

When Thousands of Boats Compete to Sail,  
the Best Built Wins

# Global Fintech Hub Report 2020

Beijing, China September, 2020

# **When Thousands of Boats Compete to Sail, the Best Built Wins**

## **Global Fintech Hub Report 2020**

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# Foreword 1



韓昇洙

## FinTech: A Great Worldwide Trend

From the global financial crisis in 2008, a “financial revolution” that will have long term impact crept into the world. FinTech entered its 3.0 Era and is growing actively worldwide; it became what every country closely focuses their attention and spends on to develop. We can see that, FinTech development is currently a great and irreversible trend, it is most apparent through the high level of attention from each government, as well as the capital that is pouring into the industry. In this process, China capitalises on its first mover advantage, and maintained its world leading position in this sector.

Of course, behind the shiny front, FinTech development is facing many challenges. On the one hand, FinTech, whose spirit is innovation, has higher demands on a company’s risk management abilities and a government’s regulatory capabilities; it is necessary to avoid the chaos arising from “development first, regulation follows”, and leading technological innovation into wrong paths. On the other hand, the importance of digital infrastructure building that FinTech developments closely rely on is becoming more apparent, of which, data security and privacy protection become difficult issues. How to make sure that sensitive consumer data are not invaded, while making FinTech more reliable as they bring about financial inclusion, may become the next focus as FinTech developments deepen. At the same time, however, we must clearly understand that, although there are many challenges, FinTech development is a solid future trend, we should not be scared away by its uncertainties.

There is an old saying in China: “the fastest horse cannot jump ten paces in one jump, ten slow horses consistently could run far”. For FinTech to comprehensively grow, it needs long-term commitments from all sides, including the government, businesses and the people; and every party should work together to build a global FinTech ecosystem, in order to bring about the fulfillment of worldwide inclusive financial system. In recent years, I can see that China is having a materially more important role on the global stage, and South Korea, as its close neighbour, its FinTech sector is also growing actively. I am looking forward to the two countries to take this opportunity, for continued close communication and collaboration, and to promote long-term growth of the sector in the two countries.

I am very pleased to see the publication of the *When Thousands of Boats Compete to Sail, the Best Built Wins: Global FinTech Hub Report 2020*, which is a collaborate effort between Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University International Business School (ZIBS), IDR and Zhejiang Association of Internet Finance, this will be an influential report for the FinTech industry. On the one hand, this report brings FinTech information to different cities, giving them better understanding of each other, and of themselves, to increase collaboration. On the other hand, this becomes a global FinTech development “Guidebook”, not only does it provide future development direction to FinTech companies, it will give policy makers a better understanding of the importance of FinTech, and pushing them to better target policies for their region’s FinTech ecosystem, thereby promoting FinTech and financial inclusion developments.

### Dr. HAN Seung-soo

Distinguished Professor, Zhejiang University International Business School (ZIBS)  
Former Prime Minister of Republic of Korea  
President of the 56th session of the General Assembly of the United Nations  
Co-Chair of the International Finance Forum (IFF)

## Foreword 2

### Three Years of Pen and Ink, Writing about a FinTech Journey of Global Ambition



From the first shoots to an early but developed framework, the sparkles of FinTech has spread its fires to fan global growth. Since its first publication in 2017, our Global FinTech Hub Index (GFHI) has seen three years and 15 reports, aimed at capturing and following each pulse and each step on the global FinTech scene. Based on our research, I can summarise global FinTech developments into an interesting “233” characteristics\*, which are two forces, three changes, and three horse-drawn carriages:

**The two forces** are FinTech and TechFin, in a new wave of FinTech revolution, not only does finance move towards technology, technology is also empowering finance, FinTech and TechFin coexist harmoniously, and move towards each other. The former mainly refers to how FinTech institutions apply technology to bring better experiences to customers, leading to lower costs, higher revenue and lower financial market friction; the latter refers to how technology companies empower finance through new technology, assisting them to develop better financial products, services and scenarios; both are equally relevant.

**The three changes** refer to: the global FinTech development structure changed from the “7 Global FinTech Hubs + 23 Regional FinTech Hubs + Emerging FinTech Hubs” in last year, to “8 Global FinTech Hubs + 32 Regional FinTech Hubs + Emerging FinTech Hubs”; people’s understanding of FinTech changed from simple and blind to more mature and sensible; and countries around the world changed from frequently debating about “should we develop FinTech” to a consensus on this question, clearly acknowledging that FinTech is an irreversible trend, and they should decisively develop it.

**The three horse drawn carriages** are the three core drivers in the world for FinTech developments – market demand, technology and regulation, each pointing to the three different development models – in China, the US and the UK. In the first half of the global FinTech competition, the three carriages drive forward together, each model has their own advantages, and together established the benchmark for all FinTech competitors.

Of course, clarifying the current scene is to look forward to the future. In my opinion, global FinTech developments exhibit clear signs of digitisation, ecosystemisation and globalisation, and its development direction could be summarised as “RISE”:

- R stands for Reasonable, Responsible, Reliable and Replicable;
- I stands for Infrastructure, Innovative, Inclusive, Interconnecting;
- S stands for Secure, Sustainable, Suitable and Scalable; and
- E stands for Efficient, Effective, Enabling and Ecosystem.

As a FinTech Researcher and Observer, I am pleased to see that our *When Thousands of Boats Compete to Sail, the Best Built Wins: Global FinTech Hub Report 2020* finally greets our readers. This report not only aims to become an efficient guide to governments and enterprises, I hope it also becomes a promise between us and every member of the world who are part of the FinTech ecosystem, we will continue to have an innocent heart, extending open arms, to walk with the world, for FinTech to realise our goal of financial inclusion where “all people are born equal”. Let’s dream big and not disappoint the times!

#### Dr. BEN Shenglin

Professor of Management & Dean of Academy of Internet Finance & International Business School, Zhejiang University & Beijing Frontier Institute of Regulation and Supervision Technology

\* For Chinese netizens, “233” also means laughing very happily.

## Recommended By:

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The deepening merge between finance and technology has become the global trend. Beijing as the nation's capital, is the national technology and innovation centre and the nation's financial regulatory centre, its advantages are not just in endowments and resources for new FinTech developments, its regulatory structure is relatively developed, its ecosystem relatively healthy and services capability continues to rise. Beijing retained its strong comprehensive abilities ranking in the Global FinTech Hubs competition and has received high praise from national and international institutions, such as the Academy of Internet Finance (AIF) Zhejiang University, and ranked first in its index and ranking. I hope, through the report's analysis, Beijing will continue to encourage the sustainable healthy development of FinTech.

—HUO Xuewen

Party Secretary and Director General of Beijing Financial Services Bureau

Currently, a new round of FinTech innovation brought new reforms to the financial sector, the world's innovations scene is being restructured, and FinTech is becoming the first driver for the new norm in the economy. In recent years, Shanghai's developments into an international financial centre continue to materially strengthen. Building a Shanghai FinTech Hub is the new connotation, opportunity and driver for the further building of an international financial centre in the new era; it is also the major pivot to implement national strategies, and to promote the collaborative development between the Shanghai financial centre and its scientific, technology and innovations centre. Certainly, Shanghai in its FinTech hub developments has much to learn and great room for improvement. This report illustrates many good experiences, Shanghai should closely study it, and take an open, innovative, and inclusive view to embrace the world's technological innovations. I look forward to a win-win with everyone.

—XIE Dong

Member of the national committee of CPPCC, Director General of Shanghai Financial Services Bureau

Zhejiang has very good grounds for innovative FinTech developments. At the same time, FinTech's development is gradually becoming the core contents and driver for Zhejiang to build its alternative financial centre. In this report, Hangzhou is recognised as one of eight Global FinTech Hubs along with Beijing, San Francisco, New York and Shanghai, and its FinTech Consumer Experience has ranked first in three consecutive years, where its FinTech adoption rate reached 93.5%, and established the best practice of a "global mobile payment city". Zhejiang's FinTech development future is clear, and the road forward for Hangzhou's Global FinTech Hub is wide. Welcome to Zhejiang, and to Hangzhou – a ground vibrant with the innovation spirit, let's draw the new blueprint together.

—ZHANG Yanyun

Party Secretary and Director General of Zhejiang Provincial Financial Services Bureau

FinTech is increasingly becoming the core driver for financial innovation and development, and it is becoming an indispensable part of the modern financial system. Shenzhen is a national forerunner in the FinTech sector, alternative financial institutions grow at a fast pace. Whether the FinTech industry could grow fast is closely related to whether there is a high-quality FinTech ecosystem. From this report, it can be seen that, Shenzhen's hard work in optimising its FinTech ecosystem has achieved some success. In the future, Shenzhen will work towards making itself a core FinTech driver, a FinTech talent standard showcase and the FinTech sustainable development leader in the Bay Area.

—**HE Jie**

**Director General of Shenzhen Financial Services Bureau**

The Global FinTech report maps the global ecosystem in FinTech, discussing the top global and regional hubs in FinTech. For the major hubs, it discusses the major policy initiatives and the corresponding FinTech developments. This is a very useful exercise that allows cities all over the world to benchmark themselves in the area of technology and finance development.

—**Raghavendra Rau**

**Sir Evelyn de Rothschild Professor of Finance at Cambridge Judge Business School**

# Core Value

The Global FinTech Hub Index (GFHI) and its associated annual reports aim to provide the best tool for readers to understand FinTech developments.

- For Governments, the core value of this index is for it to become the health report, benchmark, and ruler of measurement during their progress self-evaluation process.

### Health Report to Examine Advantages and Disadvantages:

the GFHI as an industry development index took into consideration three perspectives – that of enterprises, users and governments, it presents a hub's FinTech environment through more than 20 standards from the three angles of industry, consumer experience and ecosystem. It is as comprehensive as a health report, thereby making it helpful for hubs to accurately identify their advantages and disadvantages, allowing better targeting when the hub is considering future developments.

### Benchmark to Facilitate Learning:

the GFHI, by adopting a global uniform framework, evaluated the current FinTech development status of more than 70 cities in 6 continents. It captured the unique development experiences and motivation sources of globally sampled cities, thereby establishing measurable benchmarks, to assist hubs to further benefit from their advantages, and identify role models for further development.

### Ruler of Measurement to Measure Improvements:

the GFHI continues to record the FinTech development and historical trends of each hub, working as a ruler that has a clear scale, thereby allowing hubs to measure and appraise performance.

- For businesses, the core value of this index is for it to become a guide to understand global trends, policy and regulations, and market opportunities.

### Guide to Understand Global Trends:

based on the GFHI, this report analyses issues such as global strategy restructure, industry remapping, and FinTech adoption rate; evidenced by data, thereby clarifying development trends, and make future predictions.

### Guide to Understand Policy and Regulations:

the GFHI included an evaluation of the FinTech support level and regulatory ability of each hub, and detailly explained existing policies and regulations, thereby providing a thermometer of global policies.

### Guide to Understand Market Opportunities:

the report assists businesses and investors to capture opportunities through an illustration of current market hotspots, trends and technologies, supported by appropriate business case studies.



## Significant Findings

The wave of deepened economic, social and technological revolutions brought on by the worldwide FinTech storm is restructuring the global environment. This year's report has the theme "When Thousands of Boats Compete to Sail, the Best Built Wins" (A Chinese Saying). The first phrase represents our summary of current FinTech developments, where every country competes actively for a spot in the race. The second phrase is our answer to the "how to develop" question raised in this environment – when one wants to succeed, the priority is to sharpen the tools, and the best built has the first mover advantage. The "built" here refers to market, to regulation, to technology, and more importantly, refers to method. Facilitated by the Global FinTech Hub Index (GFHI), the significant findings of this report are:

### The FinTech Mansion

Through synthesising international authoritative research, we categorised the global FinTech industry into four elements: online banking, securities, and insurance; alternative finance; digitisation of the financial sector; and FinTech infrastructure.

### The 2020 Global FinTech Map: 8+32+N

We selected the worldwide Top 40 cities in FinTech development out of more than 70 cities, and further classified them into 8 Global FinTech Hubs, 32 Regional FinTech Hubs, and N Emerging FinTech Hubs that are not in the Top 40.

Out of which, the eight Global FinTech Hubs are deservedly the head-sheep in FinTech, not only does their average score leads the global pack, 72.6% of listed FinTech companies, 69% of highly capitalised unlisted FinTech companies, 43.1% of listed financial services companies, and 46% of listed technology companies are located in these eight hubs.

Further, from 2018, the number of Global FinTech Hubs increased from seven to eight in 2020. Beijing, San Francisco (Silicon Valley), New York, Shanghai, London, Shenzhen and Hangzhou maintained their Top 7 status, Shanghai won over London to become No 4, Shenzhen and Hangzhou are equal in No 6, where Chicago grew significantly to enter the top tier in global FinTech development, it is now No 8.

### FinTech has Become an Inescapable Trend

Internationally, every government treats FinTech development as a priority, more than 40 cities have issued FinTech related policies and support programs. London, Shanghai, Hangzhou, Singapore, Dubai and Zurich are competing to be FinTech Hubs, local resources, even national resources are poured into developing FinTech.

At the same time, capital continues to flow into FinTech at an increasing rate. In 2019, the number of listed and highly capitalised unlisted FinTech companies grew by 33% to 485, total capital raised grew by 46% to USD155.8 Billion; evidencing the prosperity of the FinTech market.

### Growing Global FinTech Competition

On the one hand, the leadership of the eight Global FinTech Hubs is significant, their GFHI average scores are far higher than Regional FinTech Hubs; and their average score difference from that of Regional Hubs increased by 3.7 points from 2018 levels. They are maintaining their first mover advantages.

On the other hand, the positive competition between regional hubs are materially increasing, out of which, half of the hubs moved in ranking by more than 3 places, they are quickly following the FinTech leaders in a new lane. At a time like now, when every country in the world competes to develop FinTech, any slight rest means staying behind, just as sailing a boat against the current.

### The FinTech Industry: Obvious Two-tier Structure, Chinese Cities Shine

The FinTech industry Global Top 40 cities ranked similarly to the GFHI total ranking, there is a significant "8+32" two-tier structure. Out of the Top 20 cities in the global FinTech industry, other than five Chinese cities, the rest are in developed countries. What this means is that although FinTech development depends on the endowments of the city, but if cities capture the new opportunity like the Chinese cities, they could leapfrog and overtake to lead from a different lane.

### FinTech Consumer Experience: Developing Countries Lead in All Aspects

FinTech consumer experience globally improved from 2018 levels, the average scores of the core standard "percentage of FinTech consumers in the population" grew by more than ten percentage points.

Relying on a large market size and number of use cases, Chinese cities are still the benchmark for FinTech con-



sumer experience, taking the top eight places in the global FinTech consumer experience ranking. Countries such as India, South Africa, and Russia are putting resources into improving financial inclusion, FinTech consumer experience in these countries have materially improved, together with Chinese cities, they take the top 15 places.

### **FinTech Ecosystem: The Top Priority in FinTech Development**

From a global point of view, FinTech ecosystem ranking is significantly correlated with the industry ranking, and the Top 20 cities continue to come from China and developed countries, and almost all Chinese cities have improved their rankings, evidencing that a good FinTech ecosystem is the most important factor in FinTech development.

From the perspective of geographical distribution, developing countries are actively improving their ecosystems, this improvement is very significant in Asia, where cities from the second to fifth place on that ranking comes from this continent. From the perspective of sub-sectors, financial and technological infrastructure is gradually becoming the core competency in the ecosystem. From the perspective of development models, these cities either focus on financial services companies developing their own technology, or technological companies empowering financial services, or focusing equally on both.

### **Which Type of FinTech to Develop: Technologically Driven**

When comparing FinTech Industry developments globally, especially between China and the US, technologically driven industry sectors such as blockchain/digital currency and Robo-investment-advisor attracted more attention, these are likely future trends; therefore it is unavoidable that cities will promote FinTech infrastructure building and speed up the digitisation of their financial sectors. At the same time, China, where developments are more market driven, the online lending sector is facing many problems, self-assessment and re-evaluating development paths become necessary.

Whether from a country by country perspective, or from the difficulties arising from industry developments, having a technology driven FinTech industry is of paramount importance. This is not just a current trend, but the best and most fundamental solution to existing problems in the industry. Further, it is also important to adopt Regtech to improve regulatory capacities, and all countries need to avoid the old path of “development first, regulate later”.

### **How Cities should Develop FinTech: Three Steps:**

Firstly, cities should perform a self-health-check and ascertain their own advantages and disadvantages. Secondly, when each city has a clear understanding of themselves, for the purpose of continuing development, they should take a brave step to learn from others, improve their learning capacities, and to discover the most suitable learning method. Thirdly, from the three angles of industry, consumer experience and ecosystem, set up implementation programs, issue appropriate policies, and take an international and long-term view, where strategies of an era require planning to go first.

### **Other than the above significant findings:**

This report analysed in detail the 8 Global FinTech Hubs, 32 Regional FinTech Hubs and the N Emerging FinTech Hubs. For details, please see Chapters 4, 5 and 6.

Based on the GFHI, this report published seven Rankings Lists. For details, please see the next page.

## Guide to GFHI Rankings Lists

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2020 Regional FinTech Hubs Ranking

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# 01

## Chapter 1

# FinTech: Past and Present

FinTech has several special characteristics: short development period, fast upgrade time, and highly cross-disciplinary in nature. Before analysing the global picture of FinTech developments, we should go back to the beginning for a deeper understanding of three questions: “where did FinTech come from?”, “what is FinTech actually?”, and “how is the GFHI calculated?”. This chapter will provide answers to these three questions from three perspectives: the historical development of FinTech, the FinTech Mansion, and the three years of the GFHI.

# 1 The Historical Developments of FinTech

## 1.1 FinTech Upgrade: From 1.0 to 3.0

For every round of industry innovation, there is a significant event in scientific and technological development; and for every round of financial reform, there is a round of FinTech upgrade. In the global development history of FinTech, there are roughly three stages: FinTech 1.0, FinTech 2.0 and FinTech 3.0. This section introduces the core features of these three stages, sections 1.2 and 1.3 will discuss the timing and important events of these three stages in China and in the world.

### (1) FinTech 1.0 (the Financial IT Stage)

FinTech 1.0 is the early shoots of FinTech. In this stage, the traditional financial services industry begins to use IT for office business process digitisation and automation, thereby improving their management and operations efficiency. Some representative examples include the digitisation of the bank accounting system, the credit rating system, and the clearance system; and automated accounts transfer, cheque processing machines, ATM machines and POS machines.

### (2) FinTech 2.0 (the Internet Finance Stage)

As the Internet develops and mobile terminals become accessible, FinTech gradually moves to the FinTech 2.0 stage, represented by Internet Finance. At this stage, financial services providers begin to build online platforms, adopting the Internet or mobile terminals to collate users and

information, enabling the connection and grouping of asset, transaction, payment and capital terminals. From FinTech 1.0 to 2.0 is a in substance a process of financial channels reform, enabling information sharing and business fusion. The most representative business models include marketplace Lending, Internet insurance and Internet wealth management product sales, etc.

### (3) FinTech 3.0 (the Smart Finance Stage)

Currently, new technologies such as AI, Blockchain, Cloud Computing and Big Data are leading the world into FinTech 3.0. FinTech has entered the high-speed growth stage. In this stage, FinTech is merging with different new technologies, to reorganise traditional financial services such as financial information collection, financial risk management, investment decision making, etc, continuously improving financial intelligence levels. Comparing to the focus on IT implementation in back-

room processes in FinTech 1.0; the focus on internetisation of front end services channels in FinTech 2.0; FinTech 3.0 is focusing more on a reform of the technology adoption in the whole financial services value chain, thereby FinTech holistically empowers the industry, and significantly improves efficiency in traditional financial services provision. The representative business models in FinTech 3.0 include digital currency, robo-investment-advisor, and big data credit rating.

## 1.2 Major Events of Global FinTech Development

Global FinTech development began in the United States and the United Kingdom, different rounds of technology revolutions backed the upgrading of FinTech. In the US, as early as the 1960s, discussions of bank accounting system digitisation began. In 1967, Barclay's Bank in the UK brought out the first ATM machine. From then on, information technology gradually became part of everyday management and operations for financial services companies, and FinTech 1.0 began.

In the 1990s, the dot com boom pushed financial services firms to build online platforms, the world's first Internet securities broker E-trade, the world's first Internet bank SFNB were both founded during this era, signifying that the world has entered FinTech 2.0.

As the in-depth implementation of technologies such as AI, big-data, Cloud Computing and blockchain, the well-known innovative financial products began to enter the financial markets. In 2009, Bitcoin that runs on Blockchain technology entered the market, leading the world into FinTech 3.0.



### 1.3 Major Events of FinTech Development in China

FinTech in China came late into the scene. Developments began in 1988, signified by ICBC Shanghai’s adoption of the first ATM machine in China, almost 30 years later than globally. In 2012, Internet finance as a term was first raised in China, subsequently FinTech in China began its high-speed developments. Although globally, FinTech 1.0 and FinTech 2.0 began in the US and UK, but FinTech in China is gradually succeeding in the leap between “Copy to China” and “Copy from China”, even gradually overtaking FinTech advanced countries lead by the US and the UK.

Now, FinTech developments in China are fruitful. The total number of Alipay users exceeds four times that of PayPal, in 2018, its total annual mobile payment volume is approximately 25 times that of PayPal. In 2019, three of the top five on KPMG’s “Global FinTech Top 100” ranking came from China, Ant Finance and JD Finance placed first and second. ZhongAn Insurance’s premiums intake in 2018 exceeded RMB 1 Billion, in the first half of 2019, it achieved its goal of cumulated customer serviced exceeding 350 Million. For Internet banking, as at the end of 2018, WeBank serviced more than 100 Million transactions, MyBank cumulatively serviced more than 1.2 Million small and micro business customers, providing new solutions to the worldwide difficulty of micro business financing.

**FinTech 1.0 (1988-2002)**

- 1988** ICBC Shanghai adopted the first ATM machine, beginning the spread of ATMs to everyday banking.
- 1993** The State Council clearly ordered “speeding up financial digitisation developments” in its *Decisions on Financial Systems Reform*.

**FinTech 2.0 (2003-2012)**

- 2003** Taobao implemented Alipay.
- 2007** China’s first marketplace lending platform – PaipaiDai was founded.
- 2011** The People’s Bank began to issue third party payment licences.
- 2012** Internet Finance as a concept was first raised.
- 2013** Alipay collaborated with Tian Hong Asset to issue the Internet wealth management product “Yu’eobao”.

