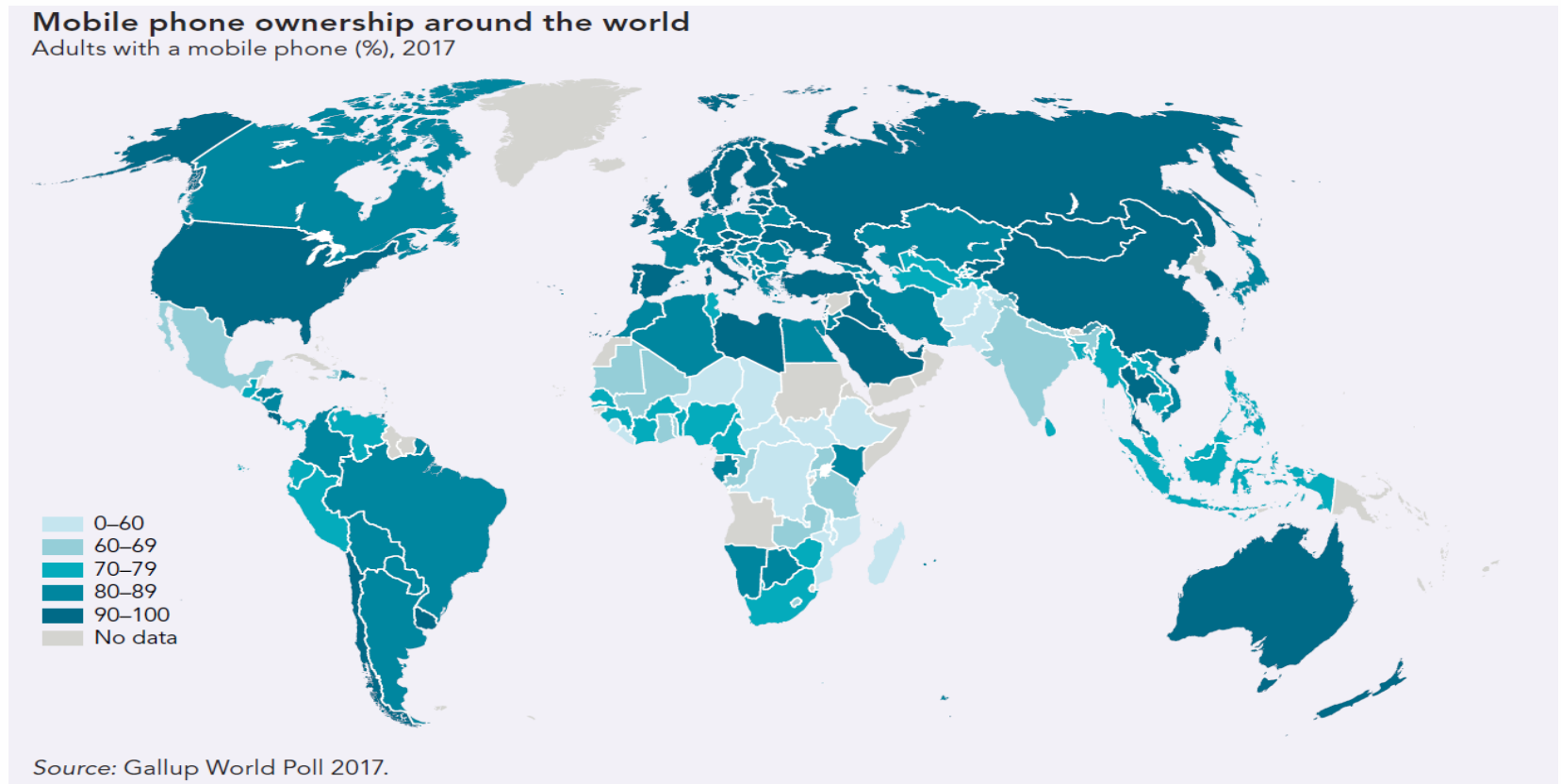
According to IMF's recent index of financial development, China is ranked 33 and India is ranked 51.



*See, introducing a New Broad-based Index of Financial Development, IMF Working paper 2016*