**FinTech 3.0 (2013 to Now)**

- September 2014** The five privately held banks Qianhai WeBank, Tianjin Jincheng Bank, Wenzhou Myshare Bank, Zhengjiang MyBank and Shanghai Huarui Bank were registered licensed for operations.
- July 2015** Ten ministries including the People’s Bank issued the *Guiding Opinions on Advancing the Healthy Development of Internet Finance*.
- July 2016** Sunshine Insurance issued the first blockchain based policy.
- August 2016** The State Council issued the *Thirteenth National Scientific and Technological Innovation Five-year Plan*, proposed to develop a national technology and financial innovation centre to promote technology empowered financial products and services innovation.
- November 2016** ZhongAn Information and Technology Co. Ltd (ZA Tech) was founded.
- May 2017** The People’s Bank established its Digital Currency Committee and FinTech Committee.
- January 2019** The new regulation regarding marketplace lending, the No 175 document was issued, pointing out the three restructure directions.
- August 2019** The People’s Bank published its *FinTech Development Plan 2019-2021*.



## 2 The FinTech Mansion

As FinTech continues to upgrade, its contents and boundaries continue to expand. According to the new *FinTech Development Plan 2019-2021* published by the People's Bank, FinTech is financial innovation driven by technology, its aim is to apply modern scientific and technological achievements to improve or innovate financial products, business models or operation processes, thereby promoting the quality and efficiency gains in financial developments.

Through collating international and Chinese authoritative research, we divide FinTech 3.0 into four components: Internet Banking, Securities and Insurance, Alternative Finance, Digitisation of the Financial Sector, and FinTech Infrastructure.

### ■ Internet Banking, Securities and Insurance:

focusing on the financial sector embracing technology. It refers to completing banking, securities and insurance transactions through pure Internet based means. Representative companies include MyBank, Tiger Securities and ZA Insurance, etc.

### ■ Alternative Finance:

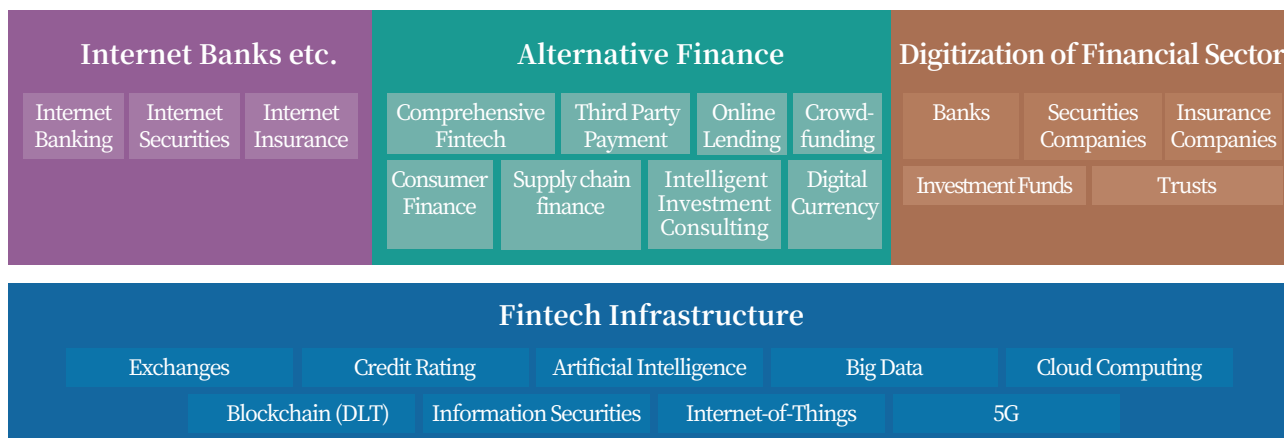
focusing on technology empowering finance, including business models such as comprehensive FinTech (covering multiple alternative finance sectors), third party payment, marketplace lending, and crowdfunding. Representative companies include Ant Finance, Zopa and Kickstarter, etc.

### ■ Digitisation of the Financial Sector:

focusing on the financial sector embracing technology. It refers to traditional financial services providers such as banks, securities companies, insurance companies, investment funds and trusts applying technology for digitisation and technologisation transformation. It is mainly represented by bringing traditional services online, expanding everyday services capabilities, and the online sales of products, etc.

### ■ FinTech Infrastructure:

focusing on technology empowering finance, acting as the underlying support for the above related FinTech business models and associated applications; including financial support services such as exchanges and credit rating, and technological support services such as AI, big data, Cloud Computing, blockchain, information securities. Representative companies include Oracle, Hyperchain and Bloomberg, etc.



### 3 About the GFHI

#### 3.1 The Three Years

Since the first publication of the *FinTech Hub Index* in September 2017, Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University along with organisations including Zhejiang Association of Internet Finance have consistently published a series of 15 reports based by the GFHI, including the *2018 China FinTech Hub Report*, the *2018 Global FinTech Hub Report* and the *2019 Top 40 Global FinTech Cities by Industry*. This is a continuous recording and following of Chinese and international FinTech developments, capturing every city's FinTech development opportunities.



## 3.2 The Indicator Hierarchy

The Global FinTech Hub Index (GFHI) starts from three perspectives – enterprise, consumer and government, to create an indicator hierarchy from three angles: FinTech Industry, FinTech Consumer Experience and FinTech Ecosystem. The indicator hierarchy goes through continuous improvements based on maintaining stability and scientific cross comparability.

The following is the indicator hierarchy:

**Table The Global FinTech Hub Indicator Hierarchy**

First Level Indicator	Second Level Indicator	Third level Indicator	Measurement
FinTech Industry (Enterprise Perspective)	Internet Banking, Securities and Insurance/ Alternative Finance/ FinTech Infrastructure	Listed FinTech Companies	Number of listed FinTech companies in the city Total market capitalisation of listed FinTech companies in the city
		Highly Capitalised Unlisted FinTech Companies	Number of unlisted FinTech companies with Venture Capital Investment exceeding USD 50 Million in the city Total market capitalisation of the unlisted FinTech companies with Venture Capital Investment exceeding USD 50 Million in the city
	Digitisation of the Financial Sector	Digitisation Rate of Traditional Financial Sectors	The price earnings ratio, digitisation of product/business/scenarios, etc in the city's financial services providers
	FinTech Consumer Experience (Consumer Perspective)	FinTech Adoption Rate	Percentage of Population that are FinTech Consumers
FinTech Ecosystem (Government Perspective)	Economic Foundation	National GDP	The national GDP of the country the city is located in.
		Size of National Population	The national population size of the country the city is located in.
		National Economic Growth	The national GDP growth of the country the city is located in.
		GDP of the city	The city's total GDP
		Population Size of the city	The city's total population size
	Industry Foundation	Financial Sector	The total market capitalisation of global Top 200 financial services providers located in the city
		Tech Sector	The total market capitalisation of global Top 200 technology companies located in the city
	Digital Infrastructure	Cyber Security	The city's cyber security score
		Internet adoption rate	The city's Internet adoption rate
	Research capacity	Research Capacity of the city	Research capacity score of the city's research institutions
		General Capabilities of Famous Universities	General capabilities score of the city's famous universities
	Policy Environment	FinTech Support Level	The city's FinTech policy support score
FinTech Regulatory Capacity		The city's FinTech regulatory capability score	

### 3.3 Sampled Cities

Our city selection criteria include FinTech strength and regional influence. We sampled more than 70 core cities for data collection and scores analysis, including Beijing, Shanghai, Hangzhou, Hong Kong, New York, London, Paris, Amsterdam and Dubai. Based on the findings of the GFHI, we selected the Top 40 cities for further analysis and report.



Figure GFHI Sampled Cities

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd.

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### 3.4 Method of Calculation

The GFHI is calculated based on a hierarchical, layered and weighted process. Below is the calculation process:

#### ■ Data Standardisation

For all collected raw data, we perform data cleaning, data correlation and dimension removal, in order to arrive at a standardised score for each indicator, the score is between 0 and 100.

#### ■ Indicator Weighting

The contribution of each score point to the upper level score is based on a multi-layer weightings process. This means, for the first two layers of indicators, our innovation is to apply weights according to a rules-learning based multi-layer analysis; for the third layer indicators, we apply weights based on mainstream components analysis.

#### ■ Index Calculation

The GFHI is a sum of the multiple of every city's relevant standardised score with their weights, including the general indicator and the industry, consumer experience and ecosystem indicators.

#### ■ Index Updates

In the future, the indicator hierarchy, statistical model and weights of relevant score will be amended and improved aimed at maintaining the general analytical model, in order to maintain its objectivity, continuity and uniformity of results.

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### 3.5 Data Collection

During data collection, we adopted traditional data collection and big data technology methods. We considered comprehensively data breadth and representativeness and collected from multiple channels – data for each country, region and city from their public information channels, statistics yearbooks, FinTech company official websites, venture capital data, and authoritative databases. We also undertook primary global FinTech data collection for several months.

# 02

## Chapter 2

# Global FinTech Overview

When finance met technology, tradition and innovation collide, opportunities and challenges coexist, and each city paints their own colourful picture. Globally, the US, Britain, Singapore and Switzerland are promoting their core cities to become global FinTech hubs, taking advantage of the times through high level strategic planning. Focusing on China, cities such as Beijing, Shanghai, Shenzhen, Hangzhou and Guangzhou begin to shine in the global FinTech competition, leading world developments. Through competition, cities globally continue to improve for their places as a Global FinTech Hub.

This chapter provides an overview of the international FinTech landscape, clarifying that “FinTech development is an unavoidable trend”, and sets out its characteristics, such as highly concentrated and heated competitions.

## 1 An Overview of Global Rankings: the “8+32+N” Pattern

We selected the Top 40 global FinTech cities from more than 70 cities in six continents, and further characterised them into 8 Global FinTech Hubs, 32 Regional FinTech Hubs and several Emerging FinTech Hubs (See Chapter 6). All Global FinTech Hubs have scored above 60, their average score is 75.6, the average score for Regional FinTech Hubs is 47.6.

Specifically, Global FinTech Hubs increased to 8 from the 7 in 2018, Beijing, San Francisco (Silicon Valley), New York, Shanghai, London, Shenzhen and Hangzhou maintained their Top 7 positions, Shanghai overtook London to be No.4, Shenzhen and Hangzhou rank together at No.6, and Chicago leaped into the first tier of FinTech hubs, ranked No.8.

**Table 2020 Global FinTech Hubs Ranking**

City	Country	GFHI Total Ranking	Ranking Movement from Last Year	Industry Ranking	Consumer Experience Ranking	Ecosystem Ranking
Beijing	China	1	-	1	5	3
San Francisco (Silicon Valley)	US	2	-	2	16	4
New York	US	3	-	3	32	2
Shanghai	China	4	↑1	4	4	7
London	UK	5	↓1	5	18	1
Shenzhen	China	6	↑1	7	2	6
Hangzhou	China	6	-	6	1	14
Chicago	US	8	-	8	41	11

Note: “Last year ranking” in this report refers to the ranking reported in the *Global FinTech Hubs Report 2018*.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd.

Regional FinTech Hubs increased from the 23 in 2018 to 32. Singapore, Sydney, Tokyo continues to be leaders of Regional Hubs, either maintained or improved in ranking. Hong Kong and Seattle fell slightly in their rankings, of five places each. Further, on the FinTech racetrack, new stars emerge – Melbourne, Zurich, Amsterdam, Cape Town, Atlanta and Mumbai improved significantly.

Table 2020 Regional FinTech Hubs Ranking

City	Country	GFHI Total Ranking	Ranking Movement from Last Year	Industry Ranking	Consumer Experience Ranking	Ecosystem Ranking
Singapore	Singapore	9	-	12	20	8
Sydney	Australia	10	↑1	13	23	12
Tokyo	Japan	11	↑2	14	53	5
Atlanta	USA	12	↑6	9	43	29
Paris	France	13	↑2	11	51	13
Guangzhou	China	14	↑2	29	3	19
Hong Kong	China	15	↓5	10	36	20
Melbourne	Australia	16	↑17	19	28	15
Seattle	USA	17	↓5	15	33	9
Stockholm	Sweden	18	↓1	20	27	18
Nanjing	China	19	↑5	28	6	22
Mumbai	India	20	↑6	22	12	27
Zurich	Switzerland	21	↑8	17	19	28
Boston	USA	22	↓8	27	38	10
Seoul	The Republic of Korea	23	↓3	25	30	16
Toronto	Canada	24	↓1	23	37	17
Amsterdam	Netherlands	25	↑5	18	22	36
Bangalore	India	26	↓1	21	13	34
Dublin	Ireland	27	↑1	31	21	21
Berlin	Germany	28	↓6	16	26	45
Chengdu	China	29	↑3	32	8	30
Sao Paulo	Brazil	30	↓3	24	25	37
Los Angeles	USA	31	↓12	26	40	24
Chongqing	China	32	↓1	35	10	32
Tel Aviv	Israel	33	↓12	30	44	26
Cape Town	South Africa	34	↑7	40	9	38
Mexico City	Mexico	35	↑3	37	17	41
Moscow	Russia	36	↑6	42	11	42
New Delhi	India	37	New	39	14	35
Barcelona	Spain	38	↓3	36	34	33
Jakarta	Indonesia	39	↑5	34	45	39
Geneva	Switzerland	40	↑3	45	31	23

Note: “Last year ranking” in this report refers to the ranking reported in the *Global FinTech Hubs Report 2018*.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd.

Further, proportionally, out of the eight Global FinTech Hubs, their distribution is respectively 4:3:1 in China, the US and the UK, giving rise to three FinTech development models that are each driven by market, technology and regulations; namely: market driven model represented by China, technology driven model represented by the US, and regulations driven model represented by the UK. Out of which, the market driven model mainly benefited by consumers embracing FinTech, its focus is FinTech application and improving consumer experience; the technology driven model mainly benefited from technology revolutions, focusing on original technological inventions and building underlying infrastructures; the regulations driven model benefited from regulatory innovations, focusing on improving the regulatory systems and ecosystem improvements. In the first half of the FinTech race, there are advantages of each of the three models, the three horses move in-sync, but as international competition heightens, and industry developments deepen, support from important areas such as technology, manpower and regulation will become increasingly relevant.



## 2 Highly Concentrated, the Eight Global FinTech Hubs Deserve Their Places

Table 2020GFHI Top 40 Cities – All Perspective Statistics

	Fintech Industry									Fintech Consumer Experience
	Listed Fintech Companies				Unlisted Fintech Companies with Cumulated Venture Capital Exceeding USD50 Million				Digitisation of the Finance Sector	Percentage of Fintech Users in The Population
	Quantity	Percentage (%)	Total Market Capitalisation (\$,billion)	Percentage (%)	Quantity	Percentage (%)	Total Funds (\$,billion)	Percentage (%)	Average Score	Average Percentage (%)
<b>Global Fintech Hubs</b>	45	72.6	8038	91.9	292	69.0	1080	77.4	64.7	68.8
<b>Regional Fintech Hubs</b>	16	25.8	640	7.3	125	29.6	305	21.8	19.6	53.3
<b>TOP40</b>	61	98.4	8678	99.2	417	98.6	1385	99.2	28.6	56.4

	Fintech Ecosystem											
	Market Capitalisation of Global TOP200 Finance Companies				Market Capitalisation of Global TOP200 Technology Companies				Digital Infrastructure	Research Capacity	Fintech Support Level	Fintech Regulatory Capability
	Quantity	Percentage (%)	Percentage (%)	Quantity	Quantity	Percentage (%)	Total Market Capitalisation (\$,billion)	Percentage (%)	Average Score	Average Score	Average Score	Average Score
<b>Global Fintech Hubs</b>	59	43.1	3.8	55.3	40	46.0	2.9	52.8	84.3	70.0	86.5	80.9
<b>Regional Fintech Hubs</b>	67	48.9	2.8	41.1	43	49.4	2.5	42.9	78.9	45.8	76.6	77.3
<b>TOP40</b>	126	92.0	6.5	96.4	83	95.4	5.4	95.7	80.0	50.6	78.6	78.0

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd., Crunchbase, TianYanCha, Bloomberg, Investing.com

The Eight Global FinTech Hubs are deservedly the leaders in FinTech. They not only lead in average scores; their resources are also highly concentrated.

From the perspective of high quality FinTech companies, the eight Global FinTech Hubs attracted 72.6% of listed FinTech companies in the world, and 91.9% of market capitalisation, as well as 69% of the world's highly capitalised unlisted FinTech companies (unlisted FinTech companies with Venture Capital exceeding USD 50 Million) and 77.4% of total funds raised.

From the perspective of FinTech application in traditional finance and day-to-day scenarios, the average score of Global FinTech Hubs on Digitisation of the Financial Sector is 64.7, which is approximately three times that of Regional FinTech Hubs (at 19.6). At the same time, FinTech consumers in these hubs on average account for 68.8% of the population, which is 15.5 percentage points higher than that of Regional Hubs.

From the perspective of resource concentration, the eight Global FinTech Hubs assembled 43.1% and 46% respectively of the world's financial services providers and technology companies, market capitalisation exceeded half of the all cities total. Further, in terms of digital infrastructure, research capacity, policy support level and government regulatory capabilities, they are significantly ahead of Regional Hubs.

### 3 Global Consensus: FinTech Development is an Irreversible Trend

#### ■ Governments Attach High Importance

FinTech development is now of great importance to governments and regulators around the world. More than 40 cities globally have issued FinTech related support policies or direct subsidies. For example, the Federal Reserve in New York has established a FinTech advisory group to strengthen support for local FinTech developments; Shanghai is planning to build a high ground and regulatory pilot zone involving FinTech R&D, innovative application, industry and manpower concentration, and industry standards; Hangzhou is actively promoting its international FinTech hub, etc. Furthermore, cities such as London, Shanghai, Hangzhou, Singapore, Dubai and Zurich are competing to become FinTech hubs, pouring local and national resources to develop FinTech.

#### ■ Influx of Capital

Around the world, different types of funding continue to flow into the FinTech industry, and the inflow increases annually. From the GFHI database, comparing to 2018, the number of listed and highly capitalised unlisted FinTech companies increased by 33%, total capital raised increased by 46%. Furthermore, according to the Hurun *Global Unicorn List 2019*, there were 56 Unicorns that are FinTech companies, leading almost all sectors, except the top ranking e-commerce companies, numbering at 68; their total market capitalisation was USD 376 Billion, accounting for 22% of total Unicorn market capitalisation, topping all industries.

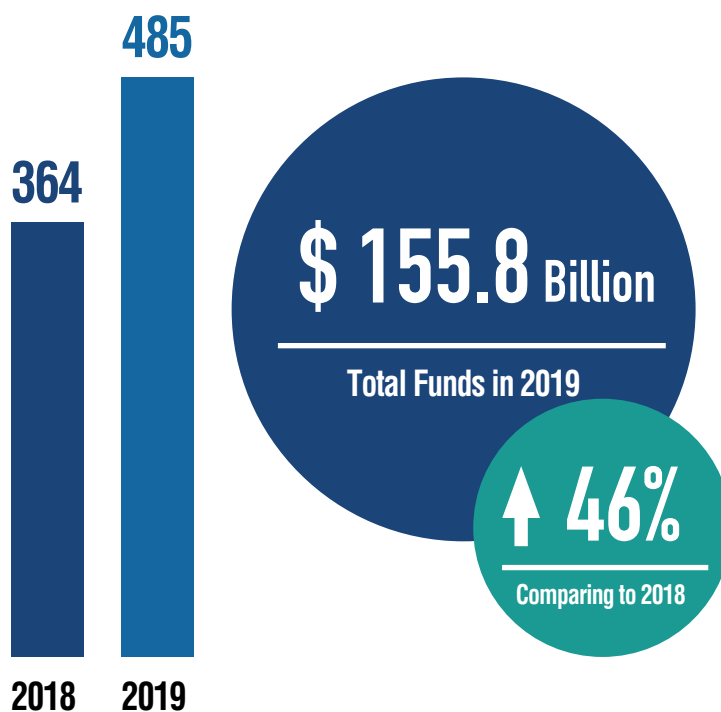


Figure Number of Listed and Highly Capitalised Unlisted Fintech Companies in 2018-2019

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd., Crunchbase, TianYanCha, Bloomberg, Investing.com

## 4 No Advancement Means Being Left Behind, International Competition is Becoming More Heated

### 4.1 Changes in Tiers

Considering the world map of FinTech development, the Global FinTech Hubs scene has transitioned from last year's "7+23+N" to "8+32+N" this year – 8 Global FinTech Hubs, 32 Regional FinTech Hubs and several Emerging FinTech Hubs. The 40 cities index is distributed with a long tail, that is, Regional FinTech Hubs has a relatively small neighbouring difference (0.7), it is easier for them to overtake the Hub ranked above; but the neighbouring difference between Global FinTech Hubs is much larger (3.54), the status quo is harder to break.

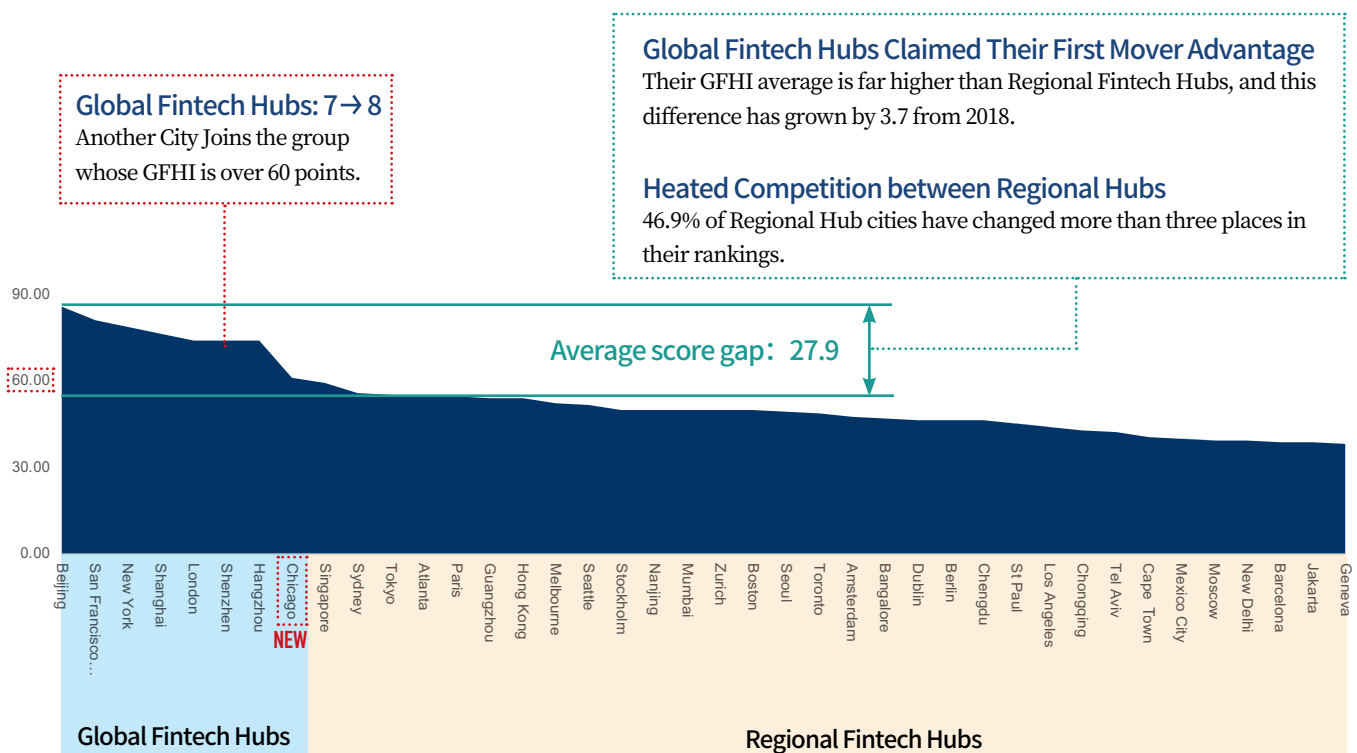


Figure Distribution of 2020 GFHI Top 40 Cities

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd.