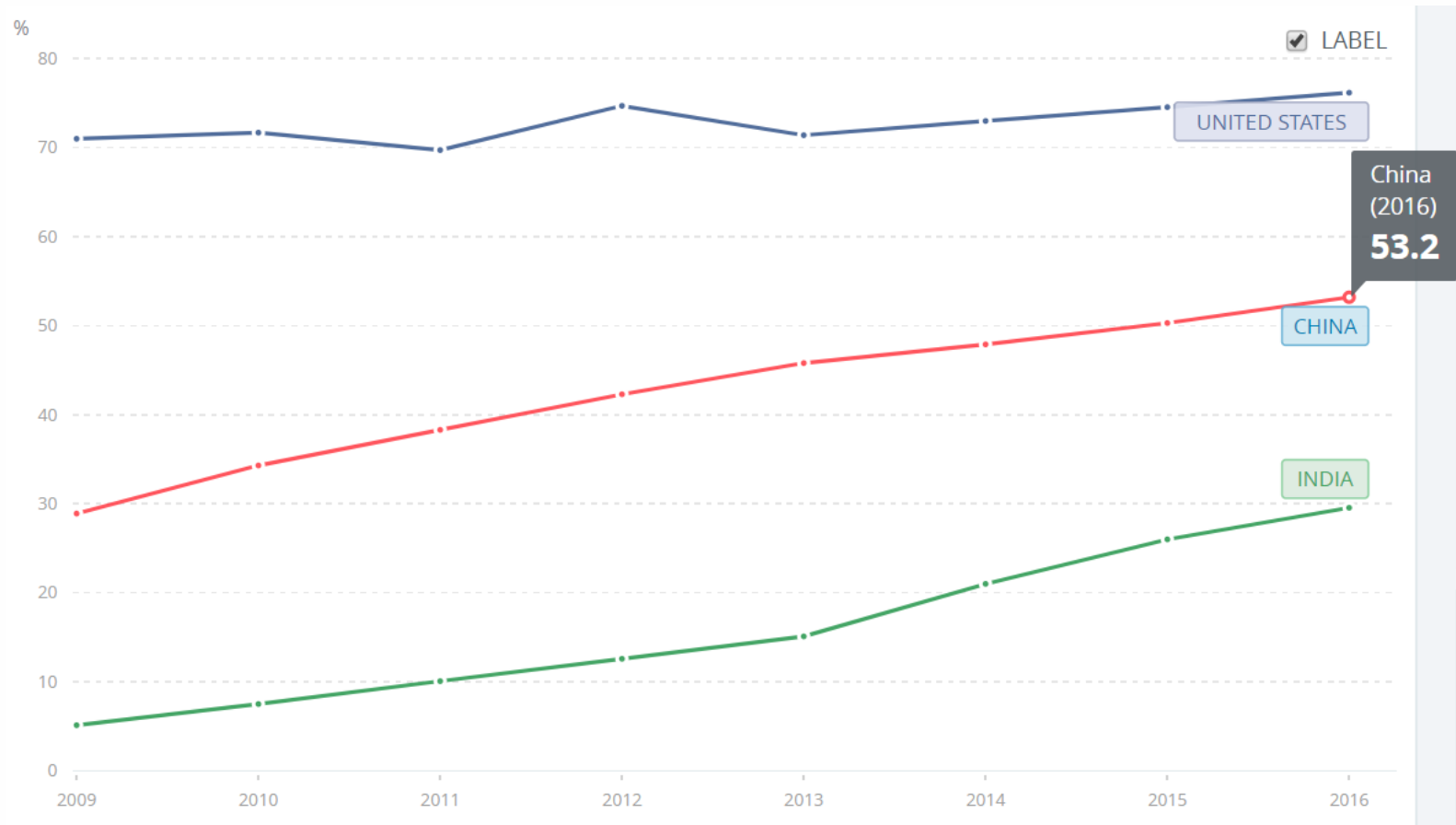
## 1.3 Mobile and Internet usage, and online shopping

Mobile phones and the internet have created new opportunities for providing financial services. Mobile phones allow the use of mobile money accounts, for example, and smartphone technology provides a convenient means for people to make transactions from their financial institution account.



## 1.3 Mobile and Internet usage, and online shopping

As of December 2017, China's Internet population reached 772 million, with a penetration rate of 55.8 percent. This exceeds the global average (51.7 percent) by 4.1 percent and the Asian average (46.7 percent) by 9.1 percent.



Source: World bank database

## 1.3 Mobile and Internet usage, and online shopping

The increasing popularity of online shopping allows new entrants to provide instalment loans over the internet.



See, WIND, Macquarie Research, November 2017

### 1.3 Mobile and Internet usage, and online shopping

On March 5th, 2015, Premier Li Keqiang unveiled the Internet Plus plan in the Government Work Report.

“... We will develop the "Internet Plus" action plan to integrate the Mobile Internet, Cloud Computing, Big Data, and the Internet of Things with modern manufacturing, to encourage the healthy development of e-commerce, industrial networks, and Internet banking, and to guide Internet-based companies to increase their presence in the international market...”



## 1.4 Credit bureau and big data

- **A first step towards a national Social Credit System by state media:** In 2013, the Supreme People's Court began a blacklist of debtors with roughly thirty two thousand names.
- **National social credit system:** On June 14, 2014, the China's State Council issued an outline for the national social credit system, it was titled "State Council Notice concerning Issuance of the Planning Outline for the Construction of a Social Credit System (2014–2020)".
- **Eight companies:** In 2015, the People's Bank of China licensed eight companies to begin trial social credit systems. E.g., Sesame Credit, Tencent, etc.
- **Big data:** On Aug 31, 2015, the State Council of China issued the Action Outline for Promoting the Development of Big Data. The focus on big data emerges as one of China's national strategies.