#### (1) Asia and the Americas Continue to Lead, but Concentration Decreases

From the perspective of Global FinTech Hubs, they are mainly located in Asia and the Americas. Out of which, Asia leads with the four cities in China, the Americas follow with the three US cities, and Europe takes one place, namely, London.

#### (2) Heated Competition between Regional Hubs

The internal friendly competition between Regional Hubs are becoming more heated, of which, 46.9% of Regional Hub cities have changed more than three places in their rankings. What this means is that as every country competes to develop FinTech hubs, slowing down means being left behind.

## 4.2 Structural Changes



**Figure 2020 Global Map of GFHI Top 40 Cities and Emerging FinTech Hubs**

Note: yellow numbers refer to the eight Global FinTech Hubs, blue numbers are the 32 Regional Hubs, unnumbered are the emerging hubs.  
 Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd.

### (1) Asia and the Americas Continue to Lead, but Concentration Decreases

From the perspective of Global FinTech Hubs, they are mainly located in Asia and the Americas. Out of which, Asia leads with the four cities in China, the Americas follow with the three US cities, and Europe takes one place, namely, London.

From the perspective of Regional FinTech Hubs, although Asia and the Americas continue to lead, but comparing to the high concentration of Regional FinTech Hubs in 2018, Regional FinTech Hubs are more dispersed to all continents in 2019. The concentration of Regional FinTech Hubs in Asia and the Americas lowered from 69.6% in 2018, to 62.5% in 2019.



Of which, Australia and Africa lead improvements. For example, the two Hubs in Australia have both increased their rankings in the GFHI; Malborne, which is new to the ranking list is the city that made most improvements in the world (compared to 2018, it moved up 17 places). Africa broke its zero record, Cape Town in South Africa gained its spot in the Regional FinTech Hubs rankings, and significantly moved up seven places.

## (2) China and US Continues to be G2, but Competition is Fierce

Within the eight Global FinTech Hubs, China and US continues to be the G2, China took up four places, the US three, and with London, the UK took up one. As Chicago moves into the ranking list, the difference between China and the US narrowed, the ratio between the three countries moved from 4:2:1 to 4:3:1.

At the same time, the Chinese cities are speeding up improvements in previously lacking areas. For example, the FinTech ecosystem performance of Chinese cities have in general improved, mainly due to gradually strengthening regulations and continuously improving economic positions. At the same time, Chinese cities continued their considerable lead in FinTech consumer experience, but the FinTech consumer experience scores of US hubs mostly remained at 2018 levels, leading to different rates of decrease in ranking amongst fierce global competition.

# 03

Chapter 3

## Three-Dimensional Focus on FinTech

In 2019, global FinTech developments moved into a new stage. This chapter brings the focus on FinTech to three dimensions – industry, consumer experience and ecosystem, in order to illustrate present trends and to look ahead.

From the FinTech industry perspective, the two-tier global structure is established, Chinese cities shine in the midst of cities from developed countries. Most global FinTech business models concentrate on marketplace lending, third party payments, information services and comprehensive FinTech; digitisation of the financial sector is gradually becoming the core in the industry, and FinTech infrastructure is attracting appropriate attention. In the future, the world's FinTech industry will complete its transition from market driven to technology driven, from single dimension services to borderless services, and from a domestic focus to an international focus.

From a FinTech consumer experience perspective, globally consumer experience improves in general, and with the times. Chinese cities still set the consumer experience benchmark, cities in countries such as India, Russia and South Africa are experiencing significant improvements.

From a FinTech ecosystems perspective, cities in developing countries are resourcing for improvements. The ecosystem rating for Asian cities have significantly improved. Cities such as Shenzhen, Shanghai, and Tokyo stand out, as well as materially improve. At the same time, their regulatory disadvantages are disappearing, Regtech has actively found their places.<sup>1</sup>

## 1 Top 40 Global FinTech Cities by Industry

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From Venture Capital to New Stars on securities exchanges, FinTech companies took advantage of trends for growth, together they contributed to a fast moving, continuously forward-leaping FinTech industry.

<sup>1</sup>Note: due to the expansion of the samples cities pool this year, cities other than the Top 30 in 2018' s ranking are added to this year' s ranking, which makes the ranking of FinTech industry, consumer experience and ecosystem involved in the analysis of this report slightly different from that in the *Global FinTech Hub Report 2018*.

Table 2020 Top 40 Global FinTech Cities by Industry

Ranking	City	Country	Ranking	City	Country
1	Beijing	China 	21	Bangalore	India 
2	San Francisco (Silicon Valley)	USA 	22	bombay	India 
3	New York	USA 	23	Toronto	Canada 
4	Shanghai	China 	24	Sao Paulo	Brazil 
5	London	Britain 	25	Seoul	The Republic of Korea 
6	Hangzhou	China 	26	Los Angeles	USA 
7	Shenzhen	China 	27	Boston	USA 
8	Chicago	USA 	28	Nanjing	China 
9	Atlanta	USA 	29	Guangzhou	China 
10	Hong Kong	China 	30	Tel Aviv	Israel 
11	Paris	France 	31	Dublin	Ireland 
12	Singapore	Singapore 	32	Chengdu	China 
13	Sydney	Australia 	33	Ho Chi Minh	Vietnam? 
14	Tokyo	Japan 	34	Jakarta	Indonesia 
15	Seattle	USA 	35	Chongqing	China 
16	Berlin	Germany 	36	Barcelona	Spain 
17	Zurich	Switzerland 	37	Mexico City	Mexico 
18	Amsterdam	Netherlands 	38	Vilnius	Lithuania 
19	Melbourne	Australia 	39	New Delhi	India 
20	Stockholm	Sweden 	40	Cape Town	South Africa 

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd.

## 1.1 FinTech Industry Structure

### (1) “8+32” Two-tiers Structure in the Top 40 Cities by Industry is Similar to the GFHI Total Ranking

Like the GFHI Total Ranking, the Top 40 Global FinTech Cities by Industry ranking exhibit an obvious two-tier structure.

The eight cities in the first tier is the same as the eight Global FinTech Hubs, only rankings differ slightly, illustrating the important part the FinTech industry plays in a city’s total FinTech developments. Further, the rankings of the first tier are stabilising, their average score is 41.93 points higher than that of the second tier; also illustrating that whether due to endowments or a first mover advantage, the eight leading cities have gained their relatively sustained first mover advantage, maintaining their stronghold.

Out of the 32 cities in the second tier, Asia performs best, taking 14 places; the Americas and Europe are equally strong, taking seven and eight places respectively. Compared with the first tier, the second tier have more changes, as the total score ranking’s distribution takes a long tail shape, their average neighbouring score difference was narrower (1.22, that of the first tier was 4.11), competition is fiercer.



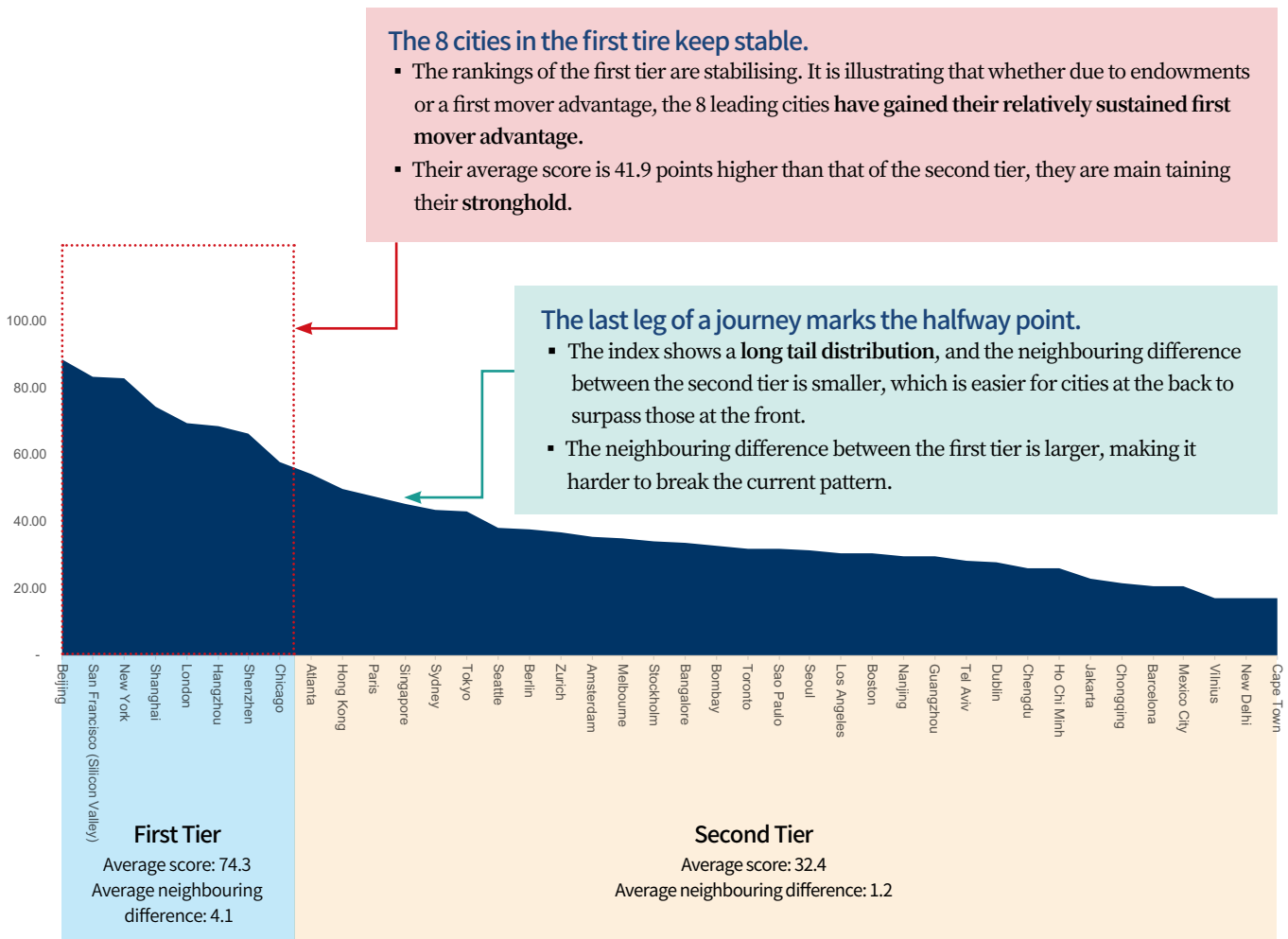


Figure 2020 Top 40 Global FinTech Cities by Industry

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd.

## (2) Chinese Cities Shine Amongst Cities from Developed Countries

Out of the first 20 cities in the Top 40 Global FinTech Cities by Industry, other than five Chinese cities, the others are cities from developed countries. This shows that although FinTech development relies on the endowments in a city, if cities could learn from Chinese cities, and take advantage of early opportunities, they could still overtake others through a first mover advantage.

## (3) Many Cities are Putting More Resources into Developing the Industry, not Leaving it to Chance

Other than the first tier, there are lots of bright spots from the second tier led by Atlanta, Hong Kong, Paris, Singapore, and Sydney; especially those cities that raced to catch up. The industry rankings of Melbourne, Amsterdam, Zurich, Paris, Jakarta and Vilnius have improved by 23, 17,16,11, 9 and 9 places respectively. Most of these cities are located in Australia, the Nordics and South-east Asia, and their hard work were reflected differently. For example, Melbourne and Paris work hard to support their listed companies, significantly raising their market capitalisation; but Amsterdam, Zurich and Jakarta worked to attract large amounts of capital through high quality companies.

#### (4) The Global Structuring of Listed FinTech Companies: the Top 10 are all Located in Asia, the Americas and Europe

This report collated information on listed FinTech companies around the world from different cities, including number of listed companies, market capitalisation, average capitalisation, etc. This information is presented in a Top 10 Cities Rankings List, and the Top 10 companies were analysed and presented at the same time.

We can see that, the Top 10 Ranking List is covered by Asian, American and European cities, but in terms of total and average market capitalisation, American developments are more balanced, Asian and European countries each have their focuses. In the Cities with FinTech Listed Companies Top 10 Ranking, four places each are taken by Asia and the Americas, Europe only takes two places. In the Cities with Average Market Capitalisation of FinTech Listed Companies Top 10 Ranking, the Americas and Europe each take four places, Hangzhou is the only city in Asia, taking tenth place; in the rest of the world, there is only Melbourne, taking 8<sup>th</sup> place.

**Table 2020 Global Listed FinTech Company Numbers, Total Fundraising, Average Fundraising Top 10 and Global Top 10 Companies**

Ranking	Number of Companies	Total Market Capitalisation	Average Market Capitalisation	Market Capitalisation Top 10 Company (City Located in)
1	Beijing	San Francisco (Silicon Valley)	San Francisco (Silicon Valley)	Visa (San Francisco)
2	Shanghai	New York	New York	MasterCard (New York)
3	San Francisco (Silicon Valley)	Amsterdam	Amsterdam	Square (San Francisco)
4	New York	Shanghai	Geneva	Adyen (Amsterdam)
5	Hangzhou	Chicago	Chicago	East Money (Shanghai)
6	Shenzhen	Hangzhou	Paris	Transunion (Chicago)
7	Chicago	Beijing	Milan	Broadridge (New York)
8	Atlanta	Geneva	Melbourne	Temenos (Geneva)
9	London	Paris	Seattle	Hundsun (Hangzhou)
10	Amsterdam	Milan	Hangzhou	Apollo (New York)

Note: The number, market value and other relevant data of publicly listed financial technology enterprises is as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

### (5) The Global Structuring of Highly Capitalised Unlisted FinTech Companies

Similar to listed companies, this report collated information on highly capitalised unlisted FinTech companies (venture capital investment exceeding USD 50 Million) around the world from different cities, including number of listed companies, market capitalisation, average capitalisation, etc. This information is presented in a Top 10 Cities Ranking List, and the Top 10 companies were analysed and presented at the same time.

We can see that, similar to the Listed Companies Ranking List, Asian, American and European cities still cover the list, but Chinese cities shine, they not only take up the Top 5 (eight in total) of the numbers of companies in the city Top 10 ranking list, in the total and average capitalisation Top 10 ranking list, they take six and five places respectively. It is worth noting, some Chinese cities take places on the total and average capitalisations rankings list due to a single highly capitalised FinTech megacompany, such as Hangzhou – due to Ant Finance’s performance as the worldwide top capital raising company (USD 24.39 Billion), it tops both the total and average market capitalisation ranking lists; Nanjing – due to Suning Finance, takes ninth place on the total market capitalisation ranking list.

**Table Global Highly Capitalised Unlisted FinTech Company Numbers, Total Fundraising, Average Fundraising Top 10 and Global Top 10 Companies**

Ranking	Number of Companies	Total Market Capitalisation	Average Market Capitalisation	Market Capitalisation Top 10 Company (City Located in)
1	New York	Hangzhou	Hangzhou	Ant Finance (Hangzhou)
2	San Francisco (Silicon Valley)	San Francisco (Silicon Valley)	Nanjing	Block. One (Hong Kong)
3	Beijing	Beijing	Melbourne	Suning Finance (Nanjing)
4	London	New York	Hong Kong	Lufax (Shanghai)
5	Shenzhen	London	Chongqing	Jingdong Finance (Beijing)
6	Shanghai	Shanghai	Atlanta	Sofi (San Francisco)
7	Hangzhou	Hong Kong	Stockholm	Kabbage (Atlanta)
8	Singapore	Shenzhen	Sao Paulo	Du Xiaoman Financial (Beijing)
9	Chicago	Nanjing	Shanghai	Bitmain (Beijing)
10	Berlin	Atlanta	Ho Chi Ming City	Ingenico (Paris)

Note: The number, fundraising and other relevant data of highly capitalised unlisted FinTech companies (venture capital investment exceeding USD 50 Million) is as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 1.2 Choosing the Path for the Future: Which Type of FinTech Industry to Develop?

### (1) The Current Industry Structure of the FinTech Industry: Business Models are Relatively Concentrated, there is a Lack of Motivation for International Movement

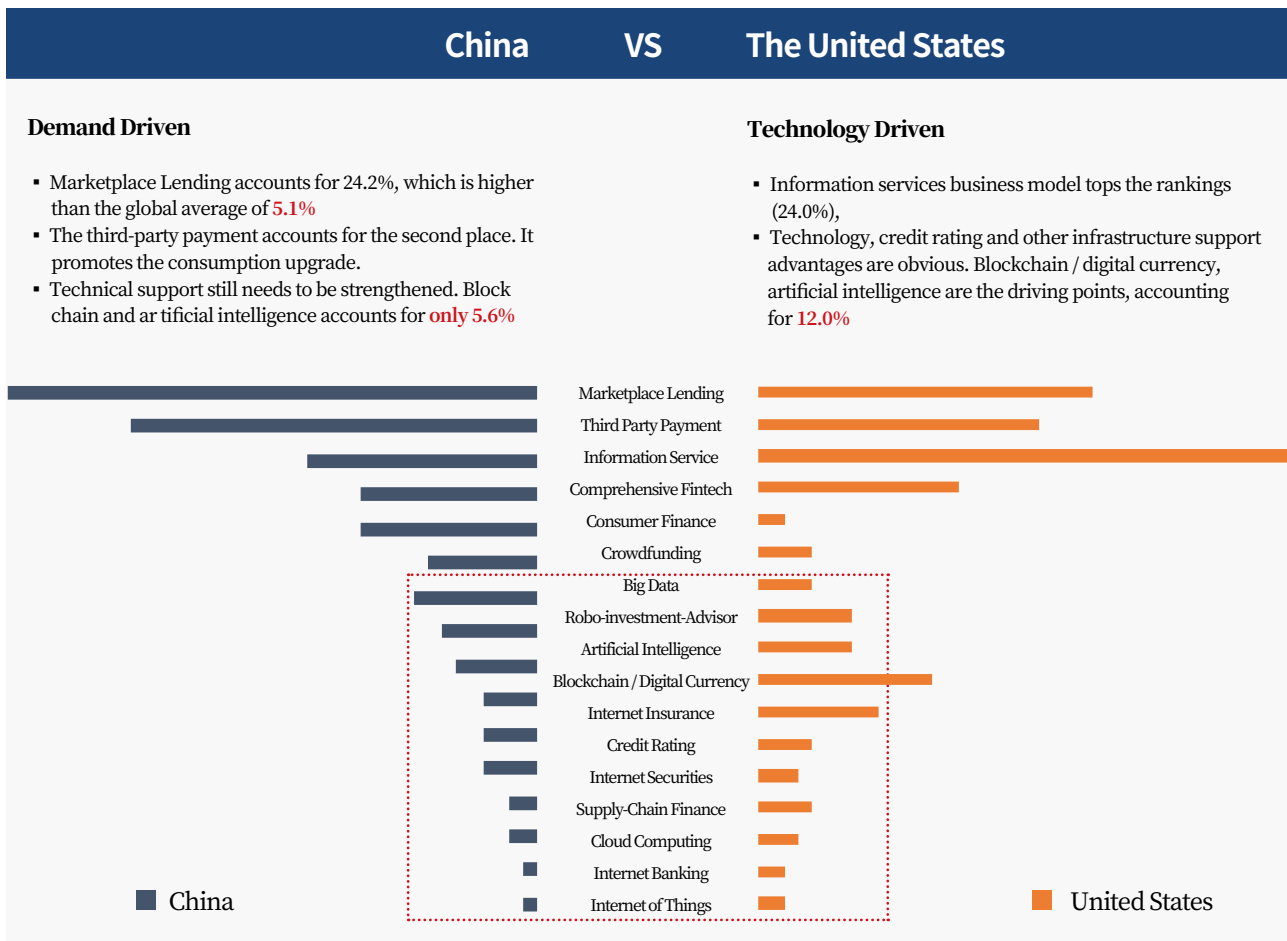
According to the definition and boundaries of the FinTech industry (the FinTech Mansion), discussed in Chapter 1, the FinTech industry mainly includes Internet Banking/securities/insurance, alternative finance, and the digitisation of the traditional financial sector, etc. It includes subsectors such as marketplace lending and third party payments; and is supported by FinTech infrastructure.

From the perspective of number of companies, marketplace lending, third party payments, information services, comprehensive FinTech accounts for the top four business models in FinTech, together accounts for 60% of companies. Out of which, as “FinTech infrastructure will become the core resource for future FinTech hub development and competitiveness” becomes the consensus, related industries represented by information services (such as Financial IT) are attracting more attention; and comprehensive FinTech taking 4<sup>th</sup> place means that, in a global scope, FinTech development diversification gradually becomes a trend. Further, in the technological space, Blockchain/ Digital Currency tops the rankings, ranks No.5 globally.

### Global Industry Structure

- The top 4 business models in Fintech, together accounts for 60% of companies.
- Information services (such as Financial IT) rank third in the world as an important "infrastructure" of financial technology
- Fintech development diversification gradually becomes a trend.
- Blockchain/Digital Currency tops the rankings, ranks No.5 globally.

Ranking	FinTech Industries
1	Marketplace Lending
2	Third Party Payment
3	Information Service
4	Comprehensive Fintech
5	Blockchain/Digital Currency
6	Internet Banking
7	Internet Insurance
8	Robo-Investment-Advisor
9	Big Data
10	Crowdfunding



**Figure Business Model Distribution of Global FinTech Companies in 2019 and Comparison Between China and the United States**

Note: Based on the statistics of the listed FinTech companies and highly capitalised unlisted FinTech companies (venture capital investment exceeding USD 50 Million) in the sample countries

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

From the perspective of geographical distribution, countries have different industry structures. In a comparison between China and the US, China’s FinTech industry development is a classical market driven model, business models such as marketplace lending, third party payments, consumer finance and crowdfunding that are driven by demand take up a large percentage of the industry; but technologically driven business models such as blockchain or AI only account for 5.6% of the industry. Relatively, the US focuses more on technologically driven business models, not only their information services business model tops the ranking (24.5%), business models such as blockchain/Digital Currency and AI account for as high as 12% of the industry, approximately double that of China. Different business model distributions reflect that behind the scenes, each country has a different development model. Developing countries represented by China shine on the global FinTech stage due to their stringent financial regulation, regulatory support and high consumer demand; but as international competition continues to toughen and industry development deepens, support from crucial factors such as technology, manpower and regulation becomes increasingly important.

## (2) FinTech Industry Development: a Picture of the Future

In the future, the FinTech industry may face changes such as demand driven transitioning to technology driven, single facet transitioning to borderless services, and domestic focus transitioning to international focus.

### ■ From Demand Driven to Technology Driven

Through a business model comparison, globally, and in China and the US, FinTech activities increasingly focus on technology driven business models such as blockchain/ Digital Currency and Robo-investment-advisor, these are shaping the worldwide future development direction. Promoting FinTech infrastructure building and speeding up the digitisation of the financial sector are musts for the industry as a whole. At the same time, China's market driven developments, especially marketplace lending activities have met multiple problems, self-assessment and reform are necessary. No matter from an international comparative perspective or domestic growth pains, for the FinTech industry, developing technology driven business models is of utmost urgency. This is not only a trend, but also the best medicine for current industry bottlenecks and pains. Further, improving regulatory capabilities through Regtech is also materially important, every country should avoid the path of development first, regulation next".

### ■ From Single Facet to Borderless Service

Since the birth of FinTech, the relationship between FinTech companies and financial services providers have been through the storms of the times, during each period, they developed relationship models that spanned collaboration, competition, and collaborate and compete. In the future, the collaborative models between FinTech companies and licensed financial services provider will become even more varied, including the collaboration between licensed financial services providers, FinTech companies empowering licensed financial services providers, and financial services providers go through digitisation or establish FinTech subsidiaries, etc.

### ■ From Domestic Focus to International focus

On the one hand, FinTech companies began "going out", they participate in the global FinTech competition through methods such as establishing overseas subsidiaries and strategic collaborations with foreign organisations; for example, Chinese FinTech companies group to open up the South-east Asian market; and Tokai Tokyo Financial Holdings' equity investment into Singaporean companies and participate in preparing for the opening of the first digital securities exchange in Asia. On the other hand, FinTech and technology megacompanies began to establish R&D centres around the world, such as the blockchain R&D centre Facebook opened in Switzerland.

At the same time, national or regional collaboration in FinTech regulation is strengthening, with an aim to take advantage of the synergies resulting from collaboration, to build a FinTech regulatory network that has worldwide coverage, such as the FinTech Collaboration Agreement signed by the Monetary Authority of Singapore and the Hong Kong Monetary Authority.

### 1.3 A China FinTech Special Issue: Current Developments and Underlying Risks

#### 1.3.1 FinTech in China: Current Industry Developments

##### (1) Alternative Finance Activities: The Path for Development is not Smooth, Maintain Advantages and Innovate is the Way Ahead

Alternative Finance business models include marketplace lending, crowdfunding, third party payment, and big data credit ratings, etc. Currently, these business models face increasing regulatory scrutiny, within this context, the sector moves away from wild developments and begin to comply, the resulting high-quality companies become the important foundation for the sector to continue advancements.

From mid-2018, after multiple explosive cases, the marketplace lending sector in China began to be restricted by tightening regulation; the number of platforms dropped from the 1749 in September 2018, to only 747 in September 2019, a sudden decrease of 57%. Further, compared to 2018, regulation on crowdfunding in China is also strengthening, developments slowed and there is a small drop in numbers; in the third party payments sector, no Third Party Payments License was issued since 2016; big data credit rating also become increasingly regulated, 10% of companies lost their qualifications, there is a net decrease of one operator.

##### (2) Internet Banking/Securities/Insurance: Take Advantage of Technology, Improve Inclusion Abilities

Up to now, there are 17 Internet banking/securities/insurance companies in China, including nine online banks, four each of internet securities companies and insurance companies. For this sector, its ultimate goal is to achieve the financial inclusion purpose through its technological advantages. In summary, the Internet banking/securities/insurance sector is highly concentrated, the different originations differ greatly in development.

#### Internet Banks: 9

**Overall trend:** They are taking advantage of their investment nature and growing noticeably

**Distributed characteristics:** The 9 Inter banks are located in 8 cities, geographical distribution wise is quite dispersed.

#### Internet Securities Companies: 4

**Overall trend:** grow slowly

**Distributed characteristics:** 3 companies in Hong Kong, 1 company in Yinchuan

#### Internet Insurance Companies: 4

**Overall trend:** grow slowly

**Distributed characteristics:** They are located in Beijing, Shanghai, Shenzhen and Wuhan

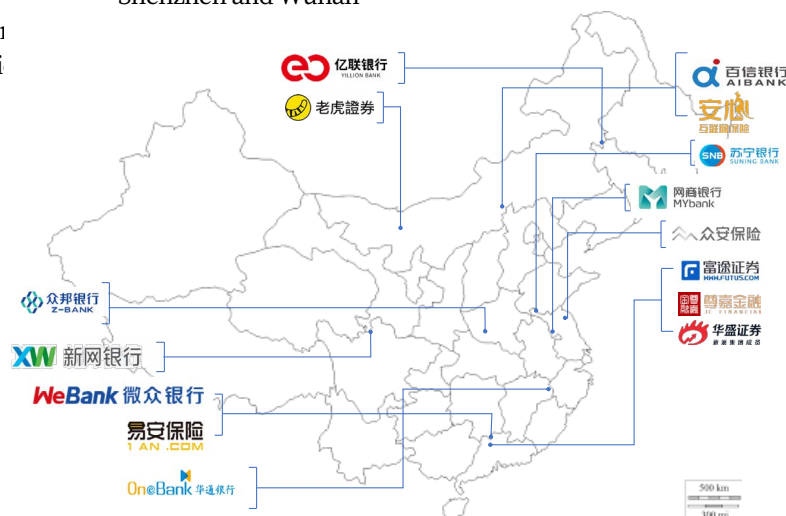


Figure Geographical Distribution of 17 Internet banking/securities/insurance Companies in China

Note: the online securities counted in this report are securities institutions without offline outlets, which are different from the "internet securities business pilot" proposed by mainland China

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd.

In terms of online banks, since China currently has not issued an authoritative Internet banking license, we defined online banks according to the private banks list published by the *Guiding Opinions of the China Banking Regulatory Commission on Promoting the Development of Private Banks* (No. 49 [2015] of the General Office of the State Council) and the first certified direct bank --aiBank, taking into consideration comprehensive factors such as banking businesses, product innovation and location of outlets; there are now nine online banks. We can see that, China's online banks are taking advantage of their investment nature and growing noticeably. On the one hand, market concentration is growing. In 2018, each Online bank's outstanding loan amount has increased from that of the previous year, WeBank, MyBank and Xinwang Bank accounts for over 90% of the market share. On the other hand, they work hard on financial inclusion, and target long tail customers that the traditional banking sector could not cover, such as individual consumers, micro businesses and the agriculture, the countryside, and farmers customers. Take MyBank as an example, at the time of this report, they have issued business loans to micro businesses and individual enterprises, up to the value of RMB3.1 Trillion. Further, the nine online banks are located in eight cities, geographical distribution-wise is quite dispersed.

The development of online banks is quite advanced, but internet securities and insurance are waiting for their chance to breakthrough. From the perspective of internet insurance, on the one hand, the leading companies account for most activities, the market share of increased by nearly six percentage points, which is over 70%; on the other hand, companies behaved differently in terms of market share, ZhongAn Online P&C Insurance increased its market share, but Taikang Insurance, 1AN.COM Insurance decreased.

### (3) Digitisation of the Financial Sector: the “Big Elephant” has Turned, but the Future is not Yet Clear

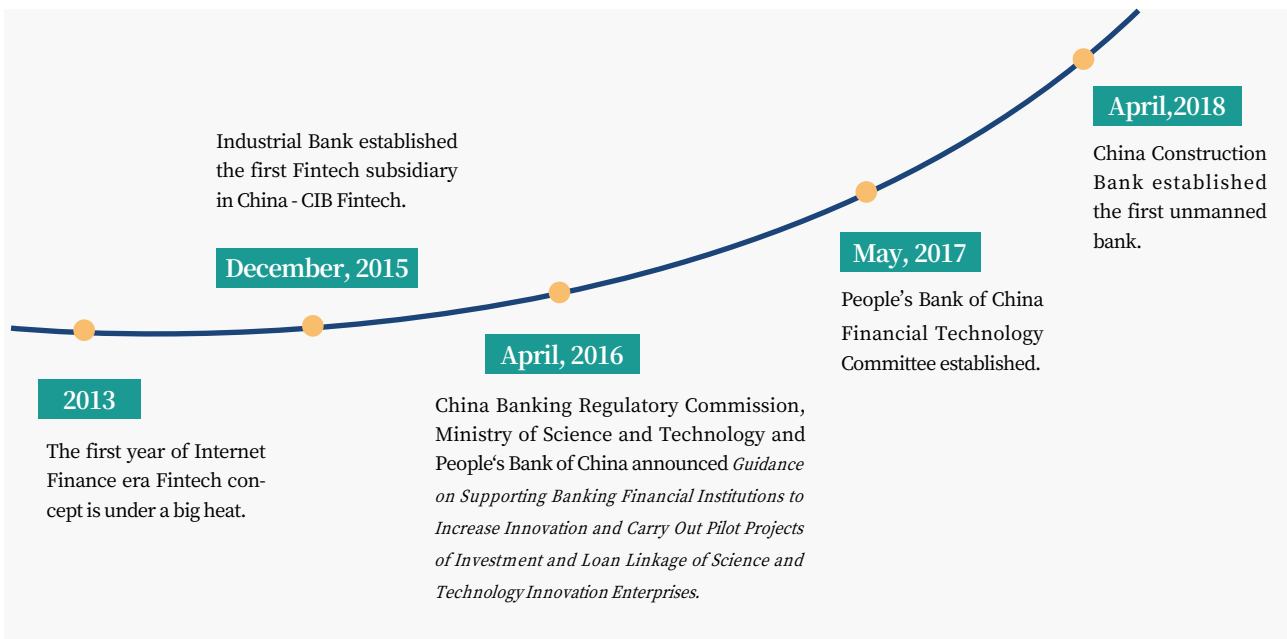
Digitisation of the financial sector is the core of FinTech development in the future, but internal ecosystem issues such as corporate governance and systemic mechanisms needs further improvement. In an environment where there is global slowing down of economic growth, industry competition grows in the finance industry and FinTech companies begin to face competition, traditional financial services firms actively seek collaboration with technology or FinTech firms. They are increasing research into FinTech, speeding up the empowering of finance by technology, structuring online payments, big-data risk management, smart consumer intelligence and smart customer service activities. Taking a global view, according to the *2019 Small and Medium Bank Internationalisation Report* published by AIF, leading foreign funded banks invest on average 17%-20% of before tax profit into digital transformation and innovation, their adoption of FinTech is systemic and in-depth, the importance of digitisation of the financial sector speaks for itself. Focusing on China, commercial banks are the major players in the digitisation of the financial sector, mainly achieved by four factors, the significant events are illustrated in the Figure below:

- Internal reform: developing own FinTech departments, digital and R&D centres, own FinTech subsidiaries;
- Collaboration: Collaborating with technology companies such as the BATJ (Baidu Alibaba Tencent and Jingdong);
- Grouping together: Several small and medium bank together collaborating with one core technology supplier, forming into a “1+N” model;
- Open Banking: Open AI (open sourcing software application input) and open sourcing SDK (software development kits).



**Establishment time of Fintech subsidiaries of some domestic banks**

- 2015.12 Industrial Bank established CIB Fintech
- 2015.12 Ping An Bank established One Connect
- 2016.02 China Merchants Bank established MBCloud
- 2016.12 Everbright Bank established Everbright Technology
- 2018.05 Minsheng Bank established Minsheng Technology
- 2018.06 China Construction Bank established CCB Fintech
- 2019.03 Industrial and Commercial Bank of China established ICBC Technology
- 2019.06 Bank of China established BOCT



**Figure Major Events of Chinese Commercial Bank Technological Transformation**

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University collated from the official website of the companies, media news, etc.

Specifically, each financial services provider is working hard to speed up their digital transformation. For example, Industrial and Commercial Bank of China established their FinTech department, responsible for a comprehensive implementation of their ECOS transformation project; J.P. Morgan opened their FinLab (Financial Solutions Lab); Citi Bank established its Citi Innovation Labs; all with an aim to speed up the development of disruptive technologies such as internet-of-things and blockchain. As the countries and regions such as the UK and the EU put forth their open banking models and associated regulatory policies, open banking is becoming a new trend in global banking developments, attracting attention. The big four banks in China, corporatised banks and local commercial banks are actively testing open banking models suitable for their business models.

#### (4) FinTech Infrastructure: Important Support and Driver

FinTech infrastructure provides important support for FinTech developments, its future and potential are great. Geographically, Beijing, Shanghai, Hangzhou and Shenzhen are leading far ahead of other cities, 5G becomes the new racetrack. Specifically, Beijing tops blockchain and Cloud computing market contribution rates in China (36.7% and 43.6% respectively), and Shenzhen tops 5G market contribution rate in China (23.1%).

In terms of industry distribution, Cloud computing, blockchain and 5G are the competition hotspots. In terms of Cloud computing, number of companies from China increased by 40% from 2018, of which, Beijing and Hangzhou together cover 87%, similar to 2018. Beijing overtook Hangzhou by a 0.09% margin, to top the cities ranking in market contribution; Alibaba Cloud still tops the market share ranking but lowered in actual market share. In terms of Blockchain, the industry quickly identifies winners and losers, Beijing tops the ranking due to the concentration of high-quality companies, industry contribution rate is 36.7, up 4.3% from 2018; Shenzhen is growing steadily, contribution rate is 19.0%, up 3%. In terms of 5G, China Telecom, China Mobile, China Unicom, and China Broadcasting Network were formally granted 5G Commercial Licences, Suzhou and Wuhan are new stars, together with Beijing and Shenzhen, their 5G companies' industry contribution rate is as high as 72.3%.

### 1.3.2 Hidden Risks in the Chinese FinTech Industry

#### (1) Listed Companies - A Game of Quantity vs Quality, Reluctantly Make a Choice of Close to Home

From the Listed Companies Top 10 Ranking, Chinese cities represented by Beijing, Shanghai, Hangzhou and Shenzhen lead in numbers of listed companies and total capitalisation. It is worth noting, behind the “quantity” in the FinTech industry, there is a lack of “quality” as support, there are hidden development risks. Horizontally, in the Global Top 10 Cities Ranking of Average Capitalisation, only Hangzhou barely made it at tenth place, in the Global Top 10 Market Capitalisation FinTech Companies, Chinese companies only took two places (East Money, Hundsun Technologies), and only four places in the Top 20 (plus Hithink RoyalFlush Information Network and Beijing Lakala Payment Limited); but in the Top 10 lowest market capitalisation companies ranking, there are six Chinese companies, in the Top 20, there are eleven (see details in PPTs). Vertically, in the Top 10 Lowest Market Capitalisation Ranking of currently listed Chinese FinTech companies, eight companies significantly dropped in market value, (devaluation average of the eight is 520%), marketplace lending leads the devaluation, the largest drop is as high as 1498%, bordering delisting.

## Quantity VS Quality

## TOP10 Lowest Market Capitalisation Ranking of currently listed Chinese Fintech companies

**Chinese Fintech companies have low market capitalization, there is a lack of “quality” as support.**

- TOP3: Highest Market Capitalization: No; Lowest Market Capitalization : 1/3
- TOP5: Highest Market Capitalization: 1; Lowest Market Capitalization : 2/5
- TOP10: Highest Market Capitalization: 2; Lowest Market Capitalization : 3/5
- TOP20: Highest Market Capitalization: 11; Lowest Market Capitalization : more than 50%

	TOP 3	TOP 5	TOP 10	TOP 20
<b>Ranking of Global High Market Cap</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>4</b>
<b>Ranking of Global Low Market Cap</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>11</b>

- In the TOP10 Lowest Market Capitalisation Ranking of currently listed Chinese Fintech companies, **8 companies significantly dropped their market value.**
- Online lending leads the devaluation, the largest drop is as high as 1498%, bordering delisting.
- Listed in US Stock=Success? **9 of China's TOP10 Lowest Market Capitalisation companies listed in US stock market.**

(Market Cap: 10-thousand USD)

Ranking	Industry	Company	Current Market Cap	Market Cap of 2019 or IPO	Compared To Last Year	Equity Market
1	Net loan	Golden Bull	746	11918	-1498%	US Stock
2	Net loan	Senmiao Technology	1180	14678	-1144%	US Stock
3	Consumer finance	China Rapid Finance	4117	15804	-284%	US Stock
4	Net loan	China Internet Nationwide Financial Services	4467	19571	-338%	US Stock
5	Net loan	Hexindai	7935	38848	-390%	US Stock
6	Net loan	Pintec	11392	53760	-372%	US Stock
7	Comprehensive	Dafy	14465	9748	33%	Hong Kong stock
8	Comprehensive	Pu Yi	40631	40089	1%	US Stock
9	Net loan	Weidai	42852	71700	-67%	US Stock
10	Net loan	Jianpu Technology	48110	80859	-68%	US Stock

**Figure Market Capitalisation of Listed Chinese FinTech Companies**

Note: Statistics on the number, market value and other relevant data of listed FinTech companies is as at October 2019

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd., Crunchbase, TianYanCha, Bloomberg, Investing.com

## (2) One Tree Becomes the Whole Forest VS Everybody Sings, Tiers Imbalance in Some Cities

From the perspective of capital raising concentration in each city, some leading companies are attracting significant capital, in four of the Top 10 cities, their Top 3 companies have attracted more than 90% of capital; the fact that one leads the pack is becoming more defined. In San Francisco (Silicon Valley), Beijing, New York and London, their Top 3 Companies'fund raising all accounted for less than 40% of total capital raised, development is more balanced. In contrast, in cities like Hangzhou, Hong Kong, Nanjing and Atlanta, Top 3 companies raised more than 90% of all capital, of which, Suning Finance in Nanjing accounted for 95.0% of total capital raised in that city, Ant Finance in Hangzhou accounted for 91%; these megacompanies have attracted the vast majority of capital in their cities, singlehandedly. As FinTech companies are becoming more varied and comprehensive in their operations, where the FinTech giants are taking up the whole forest do lead to FinTech developments in the city; but at the same time, we can see that, the Siphon effect brought by these giants have meant the city's development is likely to be unbalanced, urgent optimisation is necessary.

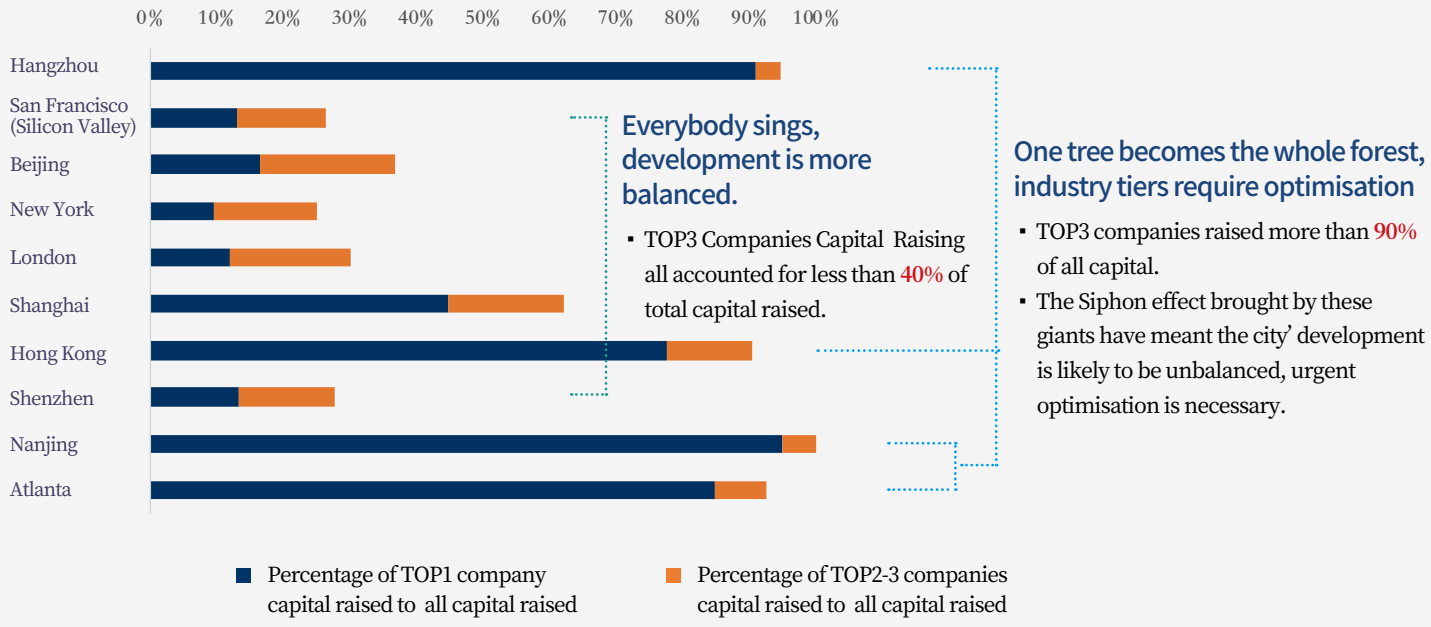


Figure 2020 Global FinTech Industry Tier Pattern -Top 10 Cities

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd., Crunchbase, TianYanCha, Bloomberg, Investing.com

## 2 Top 40 Global FinTech Cities by Consumer Experience

FinTech is an important implementation of financial inclusion, it's responsibility to ensure "everyone is born equal" is increasing. This report will illustrate the worldwide distribution of FinTech consumer experience and uses Chinese cities as benchmarks for analysis. The major indicator for FinTech consumer experience used in this report is the percentage of the population that are FinTech consumers.