## 1.5 Transportation

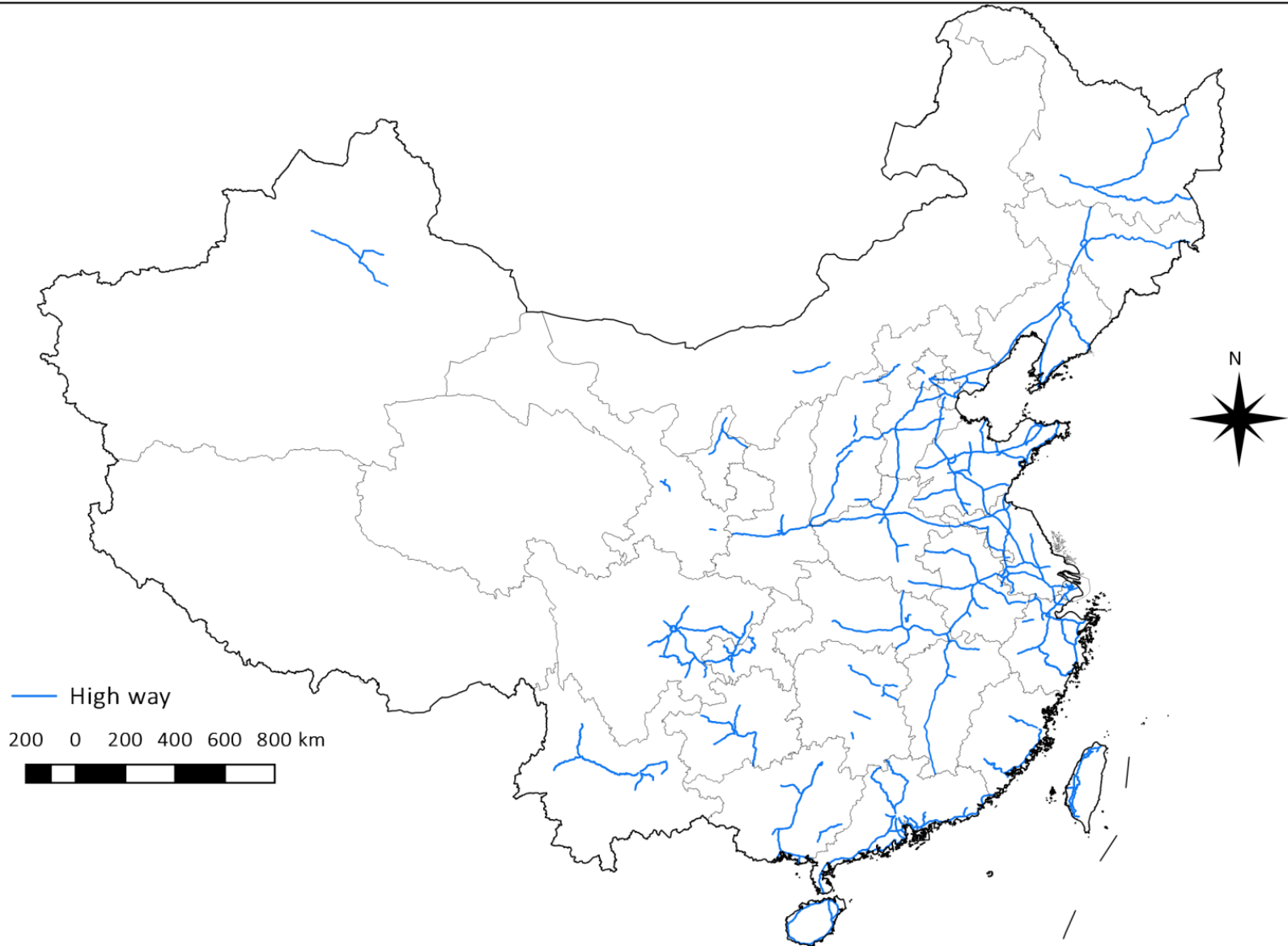
Financing follows infrastructure improvements (Agarwal, Mukherjee, and Naaraayanan, 2018).

The aim of the National Expressway Network Plan approved in early 2005 is an expressway system connecting all capitals of provinces and autonomous regions with Beijing and with each other, linking major cities and important counties. The network will have a total length of about 85,000 km.

In 2013 the Ministry of Transport announced the "National Highway Network Planning (2013 - 2030)", which will bring the total number of highways to 119, with 81 connecting highways between them. The total mileage will be increased to 265,000 km, with increased focus on the western and less developed regions.