## 2.1 The Distribution of FinTech Consumer Experience

In 2019, FinTech consumer experience generally improved, and cities from developing countries, represented by Chinese cities took the leading position; and cities from South Africa, Russia, India, Argentina improved significantly. At the same time, no advancement meant being left behind continues to hold true, cities in countries such as the US and Australia improved slowly, leaving them behind in rankings.

**Table 2020 Top 40 Global FinTech Cities by Consumer Experience**

Ranking	City	Country	Ranking	City	Country
1	Hangzhou	China 	21	Dublin	Ireland 
2	Shenzhen	China 	22	Amsterdam	Netherlands 
3	Guangzhou	China 	23	Sydney	Australia 
4	Shanghai	China 	24	Buenos Aires	Argentina 
5	Beijing	China 	25	St Paul	Brazil 
6	Nanjing	China 	26	Berlin	Germany 
7	Xi'an	China 	27	Stockholm	Sweden 
8	Chengdu	China 	28	Melbourne	Australia 
9	Cape Town	South Africa 	29	Frankfurt	Germany 
10	Chongqing	China 	30	Seoul	The Republic of Korea 
11	Moscow	Russia 	31	Geneva	Switzerland 
12	Bombay	India 	32	New York	USA 
13	Bangalore	India 	33	Seattle	USA 
14	New Delhi	India 	34	Barcelona	Spain 
15	St. Petersburg	Russia 	35	Milan	Italy 
16	San Francisco (Silicon Valley)	USA 	36	Hong Kong	China 
17	Mexico City	Mexico 	37	Toronto	Canada 
18	London	Britain 	38	Boston	USA 
19	Zurich	Switzerland 	39	Kuala Lumpur	Malaysia 
20	Singapore	Singapore 	40	Los Angeles	USA 

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd.

### **(1) Being with the Times, Globally FinTech Consumer Experience Improve**

In 2019, the average of percentage of FinTech consumers in the population is 51.0%, an improvement exceeding ten percentage points from the 2018 level of 39.3%, in general, FinTech consumer experience improved significantly. The reasons for this improvement are, on the one hand, as FinTech develops, FinTech infrastructure gets built and larger FinTech companies began global expansion, markets in developing countries such as South Africa, India, and Argentina are being opened up; on the other hand, traditional financial services providers are speeding up their digitisation process through FinTech, broadening FinTech Touchpoints for consumers. In developed countries, the number of FinTech consumers in Singapore, Dublin and Amsterdam grew materially; to a large extent, this is due to their banks, insurance companies, securities agents from the financial sector increasing developments in FinTech, to optimise financial services and increase the level of financial inclusion.

### **(2) Latecomers Lead, Cities in Countries such as South Africa, India and Argentina Improved Significantly**

Compared to 2018, the global FinTech consumer experience scene made material changes, many cities shine in their improvements, especially cities in countries such as Russia, South Africa, India and Argentina. Specifically, the FinTech consumer experience improvements in South Africa is related to its smartphone adoption rate and the prevalence of mobile payments; currently the smartphone penetration rate in South Africa exceeds 60%, mobile payment is welcomed and is the next most welcomed payment method next to cash. In India, the main reason is the significant support the government provides for the digital economy and inclusive financial development, the government's announcement in 2017 to reduce the supply of paper money gave mobile payment huge room for fast development. In Russia, to some extent, the increase in the percentage of FinTech consumers is related to the sanctions foreign countries placed on its major banks, although economic sanctions adversely affected its financial sector, but brought supplementary funds transfer and foreign exchange service providers to consumers' attention. In Argentina, the fast spread of FinTech is mainly due to the role FinTech represented by blockchain played in effectively improving its weak financial sector and unstable economic environment, thereby protecting its residents against high inflation and an unstable currency.

### **(3) No Advancement Means being Left Behind, Cities in Countries such as the US and Australia Improves Slowly and are being Left Behind.**

In places such as the US, Australia and Brazil, traditional financial services continue to dominate, the FinTech consumer adoption rate rises slowly, cities' rankings drop materially. Compare to newcomers to the financial sector such as FinTech companies, consumers in these places place more trust on traditional financial service providers, thereby they are less welcoming to non-financial services companies who independently provide services, but more open to their collaboration with traditional financial services providers; this heightens the role traditional financial services providers play in optimising the FinTech ecosystem. Thus, in these markets, the positioning of FinTech is to support traditional financial services providers to improve transaction security, strengthening financial services and to maintain their market position.

## 2.2 Global Benchmark in FinTech Consumer Experience: Chinese Experiences

Regarding FinTech consumer experience, the world watches China. In the Global FinTech Consumer Experience Top 40 Cities Ranking, cities from China cover the Top 8, and nine cities were in the Top 10. Establishing a benchmark and sharing China's experiences, therefore, is an important step to search for financial inclusion for the people.

From the perspective of Chinese cities, Hangzhou topped the Global FinTech Consumer Experience ranking for three consecutive years, its FinTech adoption rate (percentage of FinTech consumers in the population) reached 93.5%, a growth of 2.0% from 2018 levels, and exceeds the No 2 in China – Shenzhen by 5.6%. The FinTech consumer experience of leading cities develop stably, the rankings of the Top 5 Chinese cities, Hangzhou, Shenzhen, Guangzhou, Shanghai and Beijing in the three years almost did not change, only Shanghai surpassed Beijing to be No.4.

### 78.3%

National fintech adoption rate +3.6pp

### 8 Cities

Scored higher than the average

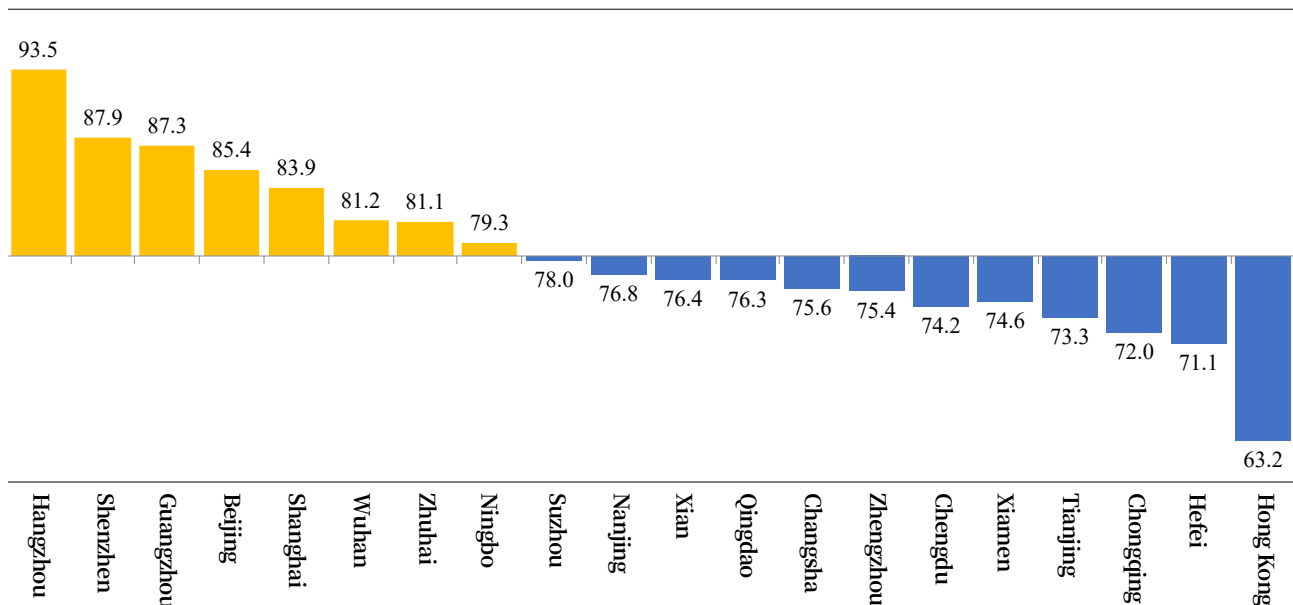
### Hangzhou

Rank at No1 consecutively for two years Fintech Adoption Rate +2pp

### Ningbo

Most Improved Fintech Adoption Rate +7.6pp Ranking +6 places

### Percentage of Fintech Consumers In The Population (%)



**Figure** Percentage of FinTech Consumers in the Population in China in 2019

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd.

Specifically, in terms of FinTech adoption rate, the average for the twenty surveyed Chinese cities for this report is 78.3%, collectively increased 3.6 percentage points. Eight cities – Hangzhou, Shenzhen, Guangzhou, Shanghai, Beijing, Wuhan and Ningbo all scored higher than the average; out of which, Ningbo improved the most, adopters increased by 7.6 percentage points, and ranking improved by six places. Generally speaking, in terms of FinTech consumer experience, the civil services scenarios for third party payment in China are becoming more varied, as at September 2019, there are 3694 civil services that accept Alipay and/or Wechat Pay. (an increase of 18% from 2018 numbers), and mainly clustered in public transport, government services and health, of which public transport is the highest (36%), at No 1 consecutively for two years, government services increased the most, at 83% growth, simplifying governance is being achieved. In terms of cities, Guangzhou tops government services and transport scenario numbers, and Shenzhen tops general services. Further, in the context of active implementation of the “one visit at most” policy, government services scenarios in Chengdu and Hangzhou experienced huge growth, as high as 114% and 73% respectively.

















## 3 Top 40 Global FinTech Cities by Ecosystem

An old Chinese saying tells us “the Phoenix chooses the best tree to stay”, FinTech ecosystem is of the utmost importance for FinTech development. The indices this report chose to analyse the FinTech ecosystem include five areas – economic foundation, industry foundation, digital infrastructure, research capacity and regulatory capability.

### 3.1 The FinTech Ecosystem Structure

Globally, the FinTech ecosystem in 2019 was stable and improving, and a city’s FinTech ecosystem ranking is correlated with its industry ranking. The Top 20 cities continued to be covered by Chinese cities and cities from developed countries, illustrating that the core for FinTech development is a good FinTech ecosystem. In terms of geographical location, Asia’s ecosystem improved significantly, and takes up half of the ranking list, almost all Chinese cities, to some extent, improved in rankings; in terms of sectors, financial and technology industry foundation gradually becomes the strength in improving FinTech ecosystems; in terms of development models, these cities either focus on developing FinTech, or technology empowering finance, or both.

Table 2020 Top 40 Global FinTech Cities by Ecosystem

Ranking	City	Country		Ranking	City	Country	
1	London	Britain		21	Dublin	Ireland	
2	New York	China		22	Nanjing	China	
3	Beijing	USA		23	Geneva	Switzerland	
4	San Francisco (Silicon Valley)	USA		24	Los Angeles	USA	
5	Tokyo	Japan		25	Kuala Lumpur	Malaysia	
6	Shenzhen	China		26	Tel Aviv	Israel	
7	Shanghai	China		27	Bombay	India	
8	Singapore	Singapore		28	Zurich	Switzerland	
9	Seattle	USA		29	Atlanta	USA	
10	Boston	USA		30	Chengdu	China	
11	Chicago	USA		31	Abu Dhabi	The United Arab Emirates	
12	Sydney	Australia		32	Chongqing	China	
13	Paris	France		33	Barcelona	Spain	
14	Hangzhou	China		34	Bangalore	India	
15	Melbourne	Australia		35	New Delhi	India	
16	Seoul	The Republic of Korea		36	Amsterdam	Netherlands	
17	Toronto	Canada		37	St Paul	Brazil	
18	Stockholm	Sweden		38	Cape Town	South Africa	
19	Guangzhou	China		39	Jakarta	Indonesia	
20	Hong Kong	China		40	Frankfurt	Germany	

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd.



### (1) Asian Cities Improve Significantly, Taking up Half of the Improved Places

In the 26 cities that improved their FinTech Ecosystem Top 40 rankings, 14 are Asian cities, accounting for as high 53.8%, their ecosystems are stable and improving. In the Top 5 Improvement cities, Asian cities Kuala Lumpur, Shenzhen, Chongqing and Guangzhou are respectively ranked 2-5, just below Cape Town in South Africa (it moved up 15 places). Further, almost all Chinese cities have somewhat improved their rankings, they mainly benefited from a stably growing macroeconomic foundation, and the increasing focus governments are placing on FinTech development and continuously increasing policy support.

### (2) Financial and Technology Industry Foundation is Becoming the Core in Ecosystem Development, Affecting Development Models.

The Top 6 cities in the Industry Foundation Ranking are the same as that in the FinTech Ecosystems ranking (rankings differ slightly) and their scores have improved, reflecting that financial and technology industry foundation are becoming more important for FinTech ecosystem development. At the same time, the endowments in finance and technology to a great extent affected the FinTech development models of these cities, where cities, according to their endowments, either focused on FinTech development, or technology empowering finance, or on both. The market capitalisation of financial services providers in New York and Beijing are respectively as high as USD 1.18 Trillion, and 1.15 Trillion. Globally ranked first and second, they mainly rely on a mature financial sector to attract collaboration from technology firms. The technology industry in San Francisco (Silicon Valley) and Tokyo are globally ranked second and third, through their advanced technology sector, they created a strong start-ups and innovation atmosphere, pushing FinTech to develop.

**Table 2010 Top 6 Cities in FinTech Ecosystem Industry Foundations**

	FinTech Ecosystem Ranking	Industry Foundation Ranking
London	1	6
New York	2	1
Beijing	3	2
San Francisco (Silicon Valley)	4	4
Tokyo	5	3
Shenzhen	6	5

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd.

### (3) Developed Countries have Mature Digital Infrastructure, the Large Gap from Developing Countries Continues to Exist.

The average digital infrastructure score of developed countries is as high as 87.8, but that of developing countries is only 71.0, the 16.8 - point difference reflect the relatively large difference between the two. The Internet adoption rate and data security awareness in developed countries are relatively high, and digital infrastructure is maturing. Developing countries continue to require better attention at digital infrastructure building. At the same time as high-speed development, data security problems also need to be solved, in order to solve hidden data security issues.

### 3.2 Building a FinTech Talent Pool System: Specialised Research Institutions to Push for Theoretical Advancements

A well-stocked talent pool and strong research capacity are important strengths in optimising FinTech ecosystem developments, greatly affecting the height a city’s FinTech developments could reach.

For a city, the research abilities of its tertiary institutions are the core of its research capacity, universities are also the grounds for nurturing FinTech talents. Top Universities such as Stanford, Cambridge, Tsinghua and Zhejiang Universities are competing to start FinTech related courses or attract related research students, in order to supply fresh talent to the industry. Further, as FinTech requires a relatively high level of theoretical and practical skills, Industry-Education-Research Collaboration naturally results; for example, Shenzhen University and WeBank collaborated to open China’s first Faculty of FinTech, Academy of Internet Finance, Zhejiang University and the Jianggan District Government from Hangzhou collaborated to open the AIF FinTech Incubator are among many cases.

Other than this, different types of high-end thinktanks and research institutions are working hard for theoretical advancements, and to contribute to attracting top FinTech talent. Cities like Shanghai, Guangzhou and Seoul have improved their rankings due to their research capacities. For example, FINWEX, a firm that aims to become a leader in blockchain consultancy and thinktank was established in Shanghai, its large variety of business activities span a series of world leading FinTech summits and blockchain thinktanks; the Guangdong Finance High Tech Zone established a “Blockchain +” Research Institute; Hangzhou has excellent specialised research institutions such as the first FinTech Innovation Lab in China, Academy of Internet Finance, Zhejiang University; and the government of Seoul established two FinTech Labs, etc.

### 3.3 Policy and Regulation at a Time of Advancement: Speeding up the Regulatory Improvement Process from Top Level Design

Regulatory policy as an important element in the ecosystem is of great importance to the environment for FinTech development. In general, most cities have increased policy support levels from that of 2018, more and more policy makers acknowledge the value of FinTech, and began to take direction control from a top-down approach to promote FinTech developments. At the same time, the shortcomings in regulations are also being addressed, especially, the Regtech sector is increasingly active, the regulatory capability of developing countries have advanced.



**Figure** Changes in the Ranking of Global FinTech Regulatory Policies in 2018-2019

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd.

For China, where FinTech is developing at a flying rate, the requirement for policy and regulatory advancements is urgent. In 2019, China’s FinTech regulation continues to be strict, each city’s regulatory capability have significantly improved, the average regulations score have risen to the 74 in 2019 from the 64 of 2018; at the same time, China’s average policy support score also rose by 15.3 from 2018 levels. Orderly regulation is a common trend and consensus in global FinTech developments, but special notice should be paid to support and development when regulation improves, in order to avoid the negative effects of regulatory activities, where the industry quietens as a result. In terms of cities, the regulatory ability and support levels of Beijing, Shanghai and Shenzhen are Top 3 in China, they are most balanced; Beijing, Guangzhou and Hangzhou have all published their FinTech development plans; planning for positive cycles in industry development is the path for the next stage of FinTech developments.

# 04

Chapter 4

## In Depth Analysis of Global FinTech Hubs

91.0631

4.1182

9.1231

56.3826



## BEIJING Comprehensive Development, Policy Support

Beijing through its comprehensive developments is deservedly the Top Global FinTech Hub, its GFHI score has been consecutively No.1; and its FinTech industry, consumer experience, ecosystem developments are balanced, and each ranked within the Top 5 in the respective rankings.

Of which, its **FinTech Industry** has consecutively topped global rankings for two years, at the time of this report, it assembled 12 listed FinTech companies and 60 highly capitalised unlisted FinTech companies, their numbers are respectively ranked No 1 and 2 in the global rankings. Its **FinTech Consumer Experience** ranks No 5 globally, dropped one place from 2018, but the major indicator “percentage of FinTech consumers in the population” rose by 0.3% from 2018 to 83.9%.

Further, Beijing enjoys natural advantages in **FinTech ecosystem** building, and developments have been successful, advancing one place from 2018 to rank globally third, and for three consecutive years, ranked first in China. On the one hand, Beijing has a well-developed existing ecosystem, it scored well in core ecosystems indicators such as economic foundation, finance industry foundation, technology industry foundation, research in the city and well-known university general capabilities. On the other hand, as the capital of China, Beijing is where many financial regulators such as the People’s Bank, the Banking and Insurance Regulatory Committee, the Securities Regulatory Committee headquarters, its policy benefits are apparent. As well as issuing China’s first FinTech development plan and beginning to build a national level FinTech Development Demonstration Area, it achieved a “1+3+N” Internet finance regulatory system, innovatively developed a “smoking index” and regulatory warning platform; allowing it to quickly strengthening its regulatory capability, which is its most significant short-straw when comparing with other cities with world best ecosystems.

## 1.1 Data File

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	13	1
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	163.5	7
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	60	2
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	180.8	3
	Digitisation of the Financial Sector	-	2
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	83.9	5
FinTech Ecosystem	Market Capitalisation of Global Top 200 Finance Companies (USD100 Million)	11504.5	2
	Market Capitalisation of Global Top 200 Technology Companies (USD100 Million)	4939.8	5
	Digital Infrastructure	-	34
	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	5
	FinTech Support Level (100 pts)	89.0	5
	FinTech Regulatory Capability (100 pts)	77.2	24
		Percentage of Top 3 Total Market Capitalisation in the City's Total Capital Raised	
Leading FinTech Companies	Listed Top 3: Lakala, 9f Inc., Qudian	52.6%	
	Highly Capitalised Unlisted Top 3: JD Digital, Du Xiaoman Finance, BitMain	36.7%	

Note: The number, capitalisation and capital raising relate data on listed FinTech companies and highly capitalised unlisted FinTech companies (cumulative venture capital exceeding USD 50 Million) are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, TianYanCha, Bloomberg, and Investing.com

## 1.2 Core Features

### 1. FinTech Industry Ranked Global First in Two Consecutive Years

- It has the greatest number of FinTech listed companies in the world – 13, including Lakala, 9f Inc., Qudian, Yusys Technologies, 360 Finance, CreditEase and others; total market capitalisation is USD 16.35 Billion. The Top 3 companies account for 52.6% of all 13 companies' market capitalisation, company size differ significantly, but comparing to the other seven Global FinTech Hubs, where the lowest percentage taken by the Top 3 companies out of total listed FinTech companies' market capitalisation is 87%, Beijing has the lowest percentage, and the company size differential is relatively the smallest in this industry.

- It has 60 highly capitalised unlisted companies, such as JD Digital, Du Xiaoman Finance, in terms of numbers, it ranks second, just behind New York (21th 61); total funds raised is as high as USD 18.08 Billion, ranked third globally, behind Hangzhou (USD 26.81 Billion) and San Francisco (USD 19.51 Billion).

- Digitalisation of the financial sector is ranked second in the world (after New York), and first in China, its global ranking jumped seven places from 2018. Financial services providers represented by China Construction Bank, Industrial and Commercial Bank of China, Bank of China, Agricultural Bank of China sped up their technologisation and digitisation transformation through methods such as establishing subsidiaries, and collaborations with FinTech companies.

### 2. The Percentage of FinTech Consumers in the Population Rose Slightly, Financial Inclusion Moves Stably Ahead

- FinTech Consumer Experience ranks fifth globally, although dropped one place from 2018, but the major indicator "Percentage of FinTech Consumers in the population" rose slightly by 0.3% to 83.9%.

### 3. FinTech Ecosystem Ranked Global Third, moved up One Place, and Ranked First in China for Three Consecutive Years

- There is a mature foundation in the finance and technology sectors. Beijing has 26 listed financial services providers, including Industrial and Commercial Bank of China, Bank of China, Agricultural Bank of China; and 176 listed technology companies, including China Mobile, China Telecom, China Unicom, Baidu, JD.com; and the total market capitalisation of Top 200 world listed finance and technology companies are ranked global second and fifth respectively, and both ranked first in China, providing FinTech development with strong support.

- The city's comprehensive research capacity of research institutions and famous universities ranked fifth in the world, and first in China; it has 27 world famous universities including Peking University, Tsinghua University and Renmin University, more than half of the Fellows from Chinese Academy of Sciences and Chinese Academy of Engineering, research and talent resources far exceed other Chinese cities.