# 1.5 Transportation

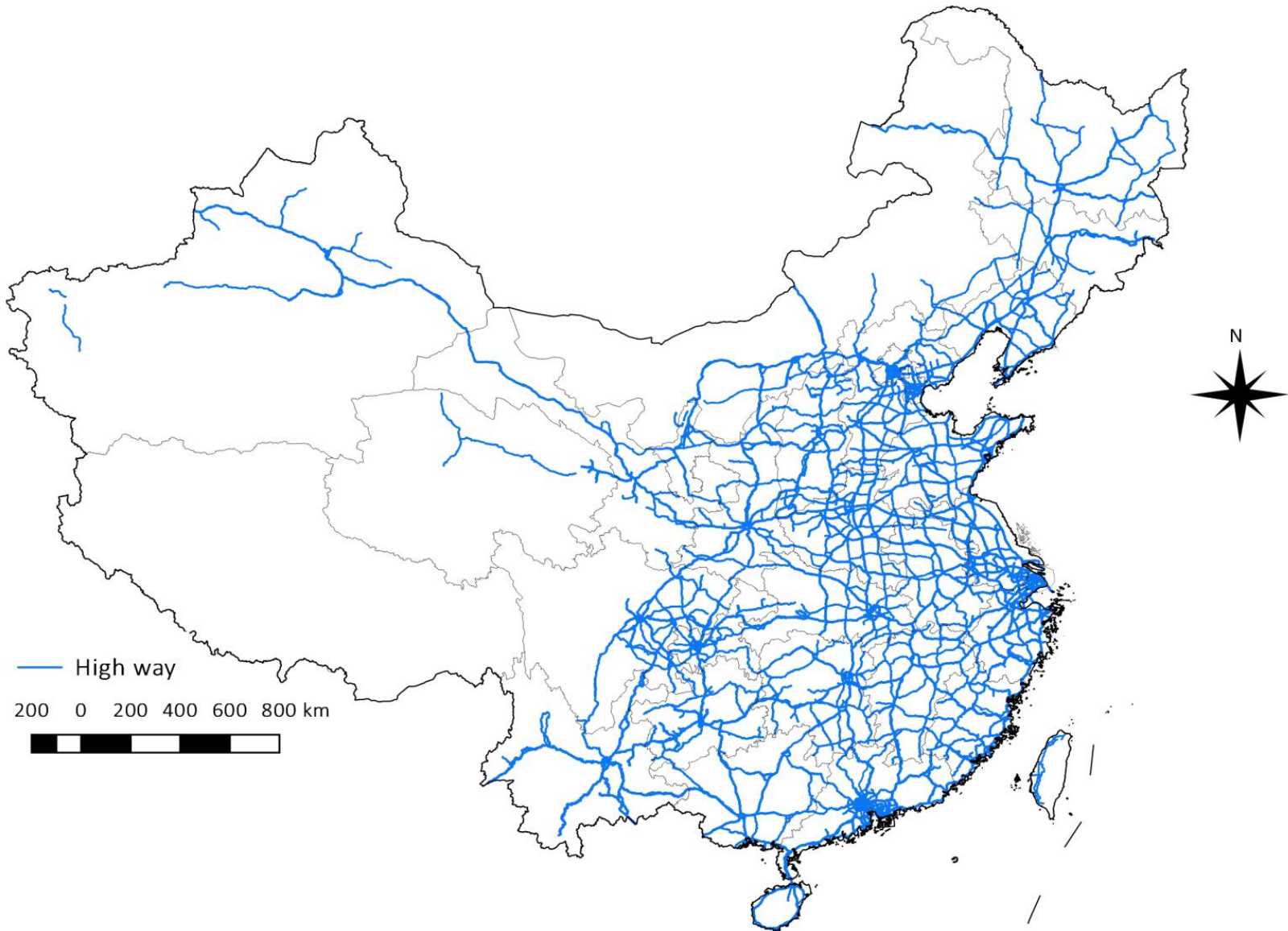
The China' high way in 2003





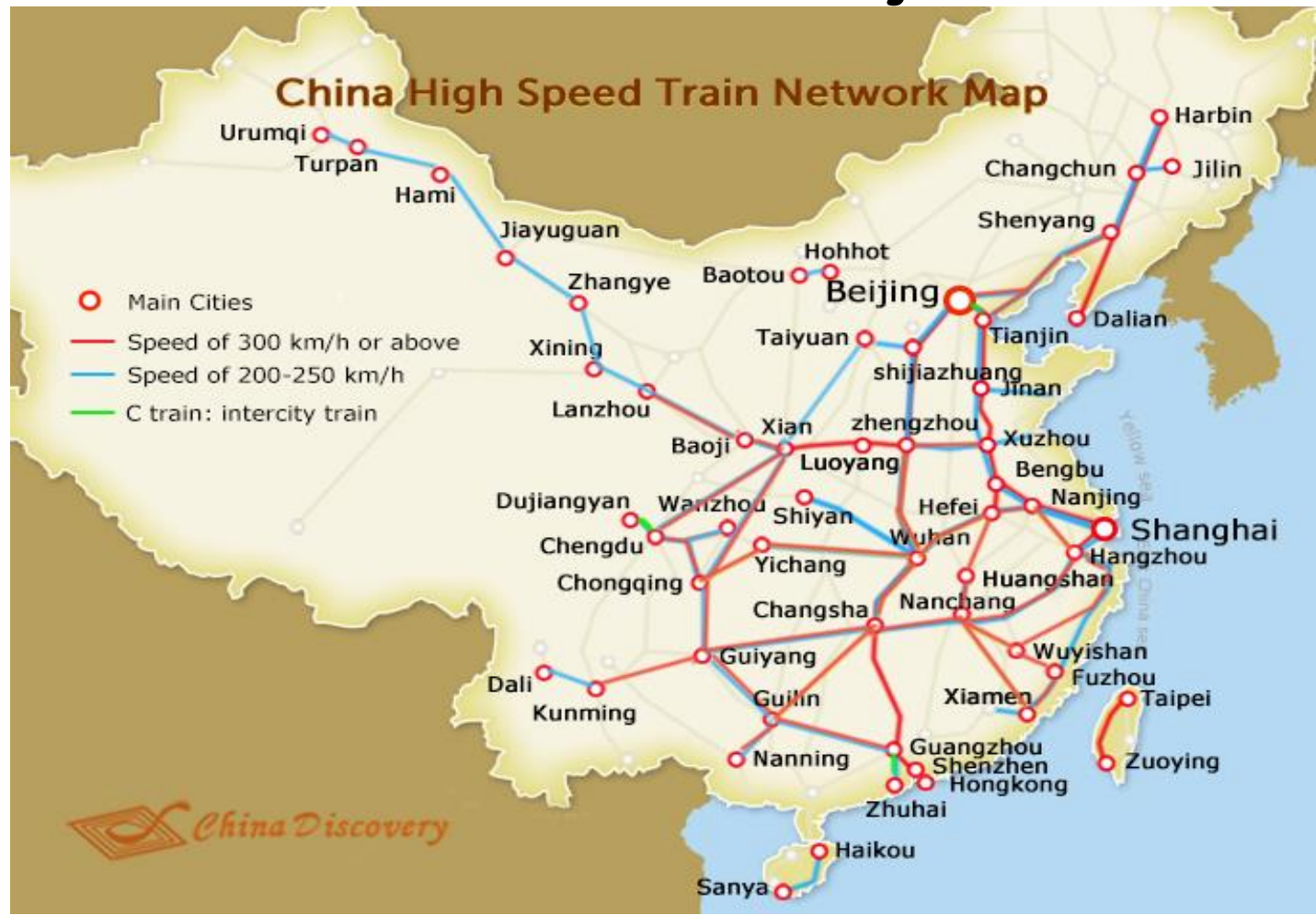
# 1.5 Transportation

The China' high way in 2015



# 1.5 Transportation

China has gradually introduced the high-speed rail service since 2007, and by 2014, the number of riders per day had increased to 2.49 million. This progress makes the Chinese high-speed rail network the most heavily used network in the World.