- Beijing is where most of China's financial regulators headquarter in, policy support sped up in a context where its policy advantages are already apparent, FinTech policy support continues to increase, governments at each government publish multiple support policies, and formally began building a national level FinTech demonstration area, etc; pushing its policy and regulations score up nearly 20 points.


## 1.3 FinTech Company Case Studies

### 1. Qudian

	<ul style="list-style-type: none"> <li>Year Founded: 2014</li> <li>Company Label: leading FinTech services company in China</li> <li>Business Activities: market lending; consumer finance</li> <li>Core Businesses: developing an open platform ecosystem, empowering financial services providers through technology, and providing them with a FinTech business management model, whole-process technology services and full-context accurate marketing solutions; mainly including pay-day loans, payment by instalments and housing rent instalments, etc.</li> <li>Core Products: payments by instalments, small loans, etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 18 October 2017</li> <li>Listing Exchange: New York Exchange</li> <li>Securities Code: NYSE: QD</li> <li>Current Market Capitalisation: USD 1.17 Billion</li> <li>Major Institutional Investors: Guosheng Financial Holding, Ant Financial Services Group, Beijing Kunlun Tech, BlueRun Ventures, Sourcecode Capital, etc.</li> </ul>
<b>Major Events</b>	<p>November 2019: Deregister 26169241 issued ADS, total value USD 195 Million , approximately 10% of issued equity.</p> <p>July 2018: Moving headquarter to Xiamen, China.</p> <p>October 2017: Successfully listed on the New York Exchange.</p> <p>July 2016: Completed the first round of Pre-IPO fundraising of RMB 3 Billion.</p> <p>November 2015: “Laifenqi” formally went online.</p> <p>December 2014: Received USD 1 Billion Ground fundraising.</p> <p>March 2014: Completed first round of fundraising – RMB 1 Million.</p>

Source: Company Official Website, Media and Crunchbase

### 2. JD Digital

	<ul style="list-style-type: none"> <li>Year Founded: 2013</li> <li>Company Label: digital technology services company in China.</li> <li>Business Activities: comprehensive FinTech, AI, big-data, Cloud computing</li> <li>Core Businesses: through digital technology, achieving cost reduction, efficiency improvement, consumer experience improvement and business model upgrade, resulting in new growth and financial inclusion value creation; sectors covered including FinTech, information management technology, smart city, digital village, digital marketing, and smart robots, etc.</li> <li>Core Products: smart robot, consumer finance, NFC payment, finance Cloud, etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: Series B.</li> <li>Estimated Current Capitalisation: RMB 133 Billion</li> <li>Cumulated Total Funds Raised: RMB 34 Billion</li> <li>Major Institutional Investors: Zhongjin Capital Management, Bank of China Group Investment, China Securities Co., Ltd., CITIC Capital, and Sequoia China.</li> </ul>
<b>Major Events</b>	<p>August 2019: issued the first Internet-based asset backed security (ABS).</p> <p>June 2019: issued the first standardised blockchain ABS solution.</p> <p>January 2019: became the first digital technology company to receive dual ISO22301 and ISO20000 international accreditation.</p> <p>November 2018: JD Finance formally upgraded to JD Digital.</p> <p>July 2018: formally entered the robotics industry, unveiled the first smart robot product.</p> <p>November 2017: rolled out JD Finance Cloud.</p> <p>January 2016: completed the first round of fundraising, received RMB 6.65 Billion.</p> <p>October 2015: issued the first Internet consumer finance ABS product.</p> <p>August 2015: in collaboration with CiticBank, issued China’s first “Internet+” credit card.</p> <p>February 2014: rolled out China’s first Internet consumer finance product “Baitiao”.</p> <p>October 2013: JD Finance’s predecessor, JD Finance was formally established.</p>

Source: Company Official Website, Media and Crunchbase

## 1.4 Opportunities for the City

### 1. The Financial Sector is Speeding-up Digitisation

- Beijing has the most number of commercial bank headquarters in China, financial services providers such as China Construction Bank, Industrial and Commercial Bank of China and other traditional powerful industry players, and they are speeding up the process in adopting technology to improve a variety of financial services, such as business activities, scenario, product and channels; leading to potentially pushing for the next round of FinTech developments in Beijing.

### 2. Increasing Talent Congregation and Training Resources

- Talent is always the key to a city's developments, and Beijing is relying on its first ranked famous university resources and a variety of specialised research institutions to attract FinTech talent and increase training resources for the sector.

### 3. International Exchange for Voice to be Heard

- Successfully hosting a series of internationally influential summits such as the High-tech Expo, Global FinTech Summit, FinTech World Forum, etc, will be beneficial to allow international experts to exchange ideas, raising Beijing's international visibility for its voice to be heard.

### 4. Policy Dividends Continues, Regulatory Capabilities may Increase Quickly

- Policy: on a large scale – the development of the Xiongan New Area that brings Beijing, Tianjing and Hebei together; specifically – issuing the *Beijing FinTech Development Encouragement Plan (2018-2022)* and the building of a national level FinTech demonstration area, the large number of policies bring about great room for imagination for FinTech developments.

- Regulation: Beijing not only has a “1+3+N” internet finance regulatory system, it also innovatively created a “smoking index” and alarm platform, founded the Beijing FinTech Research Institute, it is also the first city in China that has implemented a regulatory sandbox. The city continues to discover innovative FinTech regulatory mechanisms, and it is looking forward to fast improvements in regulatory capabilities.



## SAN FRANCISCO



2

GFHI Total Ranking

Industry Ranking

2

Consumer Experience Ranking

16

Ecosystem Ranking

4

## SAN FRANCISCO

Technology Driven: Venture Capital Support

Silicon Valley is in here, San Francisco is the global best practice of a technology driven FinTech Hub, its GFHI total score ranked second in two consecutive years.

Out of which, its **FinTech industry ranking** is the same as its total ranking. It has five listed FinTech companies, and since VISA, the largest retail electronic payment company is headquartered here, although its number of listed FinTech companies are lower than Beijing and Shanghai, it tops the total market capitalisation of listed FinTech companies ranking. 60 highly capitalised unlisted FinTech companies congregate here, and together they fundraised USD 19.51 Billion, ranked second on both of the number and total capitalisation of highly capitalised unlisted FinTech companies rankings.

In terms of **FinTech consumer experience**, San Francisco experienced the most improvements in the US, the percentage of FinTech consumers in the population grew 12.8% from 2018 numbers, it is also the best city for FinTech consumer experience in developed countries. Its **FinTech ecosystem** ranking fell two places from 2018, but it is still one of the most energetic and internally motivated cities, not only do world famous mega technology companies such as Google, Facebook and Apple choose to headquarter here, making it an exporter of original FinTech technology; as one of the most developed venture capital centre, venture capital investment is highly active in San Francisco, effectively supporting FinTech innovation, and continuously pushing for fast development of FinTech infrastructure sectors such as blockchain, AI, and information services. Further, San Francisco's general talents advantage is significant, it has world famous universities such as Stanford and UC-Berkeley, and ranked second in the City's Comprehensive Research Capacity of Research Institutions and Famous Universities ranking, just behind New York, up one place from 2019; the universities in San Francisco also collaborate closely with the industry, making the city's Industry-Education-Research Collaboration a world best practice example.

## 2.1 Data File

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	5	3
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	4144.5	1
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	60	2
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	195.1	2
	Digitisation of the Financial Sector	-	3
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	62.6	16
FinTech Ecosystem	Market Capitalisation of Global Top 200 Finance Companies (USD100 Million)	2698.5	8
	Market Capitalisation of Global Top 200 Technology Companies (USD100 Million)	6301.3	2
	Digital Infrastructure	-	5
	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	2
	FinTech Support Level (100 pts)	83.6	13
	FinTech Regulatory Capability (100 pts)	82.3	13
		Percentage of Top 3 Total Market Capitalisation in the City's Total Capital Raised	
Leading FinTech Companies	Liste Top 3 VISA, Square, Lending Club	99.9%	
	Highly Capitalised Unlisted Top 3: SoFi, Opendoor, Figure Technologies	26.3%	

Note: The number, capitalisation and capital raising relate data on listed FinTech companies and highly capitalised unlisted FinTech companies (cumulative venture capital exceeding USD 50 Million) are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 2.2 Core Features

### 1. Ranked Second in Global FinTech Industry, Blockchain is the Industry Hotspot

- It has five listed FinTech companies, including Visa, Square and Lending Club, topping the global total market capitalisation ranking (USD 414.45 Billion); but the market capitalisation differs greatly between companies, of which, the Top 3 market capitalisation companies accounted for 99.9% of that of all five companies; and VISA, the world's largest electronic payment network operator alone took up 93.2%. Visa headquartering in San Francisco is the major reason why it tops the total market valuation rankings when numbers of listed FinTech companies come behind Beijing and Shanghai. Its number and total market capitalisation of highly capitalised unlisted FinTech companies both rank second globally, there are 60 companies with a total market capitalisation of USD 19.51 Billion; representative companies include SoFi, Opendoor, Figure Technologies and Affirm, etc.

- Blockchain has become the market focus, Facebook along with Mastercard and other companies created a global digital currency – Libra based on blockchain technology, attracting much worldwide attention. Further, the largest digital currency conference on the US west coast – SF Blockchain Week (SFBW), the first summit of the Blockchain Patent Sharing Alliance (BPSA), and the third Blockchain Connect summit promoted high frequency ideas exchange.

### 2. Most Improved in FinTech Consumer Experience in the US, and the Best FinTech Consumer Experience City in Developed Economies

- Percentage of FinTech consumers in the population reached 62.6%, up 12.8% from 2018; it was the most improved city in the US, and the best FinTech consumer experience city in developed countries, ranked global 16<sup>th</sup>.

### 3. Worldwide High-ground for FinTech Ecosystem, Venture Capital, Original Technology, and Industry-Education-Research Collaboration Provide Core Motivation


- Venture capital: as one of the most developed venture capital centres in the world, San Francisco assembles the headquarters of world-famous investment firms, such as Walden International, WI Harper, providing great support to the development of FinTech companies.

- Worldwide original FinTech technology: Silicon Valley, the world best high-tech innovation centre is here, San Francisco's global Top 200 FinTech companies total market valuation ranked second, technology giants such as Google, Facebook and Apple headquarter here, making it the exporter of original FinTech technology to the world.

- Its talents advantage is significant, industry, Industry-Education-Research Collaboration is world best practice: ranks second in the City's Comprehensive Research Capacity of Research Institutions and Famous Universities Ranking, just behind New York, up one place from 2018. It has world famous universities such as Stanford, UC-Berkley, University of San Francisco, San Jose State University, etc, providing it with manpower. Further, universities collaborate closely with industry, their Industry-Education-Research Collaboration model are now world best practice.


## 2.3 FinTech Company Case Studies

### 1. VISA

	<ul style="list-style-type: none"> <li>Year Founded: 1958</li> <li>Company Label: the world’s largest retail electronic payment network operator</li> <li>Business Activities: comprehensive FinTech</li> <li>Core Businesses: through the value and information transfer between financial institutions, merchants, consumers, companies and governments, operating the world’s largest retail electronic payment network. Further, VISA also supplies e-commerce operators electronic payment, risk management and payment security solutions; digital goods transactions services for online games, digital media and social media; and supplying mobile financial services to the mobile network providers and financial institutions in developing economies, etc.</li> <li>Core Products and Services: payment processing services, back end transaction business, etc.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 18 March 2008</li> <li>Listing Exchange: New York Stock Exchange</li> <li>Securities Code: NYSE:V</li> <li>Current Market Capitalisation: USD 386.9 Billion.</li> <li>Major Institutional Investors: JP Morgan, Goldman Sachs, Citibank, etc.</li> </ul>
<p><b>Major Events</b></p>	<p>October 2019: made Fortune’s “Future Top 500”, ranked global No 43.                  October 2019: made Interbrand’s “World Top 100”, ranked No 55.                  December 2018: made the 2018 Global Top 500 Brands, ranked No.84.                  2016: Visa Inc. completed takeover of Visa Europe.                  March 2008: Visa was listed on the New York Stock Exchange; it was the largest IPO in US history.                  2007: completed global restructuring, founded new global company Visa Inc (Visa Europe was still an independent entity).                  1997: global transaction amounted to USD1 Trillion.                  1983: rolled out ATM network, achieved worldwide 24 hours cash out.                  1976: BankAmericard was rebranded as Visa.                  1958: Bank of America first issued the BankAmericard, it has the function of “recycling credit”.</p>

Source: Company Official Website, Media and Crunchbase

### 2. Lending Club

	<ul style="list-style-type: none"> <li>Year Founded: 2007</li> <li>Company Label: first listed marketplace lending company in the world</li> <li>Business Activities: marketplace lending</li> <li>Core Businesses: online matchmaking of investors and borrowers to enable marketplace lending, utilising the internet to create a mechanism that is more efficient than the banking model, with regard to the free redistribution of capital between borrowers and investors.</li> <li>Core Products and Services: personal loans, medical loans, motor vehicle payment by instalment, micro-business loans, etc.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 12 December 2014</li> <li>Listing Exchange: New York Stock Exchange</li> <li>Securities Code: NYSE:LC</li> <li>Current Market Capitalisation: USD1.14 Billion.</li> <li>Major Institutional Investors: Norwest Venture Partners, Canaan Partners, BlackRock, T. Rowe Price, Sands Capital, Wellington Management, etc.</li> </ul>
<p><b>Major Events</b></p>	<p>May 2016: founder and CEO Renaud Laplanche and three senior managers resigned, because they breached company policy in two loans.                  February 2015: announced collaboration with the Banc Alliance (an alliance of 200 banks in the US).                  December 2014: listed on the New York Stock Exchange.                  November 2012: total credit exceeded USD 1 Billion, and recorded profit for the same period.                  2011: headquarter moved from Redwood City in San Mateo County to San Francisco.                  2008: Received SEC accreditation.                  August 2007: received A round investment of USD 10 Million.</p>

Source: Company Official Website, Media and Crunchbase

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## 2.4 Opportunities for the City

### 1. Policies and Regulations that Balance Risk and Innovation

- Lawmakers and the government look kindly towards FinTech and work to guide its development, they continuously improve related laws and regulations, in order to develop a healthy and comprehensive FinTech ecosystem. This will promote sustainable healthy development of FinTech.

### 2. Cities in the Bay Area Collaborate

- After years of development, the major cities in the San Francisco Bay Area have established a resource sharing, collaborative and friendly competitive relationship, positive externalities are apparent.

### 3. Great Potential for Increasing the Percentage of FinTech Consumers in the Industry

- San Francisco has a young population, and many excellent technology giants, FinTech companies are trying to implement their technological advantages in FinTech areas such as third party payment, marketplace lending, and digital currency; relying on improved data, distinct consumer experience and relatively high consumer loyalty to expand their business scope, there is great potential for both percentage of FinTech consumers in the population and their experiences.

### 4. Open and Tolerant Culture Supports FinTech Developments

- The open and tolerant genes in the city's culture facilitated the start-up and innovations environment, resulting in numerous success stories, and enabled the resident to easily accept, use, invest, and even start up businesses in new sectors such as FinTech. This will become the internal driver of sustainable FinTech innovation and developments.



3

GFHI Total Ranking

Industry Ranking

3

Consumer Experience Ranking

32

Ecosystem Ranking

2

## NEW YORK International Financial centre, Competing to be a Technology Centre

New York is the world representative of finance driven FinTech, its digitisation rate of traditional financial sectors has consecutively topped the global rankings in two years, and its GFHI total score is ranked No.3.

Of which, its **FinTech industry** ranked global third, it has five listed FinTech companies and the largest number of highly capitalised unlisted FinTech companies in the world. Total market capitalisation of listed FinTech companies in the city reached USD 302.15 Billion, ranked global second, but there is a large difference between companies, MasterCard alone takes up 90.7% of total listed FinTech companies market capitalisation. Further, as an old and well-known financial centre, New York has a solid finance foundation, and mega financial institutions such as Morgan Stanley, Citibank and Goldman Sachs engage in frequent and significant digitisation activities, its digitisation rate of traditional financial sectors continues to top the rankings in a second year.

In terms of **FinTech consumer experience**, the percentage of FinTech consumers in New York has not materially increased from 2018 levels, which means in the increasingly competitive world environment, its global FinTech consumer experience ranking significantly fell 14 places from 2018 levels to rank No.32; another reason for this is that its FinTech companies chose to emphasise service to business customers, rather than just consumers. Its **FinTech ecosystem** ranked global second, just behind London. Its significant foresight is reflected in the fact that, since the beginning of the 21<sup>st</sup> Century, New York began to focus on attracting technology companies, its global technology Top 200 companies' total market capitalisation is ranked global fourth, giving it the competitive edge as a global FinTech hub. Further, policy and regulation in New York work hand in hand, scoring an improvement of 5.6 and 11.5 points respectively from 2018 levels. The state government established the first digital currency research working group in the US, the New York Department of Financial Services (NYDFS) started a special digital currency regulatory team, and the New York Federal Reserve established a FinTech advisory group; these activities are empowering its FinTech ecosystem.

### 3.1 Data File

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	5	3
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	3021.5	2
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	61	1
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	161.6	4
	Digitisation of the Financial Sector	-	1
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	43.0	32
FinTech Ecosystem	Market Capitalisation of Global Top 200 Finance Companies (USD100 Million)	11754.0	1
	Market Capitalisation of Global Top 200 Technology Companies (USD100 Million)	5764.4	4
	Digital Infrastructure	-	5
	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	1
	FinTech Support Level (100 pts)	76.3	27
	FinTech Regulatory Capability (100 pts)	83.2	11
		Percentage of Top 3 Total Market Capitalisation in the City's Total Capital Raised	
Leading FinTech Companies	Listed Top 3: MasterCard, Broadridge Financial Solutions, Apollo Global Management	98.6%	
	Highly Capitalised Unlisted Top 3: CommonBond, Oscar Health, Bloomberg	25.1%	

Note: The number, capitalisation and capital raising relate data on listed FinTech companies and highly capitalised unlisted FinTech companies (cumulative venture capital exceeding USD 50 Million) are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, TianYanCha, Bloomberg, Investing.com

## 3.2 Core Features

### 1. FinTech Industry Globally Ranked Third, Digitalisation of the Financial Sector Continue to Top the Global Ranking

- It has five listed FinTech companies including MasterCard, Broadridge Financial Solutions, Apollo Global Management, and Ondeck. Their total market capitalisation is USD 302.15 Billion, ranked global second, just behind San Francisco (USD 414.45 Billion). Like San Francisco, the market capitalisation of listed FinTech companies in New York differ greatly, MasterCard alone takes up 90.7%, and the Top 3 accounted for 98.6%.

- It has the greatest number of highly capitalised unlisted FinTech companies in the world – 61, including CommonBond, Oscar Health, and Betterment, total funds raised is USD 16.14 Billion. Of which, the Top 3 accounted for 25.1% of the city's total fundraising, lowest out of the eight Global FinTech Hubs, reflecting that the sizes of unlisted FinTech companies are relatively balanced in New York, which is healthy for friendly competition.

- The large number of financial institutions and investors in New York sped up the solid demand for high quality information services, allowing financial information service providers such as Broadridge Financial Solutions and Bloomberg to quickly grow.

- It continues to be No 1 in the digitisation of the financial sector, mega financial institutions such as JP Morgan, Citibank and Goldman Sacks are active in the digitisation transformation process; for example, JP Morgan established its FinLab for total financial solutions and took over online

payment provider WePAY, Citibank started its Citi Innovation Labs, and Goldman Sacks started its digitised lending platform Marcus, etc.

### 2. FinTech Consumer Experience Ranking Significantly Fell 18 Places, FinTech's Major Customers are Businesses

- The percentage of FinTech consumers in the population almost did not grow in New York, which means, with fierce world competition, its consumer experience ranking dropped significantly to No 32, 14 places, from 2018 levels; another major reason for this drop is that its FinTech companies chose to emphasise service to business customers, rather than just consumers.

### 3. FinTech Ecosystem Continues to Rank Third, Policy Support and Regulation Work Hand-in-hand

- Solid finance and technology industry foundation. As an international financial centre, New York's Top 200 global FinTech companies rank first in total market capitalisation, and it has world famous exchanges such as the New York Stock Exchange, Nasdaq and American Stock Exchange. At the same time, New York's technology industry also scored well, its total market capitalisation of Global Top 200 technology companies ranked fourth in the world.

- City's Comprehensive Research Capacity of Research Institutions and Famous Universities ranked world first, it has world famous universities such as New York University and Columbia University.

- Policy support and regulation work hand-in-hand, both increased in scores (up 5.6 and 11.5 points respectively), the main reason for these improvements is that in 2019, New York increased levels of support and regulation regarding digital currencies. Some specific actions include: on January 2019, the state government established the first digital currency research working group, in order to assist its understanding of digital currency and their underlying blockchain technology, avoiding risks to the largest extent; in March 2019, the New York Federal Reserve established a FinTech advisory group to provide opinions and comments regarding new FinTech issues, technology application and market impact, etc; and in July of the same year, the NYDFS started a special digital currency regulatory team.