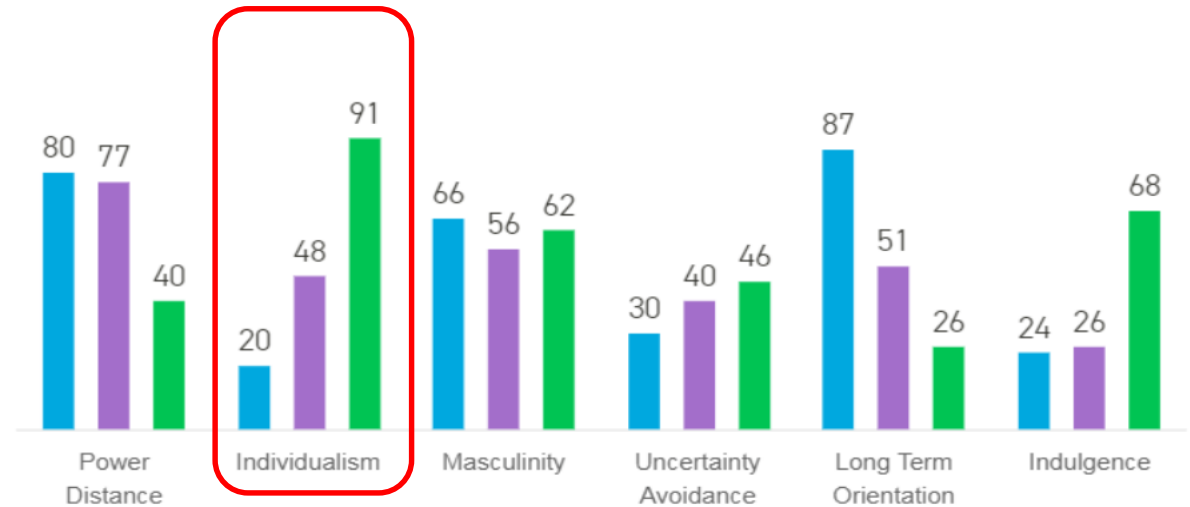


# 1.6 Culture

Privacy is an alien concept in Chinese culture. Western cultures value individualism and view privacy as a mechanism to regulate one's level of interaction with others or the outside world, while in Chinese society we believe in absolute collectivism.



China × India × United States ×



China India United States

## 2.1 Fintech services

Major technology players have entered the retail financial services market, teaming up with *Fintech* firms to provide new or improved propositions with wide uptake. Other *Fintech* firms have responded to the increasing ubiquity of internet access and smartphones to launch digital-first versions of existing financial products. China and India rank highly across all categories

FinTech category	China	India
Money transfer/payment	83%	72%
Financial planning	22%	20%
Saving and investments	58%	39%
Borrowing	46%	20%
Insurance	38%	47%

*See, the EY FinTech Adoption Index 2017: the rapid emergence of FinTech*

## 2.1 Fintech services

### **Mobile payment:**

In 2017, China achieved an amount of 20 trillion U.S. dollar. This number is 40% higher than that in 2016.

### **Online lending and financial activities:**

By the end of 2017, there were about 1,900 online lending platforms in normal operation in China.

### **Wealth management:**

With the development of AI, intelligent robotic systems can provide “one-click customisation” services, which lower thresholds and management fees.

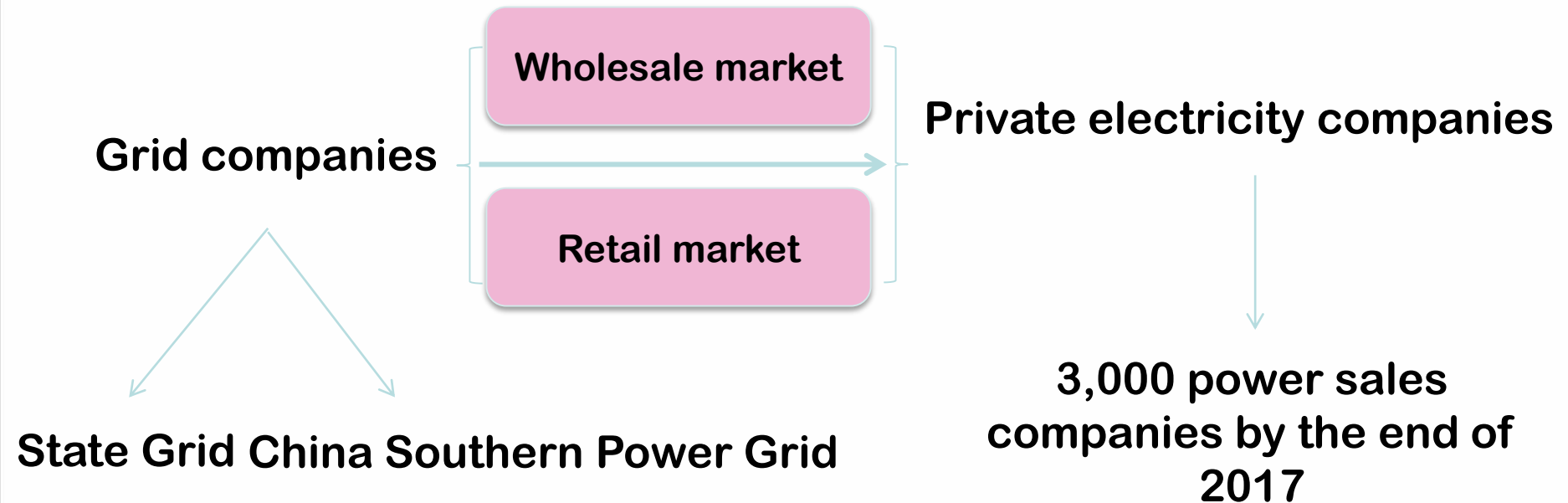
### **Application of big data:**

Big data improves the assessment of customer risk ratings and credit ratings.

## Big data case

## Power market reform

**Under the current Five Year Plan (2016-2020), China's electricity sector is undergoing a major transition from a state managed system to a market price based one.**



# Big data case: Reform opportunity-Huidian Cloud

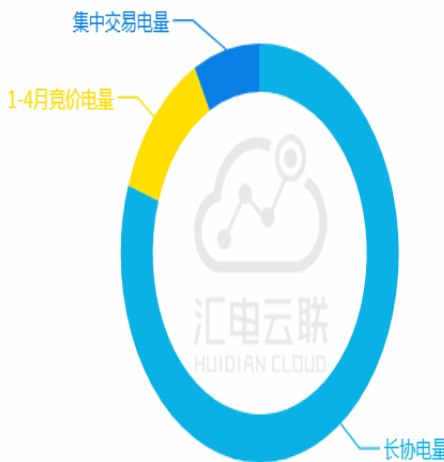


Hu Jia was a diver who won the gold medal at the 2004 Summer Olympics in the men's 10 metre platform. Hu also won two silver medals at the 2000 Summer Olympics in Sydney, Australia in the 10m Platform and 10m Platform Synchronized.