## 3.3 FinTech Company Case Studies

### 1. Broadridge Financial Solutions

	<ul style="list-style-type: none"> <li>▪ Year Founded: 1962</li> <li>▪ Company Label: world leading FinTech solution provider</li> <li>▪ Business Activities: information (security) services, big data, Cloud computing</li> <li>▪ Core Businesses: supplying brokers, banks, trust funds and company issuers finance and securities systems solutions, including investor communications, securities clearance and data analysis, etc.</li> <li>▪ Core Products: securities processing solutions, multi-channel communications solutions, etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>▪ Most Recent Funding Round: IPO</li> <li>▪ Listing Date: 30 March 2007</li> <li>▪ Listing Exchange: New York Stock Exchange</li> <li>▪ Securities Code: NYSE:BR</li> <li>▪ Current Market Capitalisation: USD 13.71 Billion.</li> <li>▪ Major Institutional Investors: Vanguard Group, BlackRock, Morgan Stanley, and Geode Capital Management, etc.</li> </ul>
<b>Major Events</b>	<p>November 2019: took over ClearStructure Financial Technology.</p> <p>June 2018: included in the S &amp; P 500 Index.</p> <p>June 2016: took over DST's North America customers communications business.</p> <p>September 2011: took over management solutions provider Paladyne Systems.</p> <p>March 2007: successfully listed on the New York Stock Exchange.</p> <p>1990s: rolled out online stock-broking and digital shareholder communications.</p> <p>1980s: started investor communications solutions.</p> <p>1962: Formally started as an Automatic Data Processing (ADP) broker services department (ADP).</p>

Source: Company Official Website, Media and Crunchbase

### 2. Oscar Health

	<ul style="list-style-type: none"> <li>▪ Year Founded: 2013</li> <li>▪ Company Label: world leading online health insurance platform</li> <li>▪ Business Activities: online insurance</li> <li>▪ Core Businesses: online health insurance services company, through optimising the health insurance process and simplifying the insurance payment process, to enable consumers to establish connections and communicate with doctors through terminals such as computers and mobile phones, therefore enjoying more friendly and smarter health insurance solutions.</li> <li>▪ Core Products and Services: individual/groups health insurance plans, etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>▪ Most Recent Funding Round: eighth round</li> <li>▪ Estimated Current Capitalisation: over USD 3 Billion</li> <li>▪ Cumulated Total Funds Raised: approximately USD 1.3 Billion</li> <li>▪ Major Institutional Investors: Founders Fund, Alphabet (Google's parent company), Khosla Ventures, General Catalyst, etc.</li> </ul>
<b>Major Events</b>	<p>October 2018: made the KPMG "2018 FinTech Top 100", ranked sixth.</p> <p>2018: expanded its individuals' insurance from covering three states to six states.</p> <p>May 2018: made the CNBC's 2018 "50 Disrupters", ranked No.12.</p> <p>2014: rolled out its distance healthcare platform.</p>

Source: Company Official Website, Media and Crunchbase

## 3.4 Opportunities for the City

### 1. Regulatory Sandbox Promotes Innovation

- The US Consumer Financial Protection Bureau (CFPB) through issuing No Action Letters, permitted some start-ups to use technologies such as AI and big data, for risk-free testings; they rolled out a regulatory sandbox based on this, assisting future FinTech innovation and FinTech related business developments in New York.

### 2. Digital Currency May Become the Next Breakthrough

- The NYDES has somewhat changed their strict regulatory stance on digital currency and have become friendlier and more inclusive towards financial innovation. Its actions include an additional specialised digital currency regulator, created a related digital currency regulatory framework, thereby granting the development of digital currency a more reliable regulatory environment.

### 3. The Financial Sector May Create Digital Transformation Economies of Scale

- With newly created competition pressure from FinTech companies, New York's financial institutions are increasing their rate of transformation, improving their comprehensive competitiveness by relying on mature financial strengths and technology capabilities, such as putting some business lines online and providing more personalised financial services, etc. There is likely to be transformation economies of scale.

### 4. Increasing the Percentage of FinTech Consumers in the Population is Possible

- As the FinTech sector grows quickly, the digitisation of the financial sector is happening at a faster pace, local governments provide support to FinTech, and consumers become increasingly welcoming towards FinTech. In future, as well as servicing business customers, FinTech companies in New York will speed up planning for services to consumers. Increases to the percentage of FinTech consumers is possible.



4

GFHI Total Ranking

Industry Ranking

4

Consumer Experience Ranking

4

Ecosystem Ranking

7

## SHANGHAI Precise Positioning of Finance, Technology Moves at the Same Time

Shanghai is also a representative of finance driven FinTech development; it has many similarities with New York. Its GFHI total ranking moved one place up from 2018 and is ranked global fourth. Its rankings in the three important aspects of FinTech industry, consumer experience and ecosystem have all moved up.

Of which, **FinTech industry** moved up one place to be global fourth, at the time of report, it has ten listed FinTech companies, 17 highly capitalised unlisted FinTech companies, numbers rank global second and sixth respectively, but leading companies concentrate, market capitalisation Top 3 companies account for 87% of total market capitalisation of listed FinTech companies, and Top 3 highly capitalised unlisted FinTech companies account for 62% of total market capitalisation, industry tiers require optimisation. **FinTech consumer experience** in Shanghai ranked global fourth, moved up one place from 2018 to overtake Beijing, percentage of FinTech consumers in the population is 85.4%, up 3.3% from 2018 levels. Its **FinTech ecosystem** ranking moved from No.14 in 2018 to No.7, major contributors are solid support from its economic foundation, the continuing development of an international financial centre, the synchronisation of the improvement of the technology sector and the significant improvements in policy support and regulatory capability; especially in relation to policy and regulations, Shanghai's policy support level scored 90.1 points, and regulatory capability scored 79.1 points, each respectively increased by 22.5 and 14.9 points. On the one hand, Shanghai clearly announced that the building of a Shanghai FinTech centre is the new connotation, new opportunity and new motivation of Shanghai's international financial centre goal, it is the pivot for Shanghai to implement the national strategy and to promote the collaborative development of Shanghai as an international financial centre and technology and innovation centre; it is currently analysing policy implementation possibilities on promoting the building of a Shanghai FinTech centre. On the other hand, Shanghai established a Shanghai Local Finance Regulatory Bureau, and took the chance to pilot a Shanghai Finance Court, nurturing a fruit of China's judicial system reform. These factors placed Shanghai's regulatory capabilities at No 1 in China.

## 4.1 Data File

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	10	2
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	249.9	4
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	17	6
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	67.9	6
	Digitisation of the Financial Sector	-	4
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	85.4	4
FinTech Ecosystem	Market Capitalisation of Global Top 200 Finance Companies (USD100 Million)	2013.5	11
	Market Capitalisation of Global Top 200 Technology Companies (USD100 Million)	458.8	20
	Digital Infrastructure	-	35
	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	12
	FinTech Support Level (100 pts)	90.1	4
	FinTech Regulatory Capability (100 pts)	79.1	21
		Percentage of Top 3 Total Market Capitalisation in the City's Total Capital Raised	
Leading FinTech Companies	Listed Top 3: East Money, ZhongAn Online P&C Insurance, Shanghai DZH Limited	87.0%	
	Highly Capitalised Unlisted Top 3: Lufax, Dianrong, ChinaUMS	62.0%	

Note: The number, capitalisation and capital raising relate data on listed FinTech companies and highly capitalised unlisted FinTech companies (cumulative venture capital exceeding USD 50 Million) are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 4.2 Core Features

### 1. Global FinTech Industry Ranking Fourth, Solid Sector, but Leading Companies Concentrate

- Its global FinTech industry ranking is fourth, up one place from 2018: it has ten listed FinTech companies, including East Money, ZhongAn Online P&C Insurance, Shanghai DZH Limited, Paipaidai, Huifu, etc. Numbers ranked global second, just behind Beijing (13), and total market capitalisation is USD 24.99 Billion, ranked global fourth. It has 17 highly capitalised unlisted FinTech companies, including Lufax, Dianrong, China UMS, and 99Bill, total funds raised is USD 6.74 Billion. Numbers of companies and total fundraising are both ranked global sixth.

- Shanghai's leading FinTech companies, however, are concentrated, tiers in the industry require optimisation: Top 3 market capitalisation companies account for 87% of the total market capitalisation, East Money tops the ranking, and accounted for 64.5% of Shanghai's listed FinTech companies total market capitalisation; and the Top 3 highly capitalised unlisted FinTech companies accounted for 62% of funds raised.

- Like New York, the development of Shanghai as an international financial centre meant high quality financial information services providers such as East Money, Shanghai DZH Limited, Wind headquarter here.

### 2. FinTech Consumer Experience Rise Steadily, Ranking Overtook Beijing

- FinTech consumer experience is globally in fourth place, up one place from 2018 to overtook Beijing. Percentage of FinTech consumers in the population reached 85.4%, up 3.3% from 2018.

### 3. Global FinTech Ecosystem Ranking Jump 14 Places to No 7, Policy and Regulatory Improvements is the Greatest Contributor

- Economic foundation (factors for consideration include total GDP, GDP growth and population size, etc) is ranked worldwide first, it is Asia's economic centre. Currently, Shanghai has become China's first city that entered into the "Trillion Dollar Club", its economic and population size continue to be first in China, its total GDP is only second to Tokyo, and strong growth continues (in 2019, GDP growth is 6.6%).

- Its positioning as an international financial centre is precise, and the financial industry has a solid foundation. Since clearly defining the strategic goal of building an international financial centre in 1992, Shanghai's financial services industry grew quickly, important financial sector elements such as leading non-bank institutions and exchanges congregate. Shanghai now has 18 listed financial institutions, including Bank of Communications, Orient Securities, SDIC Capital, and four national exchanges – Shanghai Stock Exchange, Shanghai Gold Exchange, China Financial Futures Exchange, Shanghai Futures Exchange, accounting for half of China's eight national exchanges.

- Strong research capacity attracted significant attention, it not only ranks second in the City's Comprehensive Research Capacity of Research Institutions and Famous Universities rankings, having seven high quality universities such as Shanghai Jiaotong University, Fudan University and Tongji University; its public expenditure on technology ranks first in China.

- Policy and regulation are ranked global fifth, policy support level scored 90.1 points, regulatory capabilities scored 79.1 points, significantly up 22.5 points and 14.9 points respectively. In terms of policy support, the People's Bank's Shanghai headquarter published the Guiding Comments on Promoting FinTech Development Supporting Shanghai to Build a FinTech Centre, supporting Shanghai's FinTech centre developments from eight perspectives. In terms of regulatory capability, Shanghai established the Shanghai Local Financial Regulatory Bureau, its function has transitioned from purely services to focusing on both services and regulation, Shanghai has also taken the first move to pilot a Shanghai finance court; its FinTech regulatory capability is No 1 in China.

### 4.3 FinTech Company Case Studies

#### 1. ZhongAn Online P&C Insurance

	<ul style="list-style-type: none"> <li>Year Founded: 2013</li> <li>Company Label: the first Internet insurance company in China</li> <li>Business Activities: Internet insurance</li> <li>Core Businesses: focusing on adopting new technology to reshape the insurance value chain, covering the five major ecosystems of health, consumer finance, motor vehicle, living expenditure and travel, using technology to service the new generation, providing them with personalised, tailored and smart new insurance. Mainly covering health insurance, accident insurance, travel insurance, motor vehicle insurance and special insurance.</li> <li>Core Products: Zunxiangesheng, Feixiangesheng, Zhongxiangejia, Baobiao Car Insurance, etc.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 28 September 2017</li> <li>Listing Exchange: The Stock Exchange of Hong Kong</li> <li>Securities Code: 6060.HK</li> <li>Current Market Capitalisation: USD 44.24 Billion</li> <li>Major Institutional Investors Tencent, Ant Financial, Pingan Insurance, Keywise ZA Investment, etc.</li> </ul>
<p><b>Major Events</b></p>	<p>March 2019: "ZhongAn Virtual Finance" was granted with the virtual bank license and was officially approved to provide online financial services in Hong Kong.</p> <p>August 2018: Signed strategic agreement with Softbank Vision Fund.</p> <p>September 2017: Successfully listed on the Stock Exchange of Hong Kong.</p> <p>November 2016: Officially announced the establishment of ZhongAn Information Technology Service.</p> <p>November 2015: Release the first internet car insurance brand "Baobiao Car Insurance".</p> <p>May 2015: Motor vehicle insurance and insurance information service approved to be included in the licensed business scope.</p> <p>April 2014: Launch of self-operated technology platform "Wujia Mountain".</p> <p>November 2013: Official opening.</p>

Source: Company Official Website, Media and Crunchbase

#### 2. Lufax

	<ul style="list-style-type: none"> <li>Year Founded: 2011</li> <li>Company Labels: The world's leading internet wealth management platform, a member of Ping An Group</li> <li>Business Activities: Comprehensive FinTech</li> <li>Core Businesses: Combined with the development of financial globalisation and information technology innovation and based on a sound risk management and control system, it provides professional, efficient and safe comprehensive financial asset transaction related services and investment &amp; financing advisory services for institutions, companies and qualified investors.</li> <li>Core Products and Services: lu.com Internet investment and financing platform (providing investment and financing services, including Internet loans, Internet funds, Internet insurance, etc.)</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: Series C</li> <li>Estimated Current Market Capitalisation: USD 39.4 Billion</li> <li>Cumulated Total Funds Raised: About USD 3 Billion</li> <li>Major Institutional Investors: Zhongjin Capital Management, CDH Investments, BlackPine Private Equity Partners, QIA,JP Morgan, Bank Of China Group Investment , LionRock Capital, etc.</li> </ul>
<p><b>Major Events</b></p>	<p>July 2019: The online loan business actively cooperates with the regulatory requirements of "Triple Reduction-reducing the number of institutions, business scale and number of lenders."</p> <p>May 2019: Ranked 26th on Brandz's "Top 100 Most Valuable Chinese Brands 2019".</p> <p>March 2019: Complete USD 1.33 Billion Cround fundraising.</p> <p>December 2018: Ranked in KPMG's "Top 50 Leading FinTech Companies in China".</p> <p>July 2015: Launch of Lufax Fund Channel.</p> <p>December 2012: Launch of Online Personal Loan Credit Transfer Service.</p>

Source: Company Official Website, Media and Crunchbase

## 4.4 Opportunities for the City

### 1. The Advantages of Finance Policies are Apparent, and will Bring FinTech Developments to a Higher Level

- Financial Policy Advantages: surrounding building Shanghai into an international financial centre, dividends from policies are represented by establishing the Pudong New Area in 1992, the Pilot Free Trade Experiment Zone in 2013, and the Establishing and Registration System Pilot on the Sci-Tech innovation board continues; very beneficial to being a first mover in many FinTech sectors.
- FinTech support levels increase: after the People's Bank issued the *Guiding Comments on Promoting FinTech Development Supporting Shanghai to Build a FinTech Centre*, Shanghai brought FinTech development to a new strategic level, clearly pointing out that building a Shanghai FinTech centre is the new connotation, new opportunity and new motivation for Shanghai's goal to become an international financial centre, it will publish the *Implementation Rule of Speeding-up the Building of the Shanghai FinTech Centre*, emphasising that there should be timely policy support, and to building a top FinTech development environment.

### 2. Technology Moves at the Same Time, Continue to Support Building of Global Science and Technology Innovation Centre

- As a core in the G60 Science and Technology Innovation Corridor, Shanghai clarified that it will synchronise developments with a global science and technology innovation centre and identified a “two steps” plan: creating a basic framework for the centre before 2020, up to 2030, finalise the core functions of a science and technology innovation centre city, with a final goal of becoming a new, comprehensive and world influential science and technology centre.

### 3. The Unification of the Yangze Delta Region

- As supporting the unified development of the Yangze Delta Region becomes one of China's national strategies, Shanghai will, along with Hangzhou, lead the regional collaboration in the Jiangsu, Shanghai and Zhejiang region, deepening industry concentration planning, increase infrastructure connectivity and cross connections, promoting innovation collaborations, promote the close collaboration between branded industry parks and the innovation capital raising collaboratives, thereby promoting FinTech innovation collaborations.
- The *Guiding Comments on Promoting FinTech Development Supporting Shanghai to Build a FinTech Centre* clearly identifies that the government will support collaboration and resources sharing between the three Provinces and one Municipality in the Yangze River Delta, for them to establish a data collection and storing mechanism to enable data sharing, collating resources to promote FinTech research commercialisation and to guide the outward spread of FinTech from Shanghai.



## LONDON Ecosystem Aiming for Optimising the Optimised

Like New York and Shanghai, London is also a finance driven type Global FinTech Hub, its GFHI total score ranks global fifth, and has the best FinTech ecosystem in the world.

Specifically, London's **FinTech industry** ranks global fifth, it has two listed FinTech companies and 46 highly capitalised unlisted FinTech companies, it is a world leader in the digitisation of the financial industry, especially in open banking. In terms of **Experience**, FinTech applications such as online purchase of train and bus tickets, mobile payment continue to be promoted and adopted, resulting in a 2.1% increase London's percentage of FinTech consumers, but in the fiercely competitive global environment, this is still not enough, dragging its FinTech consumer experience ranking down from No.11 in 2018 to be placed No.18.

In terms of **Ecosystem**, London achieved optimisation of the optimised, leaping over New York and San Francisco to top the global ranking. It does not only invest in the synchronised development of finance and technology, it also made a brave proposal based on its position as a traditional global financial centre, to become the "Silicon Valley of the East", and established the "East London Tech City" to compete with the Silicon Valley in the US. It continues to take a "talent grab" position, through mechanisms such as increasing the number of issued technology related visas to attract global talent and speeding up the training of innovative talent, where world famous universities such as Imperial College London, Kings College London and Oxford Universities began offering FinTech courses, providing fundamental support to the sector through theory and talent developments. Further, London continues to increase the level of policy support, rolled out its "turbo supercharging" FinTech plan, through FinTech week, FinTech global summits, etc. to promote high level conversations between FinTech leaders. It continues to lead in regulatory innovation, and first proposed and implemented the world benchmark practice of "regulatory sandbox", and established a digital currency special working group to best limit the potential risks of digital currency and blockchain technology.



## 5.1 Data File

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	2	9
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	5.3	16
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	46	4
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	133.8	5
	Digitisation of the Financial Sector	-	6
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	58.2	18
FinTech Ecosystem	Market Capitalisation of Global Top 200 Finance Companies (USD100 Million)	4538.3	4
	Market Capitalisation of Global Top 200 Technology Companies (USD100 Million)	995.4	11
	Digital Infrastructure	-	1
	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	4
	FinTech Support Level (100 pts)	94.6	2
	FinTech Regulatory Capability (100 pts)	98.0	1
		Percentage of Top 3 Total Market Capitalisation in the City's Total Capital Raised	
Leading FinTech Companies	Listed Top 3: Funding Circle, TruFin	100%	
	Highly Capitalised Unlisted Top 3: Landbay, Prodigy Finance, Greensill Capital	30.2%	

Note: The number, capitalisation and capital raising relate data on listed FinTech companies and highly capitalised unlisted FinTech companies (cumulative venture capital exceeding USD 50 Million) are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, TianYanCha, Bloomberg, Investing.com

## 5.2 Core Features

### 1. FinTech Industry Ranked Global Fifth, Leading the World in Open Banking Initiatives

- FinTech industry rankings dropped one place from 2018, the main reason is that it has few listed FinTech companies, and their total market capitalisation is relatively low: it has two listed FinTech companies – Funding Circle and TruFin, total market capitalisation is USD 530 Million, number and total capitalisation of FinTech companies are both the lowest out of the Global FinTech Hubs. Its highly capitalised unlisted FinTech companies include LAND-BAY Prodigy Finance, Greensill Capital and OakNorth, etc., totally raised USD 13.38 Billion, number and total funds raised are ranked globally fourth and fifth respectively.

- Its financial institutions engage in digital transformation, especially, leading in open banking initiatives. For example, Standard Chartered Bank established a FinTech investment department, collaborating closely with FinTech companies through opening API terminals; and Prudential Insurance rolled out a new insure-tech solution that connects health providers with insurance providers to simplify insurance payout processes.

### 2. The Percentage of FinTech Consumers in London increased by 2.1 Percentage Points, but London's Consumer Experience Ranking Still Dropped Seven Places amidst Fierce Competition

- London's percentage of FinTech consumers reached 58.2%, increased 2.1 percentage points from 2018, where FinTech applications such as online purchasing of train and bus

tickets, supermarket mobile payments are continuously promoted and adopted; but amidst fierce global competition, London's improvements still lag behind, dragging its consumer experience ranking from No.11 in 2018 to No.18.

### 3. FinTech Ecosystem Achieved Optimisation of the Optimised, Leaping over New York and San Francisco to Top the Global Ranking

- Deservedly an international financial centre, it has global market capitalisation Top 200 financial institutions such as HSBC, Prudential Insurance, Barclays Bank and Standard Chartered Bank, their total market capitalisation reached USD 453.83 Billion, ranked global fourth.

- No.1 globally in digital infrastructure and digital currency security level is high. The *National Cybersecurity Strategy 2016-2021* implemented in 2016 is successful; it aimed to turn London into the safest place for e-commerce. Further, the government and industry collaborate closely, for example, the government and Netcraft together design software to fight digital currency fraud and phishing.

- Benefits from talent concentration is apparent, London continues its stance on "talent grab", through increasing the number of issued technology related visas to attract global talent. In terms of training talent, London's ranking in the City's Comprehensive Research Capacity of Research Institutions and Famous Universities Indicator is No.4, where world famous universities such as Imperial College London, Kings College London and Oxford Universities began offering FinTech courses, pro-


viding fundamental support to the sector through theory and talent developments.

- Continue to increase policy support levels, in 2018, London rolled out its "turbo supercharging" FinTech plan, through FinTech week, FinTech global summits, etc. to promote high level conversations between FinTech leaders, and the UK's central bank – the Bank of England has chosen FinTech as one of its Seven Major Strategies in 2019.

- Its FinTech regulatory capabilities is the world's best, as early as 2015, it first proposed and implemented the world benchmark practice of "regulatory sandbox", so far, more than 60 FinTech companies around the world has tested their innovative products and services; and established a digital currency special working group to best limit the potential risks of digital currency and blockchain technology.