Hu Jia is the founder of a FinTech company focusing on the electricity market, Huidian cloud.

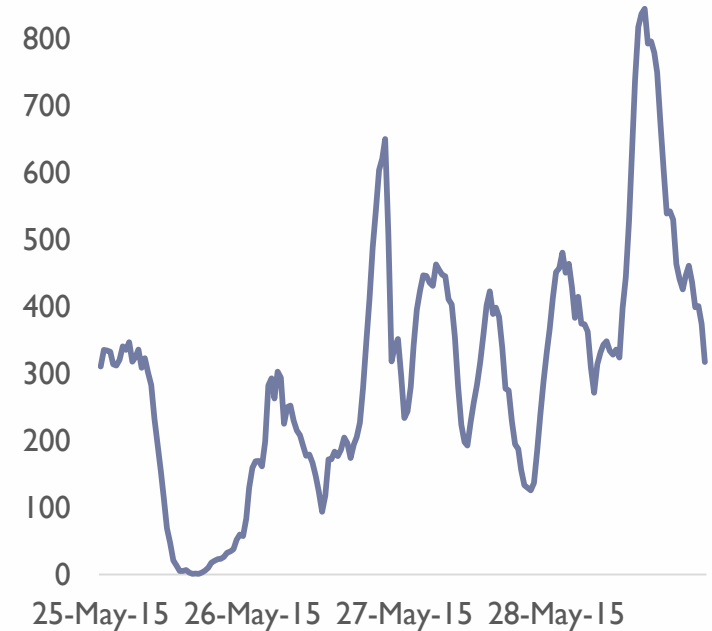
The FinTech firm was set up in Sep., 2017



# Big data case:



- The level of electricity consumption reflects the firm's fundamentals
- Historical data about the firm's electricity consumption and bill payments provides information about the firm's credit



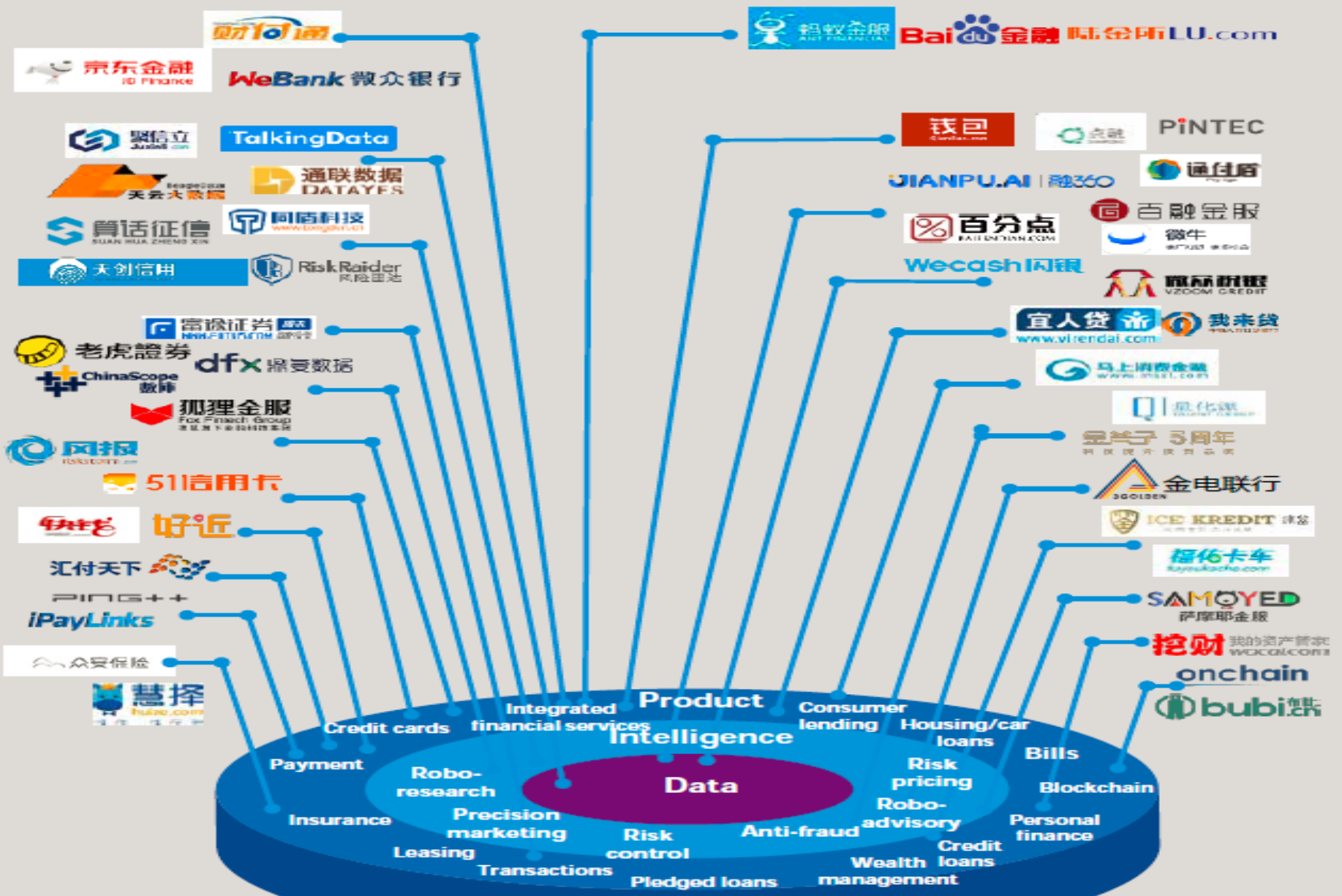


# Big data case: Loan based on electricity consumption

<b>Electricity consumption (10,000 kWh)</b>	<b>100 -- 1000</b>	<b>1000 -- 5000</b>	<b>5000 -- 10000</b>	<b>10000 -- 50000</b>	<b>50000 -- 100000</b>	<b>100000 - 200000</b>
<b>Loan amount (10,000R MB)</b>	<b>4 -- 120</b>	<b>40 -- 600</b>	<b>200 -- 1200</b>	<b>400 -- 6000</b>	<b>2000 -- 12000</b>	<b>4000 -- 24000</b>

- Past three years' monthly electricity consumption information
- Electricity bill receipts and payment records
- Information about electricity assets such as transformers

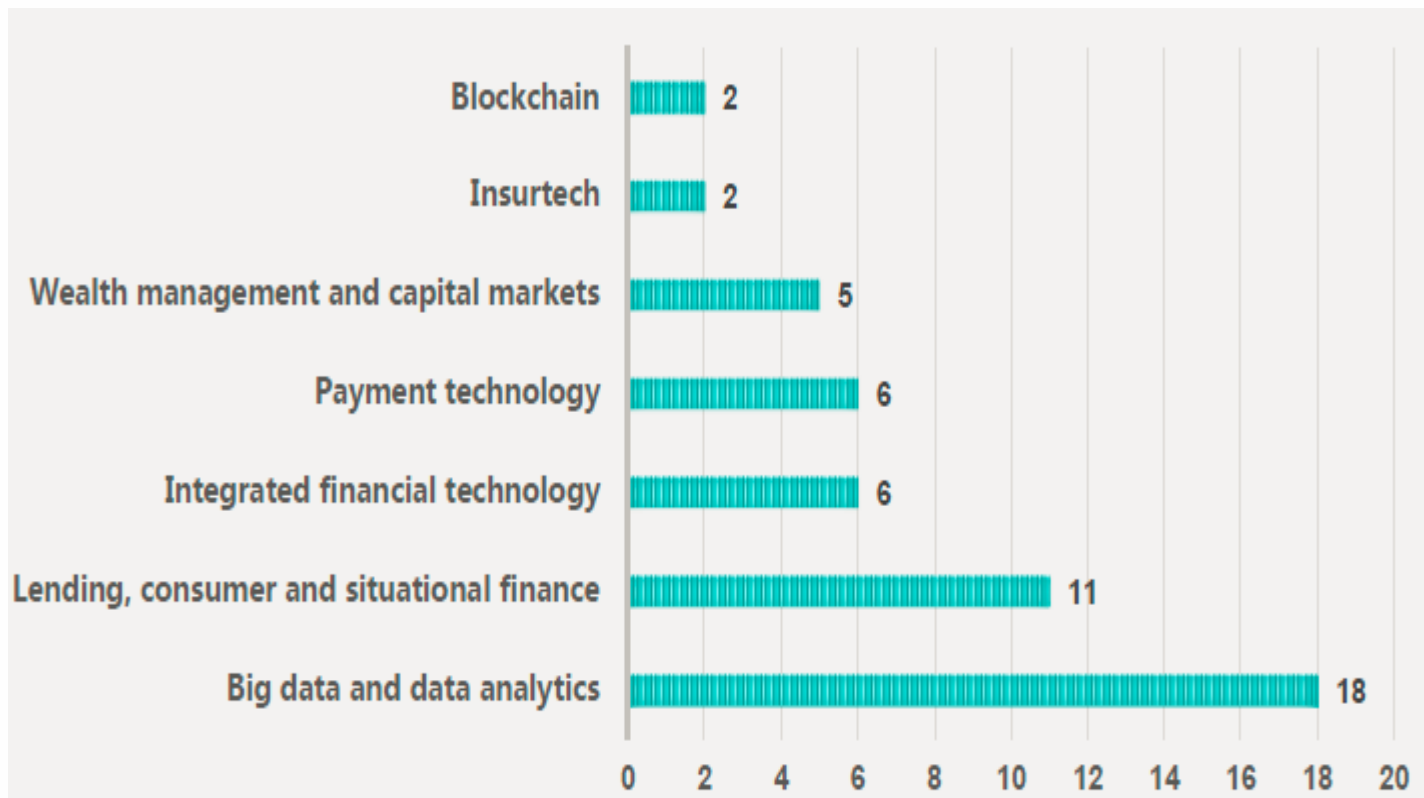
# 2.2 Fintech firms



See, the 2017 China Leading Fintech 50, KPMG

## 2.2 Fintech firms

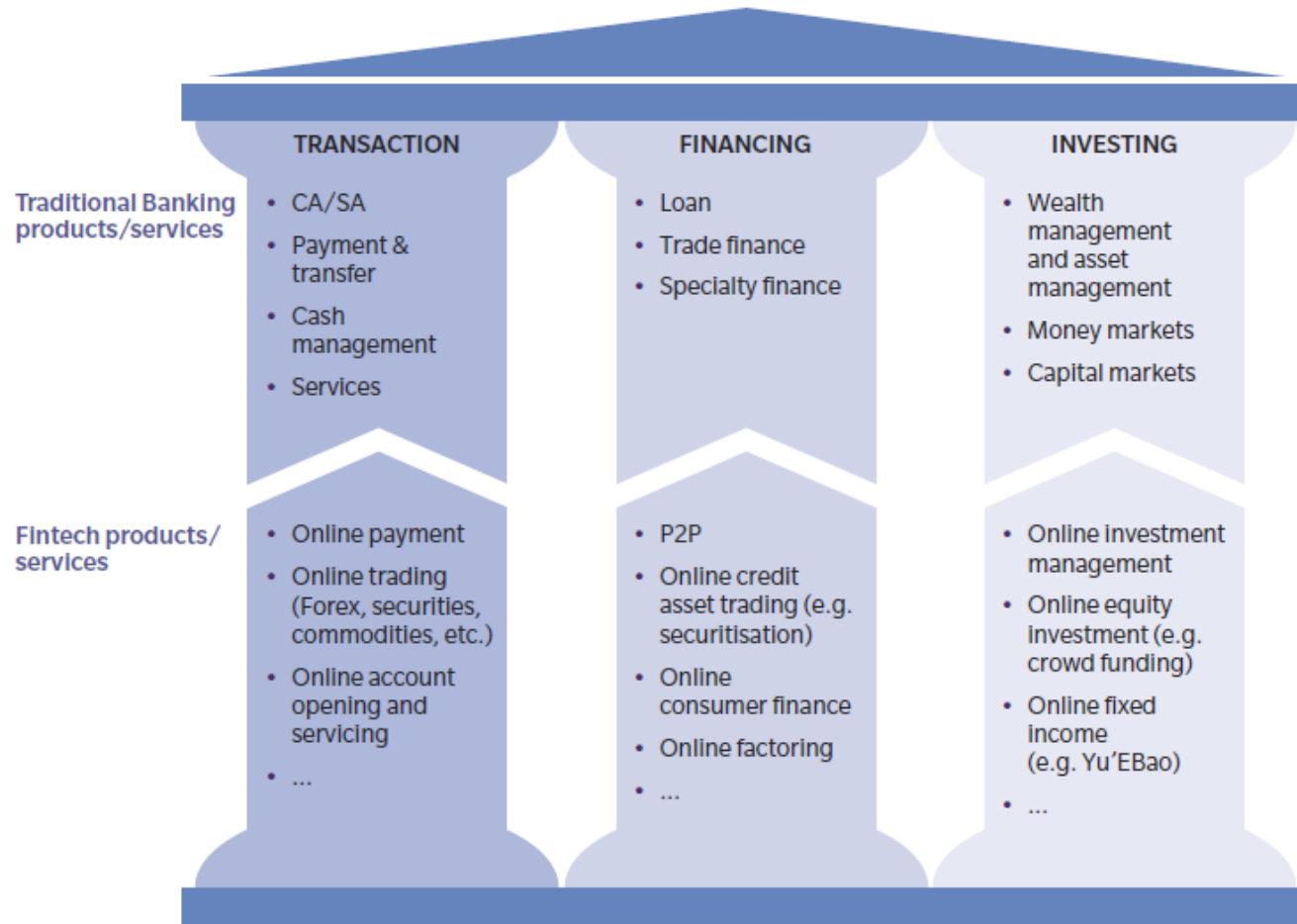
Big data and data analytics companies are the largest group among the top 50 Fintech firms in China, followed by lending, consumer and situational finance companies. Many of the companies focus on advanced data technology application, research and development.



*See, the 2017 China Leading Fintech 50, KPMG*

### 3. The impact of Fintech on financial institutions

The falling yields of banks' wealth management products have left investors seeking alternative high-yield investment products as substitutes



*See, Oliver Wyman analysis*

### **3. The impact of Fintech on financial institutions**

**Financing:** with the availability of non-financial data and improved knowledge of how to use it, Chinese Fintech companies improve their credit-risk management capabilities and enhance the customer experience.

**Investing:** with stronger computing capabilities, online wealth management platforms can conduct detailed analysis by pulling together various types of data about the market, individual securities, and investors. They can then offer low-cost investment solutions that are free of subjective and behavioural biases.

### 3. The impact of Fintech on financial institutions

**Insurance:** The emergence of connected ecosystems, along with the increased adoption of technology gadgets, provides not only gateways to innovative insurance products but also alternative data sources for tailored products and pricing.

**Transaction:** blockchain and its applications could potentially be used to provide low-cost, reliable transaction solutions across different areas of financial services. They could potentially promote mutual growth with budding Fintech business models that are only economically possible with support from such solutions.

# 4. Fintech hubs in China

KPMG's 2017 China leading FinTech 50 companies:

Beijing:  
21

Shanghai:  
14

Shenzhen:  
8

Hangzhou:  
4



Credit investigation, big data, AI

## 5. Fintech and policies

### Regulation:

- **Internet finance:** In July. 2015, the People Bank of China, the Ministry of Industry and Information Technology, and eight other government agencies jointly published the “*Guiding Opinions on Promoting the Sound Development of Internet Finance*”.
- **P2P Lending:** “*The Interim Administrative Measures for the Business Activities of P2P Lending Information Intermediaries (Measures)*” was enacted on 17 August 2016 by the CBRC, conjoint with the Ministry of Industry and Information Technology, the Ministry of Public Security and the Internet Information Technology Office.



## 5. Fintech and policies

### **Regulation:**

- **ICO:** In Sep. 2017, the People Bank of China and six other government agencies jointly issued guidance immediately banning fundraising through offering of tokens, and requiring the closure of cryptocurrency exchanges in China by the end of Sep. 2017
- **Data protection:** The regulations in China related to personal data protection are scattered the Criminal Law, the Tort Law, the Cyber Security Law, the Rules on Protection of Personal Data of Telecommunications and Internet Users and other laws and regulations. On March 15, 2017, the General Provisions of Civil Law explicitly provides that a natural person's personal data is protected by law, and all entities and individuals are obligated to keep secure the personal data they lawfully collect.

# Thank you !

Direct Line/直线: +86(0)755 88606860-802 E-mail/邮箱: xxx@co.cuhk.edu.cn  
中国深圳市福田区深南大道1006号国际创新中心B座14-16层 邮编: 51800  
14th-16th Floor, Blockb, Shenzhen International Center No.1006 Shennan Road,  
Futian District, Shenzhen, 518000  
sfi.cuhk.edu.cn



香港中文大學(深圳)  
The Chinese University of Hong Kong, Shenzhen



深圳高等金融研究院