## 5.3 FinTech Company Case Studies

### 1. Funding Circle

	<ul style="list-style-type: none"> <li>▪ Year Founded: 2010</li> <li>▪ Company Label: one of the largest marketplace lending platforms in the UP</li> <li>▪ Business Activities: marketplace lending</li> <li>▪ Core Businesses: an marketplace lending platform focusing on small businesses, its lending processes are highly automated, relying on data analytical tool to increase the automation on a variety of processes, including marketing, credit evaluation, through to repayment follow-up and collection; in order to improve customer satisfaction and lending efficiency. As at the first half of 2019, the platform's lending scale is GBP 3.5 Billion.</li> <li>▪ Core Products and Services: marketplace lending services to both retail customers and institutional investors</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>▪ Most Recent Funding Round: IPO</li> <li>▪ Listing Date: 28 September 2018</li> <li>▪ Listing Exchange: London Stock Exchange</li> <li>▪ Securities Code: FNIG.L</li> <li>▪ Current Market Capitalisation: USD 430 Million</li> <li>▪ Major Institutional Investors: Index Ventures, Ribbit Capital, Union Square Ventures, etc.</li> </ul>
<b>Major Events</b>	<p>September 2018: listed on the London Stock Exchange.          June 2018: cumulative transaction achieved GBP 5 Billion.          May 2017: receive full accreditation from the UK Financial Conduct Authority (FCA).          April 2014: opened institutional investment channels.          August 2011: as joint founder, became a member of the UK Peer-to-Peer Finance Association (P2PFA).</p>

Source: Company Official Website, Media and Crunchbase

### 2. OakNorth Bank

	<ul style="list-style-type: none"> <li>▪ Year Founded: 2013 (began operations in 2015)</li> <li>▪ Company Label: the first financial institution in the UK to place its core banking system on the Cloud</li> <li>▪ Business Activities: online bank</li> <li>▪ Core Businesses: run purely online, providing debt finance and investment services to start-ups, small and medium enterprises and long-term growth type medium businesses. It adopts Amazon's Cloud basic framework AWS to structure its digital banking services, putting its core banking system on the Cloud, and utilising small loans automated check and issue technology to greatly improve lending efficiency.</li> <li>▪ Core Products and Services: structured debt financing, real estate investment and development financing, housing mortgages, etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>▪ Most Recent Funding Round: fourth round</li> <li>▪ Estimated Current Market Capitalisation: USD 2.8 Billion</li> <li>▪ Cumulated Total Funds Raised: approximately USD 1.4 Billion</li> <li>▪ Major Institutional Investors: SoftBank, EDBI, NIBC Bank N.V, Clermont Group, Coltrane Asset Management, etc.</li> </ul>
<b>Major Events</b>	<p>March 2019: announced that it will participate in the UK's banking ENABLE Guarantee Scheme, totalling GBP 130 Million.          February 2019: received finance of USD 440 Million from SoftBank and Clermont Group.          November 2017: received support from the Bank of England's regular funding scheme.          September 2016: became the first new bank in the UK to achieve brake-even.          May 2016: became the first bank in the UK to place all of its core systems on the Cloud, the <i>Financial Times</i> dubbed this a "milestone event".          September 2015: received full accreditations from FSA and FCA in the UK.</p>

Source: Company Official Website, Media and Crunchbase

## 5.4 Opportunities for the City

### 1. Great Potential for Digitisation of the Financial Sector, and Ample Room for Open Banking

- As a traditional international financial centre, the financial regulators in London promoted for large financial institutions such as HSBC to collaborate with start-ups, and established industry associations that focus on the FinTech industry.
- As the open banking scheme led by the UK Competition and Markets Authority (CMA) continues to be promoted, the UK Open Banking Implementation Entity has already published its open banking timeline, relying on the opening of the API, banks such as HSBC and Barclays Bank will achieve plug and play of banking services and products, along with third party financial services institution, they will be creating a pan-bank ecosystem, and speeding up digital transformation will give rise to more demand for FinTech, thereby driving FinTech innovations.

### 2. General Increase in Technology Support, “Talent Grab” to Attract Talent

- In 2011, London bravely proposed the idea of a “Eastern Silicon Valley”, that is, to build Tech City UK to stand with Silicon Valley in the US. It not only invested GBP 400 Million in preferential policies and built incubation zones, but also formed a nine person “London Technology Ambassadors Team” to attract global investment. At the time of the report, more than 1600 companies including Cisco, Intel, Amazon, Twitter, Facebook and Google have set up offices. Further, the UK government invested GBP 250 Million to promote the development of AI and focused on increasing the number of visas issued to technology experts.

### 3. Sustainable Regulatory Innovation

- The FCA in the UK, through establishing its innovation centre and the adoption of “regulatory sandboxes” to make open banking regulatory discoveries, actively promote innovation in the FinTech industry, and continuously adjust regulatory policies through observing the industry, thereby promoting suitable FinTech developments through its professional services and inclusive and stable regulatory policies.



## SHENZHEN Open Innovation Continues to Activate Vitality

Like San Francisco, Shenzhen is a technology driven FinTech Hub, its total GFHI score ranking moved up one place to equal global sixth with Hangzhou, it is the most improved city in China in terms of FinTech ecosystem.

Specifically, Shenzhen's **FinTech Industry** ranked global seventh, it has three listed FinTech companies and 26 highly capitalised unlisted FinTech companies, industry tiers are well structured, the Top 3 fundraisers out of the highly capitalised unlisted FinTech companies received only 27.7% of funds out of total funds raised, which is far lower than the average of the Global Top 8 – 48.2%. Its financial sector began digital transformation early, digitisation level is ranked fifth globally, and third in China. In terms of **FinTech Consumer Experience**, it ranked global second in two consecutive years, just behind Hangzhou, its percentage of FinTech consumers in the population is as high as 87.9%. Shenzhen leads the world in services such as touchless payment, que-less health insurance, and mobile business registration search services.

In terms of **ecosystem**, Shenzhen's FinTech ecosystem ranking leaped 12 places to be global sixth, it is the third most improved in the world, and the most improved in China. Its excellent experiences include: firstly, rooting the innovation and reform gene into the city's developments, whether to build a demonstration area of Socialism with Chinese Characteristics, or piloting digital currencies, or to implement the ground-breaking *Shenzhen Organisations Reform Plan* to substantiate reform from the inside out, Shenzhen has been at the forefront of maintaining tradition and innovate in the FinTech sector, continuously increasing support levels to FinTech based on creating the best foundations for innovation; secondly, through promoting the actualisation of the People's Bank's FinTech Research Institute, and to establish the first Regtech institute in China to rectify its research and regulatory disadvantages; and thirdly, continue to implement opening up, to attract the best talents. In 2018, Shenzhen's net population inflow ranks first in China, and it is demographically well structured, where the 15-59 age group accounts for 81.9% of the population. Based on this foundation, Shenzhen issued the most welcoming Hukou policies of a first-tier city in 2019, doing its most to attract overseas talent to secure the foundation of the city's development.

## 6.1 Data File

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	3	6
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	27.4	14
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	26	5
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	49.1	8
	Digitisation of the Financial Sector	-	5
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	87.9	2
FinTech Ecosystem	Market Capitalisation of Global Top 200 Finance Companies (USD100 Million)	4066.6	5
	Market Capitalisation of Global Top 200 Technology Companies (USD100 Million)	4849.8	7
	Digital Infrastructure	-	36
	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	32
	FinTech Support Level (100 pts)	91.0	3
	FinTech Regulatory Capability (100 pts)	79.0	22
		Percentage of Top 3 Total Market Capitalisation in the City's Total Capital Raised	
Leading FinTech Companies	Listed Top 3: Lexin, Xiaoying Technology, Dafei Technology	100%	
	Highly Capitalised Unlisted Top 3: One Connect, X Financial, Merchants Union Consumer Finance	27.7%	

Note: The number, capitalisation and capital raising relate data on listed FinTech companies and highly capitalised unlisted FinTech companies (cumulative venture capital exceeding USD 50 Million) are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 6.2 Core Features

### 1. The FinTech Industry's Tiers are Well Structured, Digitisation of the Financial Sector is Ranked Global Fifth

- It has three listed FinTech companies -- Lexin, X Financial and Dafei Technology, their total market capitalisation is USD 2.74 Billion. It also has 26 highly capitalised unlisted FinTech companies, including One Connect, Merchants Union Consumer Finance, WeBank, etc, and their total funds raised is USD 4.91 Billion, number of companies and total fundraising amount are ranked global fifth and eighth respectively.

- The industry tiers are well structured, the fundraising of the Top 3 of highly capitalised unlisted FinTech companies only accounted for 27.7% of total funds raised, far below the average of the eight Global FinTech Hubs – 48.2%.

- Digitisation of the financial sector began early, its digitisation level is ranked global fifth, and third in China (just behind Beijing and Shanghai). For example, the China Merchants Bank clearly defined “FinTech bank” as its strategic position; leading Chinese securities company CITIC Securities actively utilises FinTech to promote product innovation and collaborated with JD Finance to build the first blockchain ABS processing solution in the market.

### 2. FinTech Consumer Experience Ranked Second for Two Consecutive Years

- Percentage of FinTech consumers in the market reached 87.9%, its FinTech consumer experience ranking is second, just behind Hangzhou. As the first city in China that permitted WeChat payment of health insur-

ance, residents of Shenzhen could enjoy que-less health insurance premium online payment services through WeChat Pay, Alipay and Ping An Yizhangtong. Further, Shenzhen is also the first city in China to implement touchless payment methods, the first to roll out business registration mobile search services, and the first city to realise “smart” housing rentals.

### 3. The City with the Most Improvement in FinTech Ecosystem and Successfully Caught up in its Shortcomings in Research Capacity and Regulatory Capabilities

- Regional financial centre: the Shenzhen Stock Exchange is located here, it has listed financial institutions including the Ping An Group, China Merchants Bank and CITIC Securities, total market capitalisation of world Top 200 finance companies is ranked worldwide fifth.

- Relatively high capability in information technology (IT) innovation: total market capitalisation of world Top 200 technology companies is ranked worldwide seventh, its IT companies, represented by Huawei and Tencent are world famous, and Huaqiangbei is becoming a world-famous IT innovation and start-ups centre.

- Research capacity improvement reflects “Shenzhen Speed”: by the end of the 20<sup>th</sup> century, the structure of China’s tertiary sector is relatively set, university capabilities between cities are distinctly different and difficult to improve, but with this backdrop, Shenzhen has achieved “Shenzhen Speed”. Shenzhen University has materially improved, its ARWU

ranking moved up nearly 200 places, the annual growth of the number of published SCI papers is nearly 50%, PCT patent application publications have consecutively placed first among Chinese universities; the Southern University of Science and Technology also scored well.

- Its regulatory shortcomings are being caught up: it established China’s first Regtech research institute, implemented the ground-breaking Shenzhen Organisations Reform Plan to substantiate reform from the inside out, and highlighted its systemic mechanism that focus on servicing the nation’s major strategies, as well as promote high quality developments; it improved the attractiveness and competitiveness of the Special Economic Zone structure, allowing government departments to perform their specialised roles.

## 6.3 FinTech Company Case Studies

### 1. Lexin

	<ul style="list-style-type: none"> <li>Year Founded: 2013</li> <li>Company Label: among the first executive member companies of the National Internet Finance Association of China</li> <li>Business Activities: comprehensive FinTech</li> <li>Core Businesses: providing a variety of services such as consumer finance, marketplace lending, wealth management and FinTech open source technology support. As at the second quarter of 2019, number of users reached 50.2 Million.</li> <li>Core Products and Services: Fenqile (Installment buying), Leka (Consumption of life rights and interests), Juzi licai (Information intermediary service of marketplace lending), Lexin Wealth (Wealth management services), Dingsheng Technology (Technology platform of financial assets), etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 21 December 2017</li> <li>Listing Exchange: Nasdaq</li> <li>Securities Code: NASDAQ:LX</li> <li>Current Market Capitalisation: USD 2.04 Billion</li> <li>Major Institutional Investors: Matrix Partners China, China Renaissance K2 Ventures, Bertelsmann AG, JD, Apoletto, CoBuilder Partners, Taikang Insurance Group, China Renaissance, etc.</li> </ul>
<b>Major Events</b>	<p>September 2019: collaborating with Bank of Communications, became partners of the first “bank network” technology and innovation equity fund.</p> <p>October 2018: the company became the first government accredited laboratory host – the Shenzhen Intelligent Finance Big Data Engineering Research centre received development permit.</p> <p>December 2017: listed on the Nasdaq Exchange.</p> <p>March 2016: became one of the first executive companies of the National Internet Finance Association of China</p> <p>January 2016: successfully issued the first consumer finance ABS on the Shanghai Stock Exchange.</p> <p>July 2014: Juzi licai went online.</p> <p>October 2013: Fenqile went online.</p>

Source: Company Official Website, Media and Crunchbase

### 2. WeBank

	<ul style="list-style-type: none"> <li>Year Founded: 2014</li> <li>Company Label: The first private bank and Online bank in China</li> <li>Business Activities: online bank</li> <li>Core Businesses: aiming to provide to the general public and micro businesses with differentiated, special, high quality and convenient financial services</li> <li>Core Products and Services: Weilidai (Personal credit revolving loan), Weichedai Auto Loan (Internet + auto finance product) etc</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: strategic fundraising</li> <li>Estimated Current Capitalisation: USD 17 Billion</li> <li>Cumulated Total Funds Raised: USD 180 Million</li> <li>Major Institutional Investors: Tencent, Chunyong Investment, Liye Group, etc.</li> </ul>
<b>Major Events</b>	<p>November 2019: received Moody’s “A3” and S &amp; P “BBB +” ratings, becoming the first digital and private bank to receive an international credit rating.</p> <p>2018: annual turnover exceeded RMB 10 Billion, year on year net profit growth was nearly 60%.</p> <p>October 2017: received accreditation as a national high and new technology enterprise.</p> <p>June 2016: received permission to issue certificates of deposits.</p> <p>October 2015: the WeBank App went online.</p> <p>May 2015: formally rolled out “Weilidai”.</p> <p>2014: received Financial Services Licence from the Shenzhen Banking Regulatory Bureau.</p>

Source: Company Official Website, Media and Crunchbase



## 6.4 Opportunities for the City

### 1. Building a Demonstration Area of Socialism with Chinese Characteristics, Piloting Digital Currency

- In August of 2019, the State Council issued the *Comment Relating to Supporting Shenzhen in Developing a Pilot Demonstration Area of Socialism of Chinese Characteristics*, guiding Shenzhen to build a green digital development pilot area, and to support Shenzhen to build important innovation hosts such as 5G, AI and Cyberspace Science and Technology, and began research into innovative applications such as digital currency and mobile payments.
- Other policy support: promoting the actualisation of the People's Bank's FinTech research institute project; issuing the *Decision to Work Hard to Build a National Original Innovation Demonstration Area to Realise Innovation Driven Developments, Implementation Methods to Promote Collaboration between Technology and Finance, Implementation Methods to Promote Technology Innovation*; began the application process for the 2019 Shenzhen FinTech Special Awards.

### 2. It is a Core City of the Guangdong-Hong Kong-Macau Bay Area, Regional Collaboration Concentrates International Innovation Factors and Capital

- Shenzhen as a core city in the Guangdong-Hong Kong- Macau Bay Area, its geographical advantages are apparent, and enjoying significant national strategic dividends, as it deepens collaboration with cities such as Hong Kong and Macau, it could learn from FinTech experiences and concentrate international innovative factors.
- The Shenzhen Hong Kong and Macau FinTech Alliance is formally unveiled: with active promotion by Shenzhen local financial regulators, and support from Shenzhen Science and Technology Association and the Hong Kong Special Administrative Region Investment Promotion Agency, the Shenzhen-Hong Kong-Macau FinTech Alliance is formally formed. It aims to speed up the training of manpower, deepening industry collaboration, promote industry innovation and promote correspondence between the three areas. Members in the alliance include the most representative and influential financial institutions, FinTech companies and important organisations in the industry, such as Bank of China Hong Kong, Hong Kong Stock Exchange, Ping An Insurance, China Merchants Bank, WeBank, Guosen Securities, Huawei and Tencent.
- Capital market collaboration models such as the Northbound Trade collaboration between the Hong Kong Stock Exchange and Mainland, and the Shenzhen Hong Kong Mutual Capital Exchange brought active capital to Shenzhen's FinTech companies, supporting industry development.

### 3. Extend Opening-up, Inflow of Talent Continue to Solidify the City's Development Foundation and Bring About Great Potential

- Population continues to flow into the city: in 2018, the net inflow of people to Shenzhen is the highest in China, and the demography is well structured, the percentage of people from the 15-59 age group is as high as 81.9%. Further, in 2019, Shenzhen issued the most welcoming Hukou policies among first tier cities, establishing a new benchmark for first-tier city resident registration reform in China.
- Increasing the speed of talent flow: the high-speed railway between Guangzhou, Shenzhen and Hong Kong sped up talent movements between Hong Kong and Shenzhen; and international and national well-known universities and research institutes establish branches in Shenzhen.



6

GFHI Total Ranking

Industry Ranking

6

Consumer Experience Ranking

1

Ecosystem Ranking

14

## HANGZHOU Supportive Policy Continues, Strengthening Applications Innovation

Like San Francisco and Shenzhen, Hangzhou is also a technology driven Global FinTech Hub, its GFHI total score stayed the same and ranked sixth along with Shenzhen, and it is world famous for its FinTech consumer experience.

Specifically, Hangzhou's **FinTech Industry** is ranked sixth in the world, it has four listed FinTech companies, and 13 highly capitalised unlisted FinTech companies led by the world leading FinTech giant Ant Financial, receiving total fundraising of USD 26.81 Billion, making it world first; but leading companies are highly concentrated, it is the only city of the eight Global FinTech Hubs where the total market capitalisation of the Top 3 and highly capitalised unlisted Top 3's percentage both exceeded 90%, its industry tiers require urgent optimisation.

In terms of **consumer experience**, Hangzhou places high importance on the adoption and consumer experience of FinTech, its percentage of FinTech consumers reached 93.5%, and it is the only city in the world where this percentage exceeds 90%, making it global first in FinTech consumer experience for three consecutive years. It is not only dubbed the "mobile payment city of the world", creating many world firsts in third party payment civil service scenarios, it is also the first to mention the government services reform "at most one visit", working hard to optimise the business environment. In terms of **ecosystem**, Hangzhou's FinTech ecosystem ranks global No.14, it is still relatively weaker out of the eight Global FinTech Hubs, but it has a solid digital economy foundation (there are 57 listed technology companies, including Alibaba, Hikvision and Dahua Technology), an open-minded government, continuous policy support, improving regulatory capability and faster concentration of talent and research resources, etc., these will bring great room for it to optimise its ecosystem. In Hangzhou, especially in terms of policy support, it rolled out plans to build the first digital economy city in China and the building of a Global FinTech Hub, and successfully attracted the Global Digital Financial centre project that is a strategic collaboration between the World Bank and the National Internet Finance Association of China.

## 7.1 Data File

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	4	5
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	179.6	6
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	13	7
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	268.1	1
	Digitisation of the Financial Sector	-	21
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	93.5	1
FinTech Ecosystem	Market Capitalisation of Global Top 200 Finance Companies (USD100 Million)	0	34
	Market Capitalisation of Global Top 200 Technology Companies (USD100 Million)	4916.8	6
	Digital Infrastructure	-	37
	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	25
	FinTech Support Level (100 pts)	88.3	7
	FinTech Regulatory Capability (100 pts)	72.4	41
		Percentage of Top 3 Total Market Capitalisation in the City's Total Capital Raised	
Leading FinTech Companies	Listed Top 3: Hundsun Technologies, Hithink RoyalFlush Information Network, u51	97.5%	
	Highly Capitalised Top 3: Ant Financial Services Group, Lianlian Pay, Qulian	94.6%	

Note: The number, capitalisation and capital raising relate data on listed FinTech companies and highly capitalised unlisted FinTech companies (cumulative venture capital exceeding USD 50 Million) are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, TianYanCha, Bloomberg, Investing.com

## 7.2 Core Features

### 1. FinTech Industry Ranked Global Sixth, but Leading Companies Concentrate

- Hangzhou is the source of Internet finance in China, it has four listed FinTech companies including Hundsun Technologies, Hithink RoyalFlush Information Network, and u51, their total market capitalisation is USD 17.96 Billion, numbers and market capitalisation are respectively ranked global fifth and sixth. It has 13 highly capitalised unlisted FinTech companies, including global FinTech giant Ant Financial, Lianlian Pay, and Hyperchain, total funds raised is USD 26.81 Billion, topping the global ranking.

- Leading companies, however, are highly concentrated, of the eight Global FinTech Hubs where the total market capitalisation Top 3 and highly capitalised unlisted Top 3's percentage both exceeded 90%, its industry tiers require urgent optimisation: the market capitalisation listed Top 3 accounted for 97.5% of total market capitalisation; and the Top 3 in terms of unlisted company fundraising accounted for 94.6% of raised funds, of which, Ant Financial's leading position is most apparent, accounting for 91% of the city's total capital raising.

### 2. FinTech Consumer Experience is the Best in the World and Focus on Application Innovation, World First in Three Consecutive Years

- Percentage of FinTech consumers in the city reached 93.5%, and year on year increase is 2 percentage points. Hangzhou is the only city in the world where the percentage of FinTech consumers exceeds 90%, 5.6 percentage points higher than Shenzhen, topping the global ranking in three consecutive years.

- It is dubbed the “mobile payment city of the world”, creating many firsts in third party payment civil services scenarios: the first to support mobile payment of daily bills, first to support repayment of credit; first to realise public transport mobile payment, first to support mobile purchase of metro tickets, etc. By the time of the report, more than 98% of taxis, more than 95% of supermarkets and convenience stores, more than 50% of restaurants support third party payment methods.

- China's pioneer in government services reform, building a “mobile administrative services city”: first to raise the government services reform called “at most one visit”, rolled out the “Hangzhou government services” App, where 142 immediate service items and 276 appointment items can be solved, these services cover a variety of areas, including public services bills, social security, law enforcement and fines, cultural and education, housing security, etc, thereby supporting the optimisation of the business environment.

### 3. FinTech Ecosystem Ranks Global 14<sup>th</sup>, There is Great Room for Improvement

- FinTech ecosystem ranked global fourth, moved up three places from 2018, so far, it is still the weakest out of the Global FinTech Hubs, but there is great room for improvement.

- Solid digital economy foundation: in 2018, the digital economy in Hangzhou created RMB 335.6 Billion in core value, which is a year on year increase of 15%, accounting for 24.8% of GDP. It has 57 listed technology companies including Alibaba, Hikvision and Dahua Technology, providing FinTech development with solid support.

- The government is open-minded and continues to provide policy support: the Zhejiang province comprehensively implemented digital economy “Project One”, to advance the building of a “national digital economy demonstration province”. Hangzhou is building China's “first digital economy city” and published the *Hangzhou Global FinTech Hub Special Building Plan*; realising the Global Digital Financial centre project that is a strategic collaboration between the World Bank and the National Internet Finance Association of China.

- Regulatory capabilities rose slightly: the Hangzhou Internet Court received the Best Practice Award in Building a Digital China.

## 7.3 FinTech Company Case Studies

### 1. Ant Financial

	<ul style="list-style-type: none"> <li>Year Founded: 2014 (began as Alipay in 2004)</li> <li>Company Label: the world's largest FinTech Unicorn</li> <li>Business Activities: comprehensive FinTech</li> <li>Core Businesses: its company motivation is "to bring more equal opportunities to the world", focusing on building an open, sharing credit rating system and financial services platform, through its technological innovation capability, to provide the world's consumers and micro-businesses with safe and convenient inclusive financial services.</li> <li>Core Products and Services: Alipay, Yu'e Bao, Zhao Cai Bao, Ant Fortune, MYbank, Ant Credit Pay, Sesame Credit, etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: fourth round</li> <li>Estimated Current Capitalisation: USD 160 Billion</li> <li>Cumulated Total Funds Raised: USD 24.38 Billion</li> <li>Major Institutional Investors: GIC, Khazanah Nasional, Warburg Pincus, CPPIB, Silver Lake, Temasek and China Development Bank International Investment, etc.</li> </ul>
<b>Major Events</b>	<p>2019: awarded 2019 Global Outstanding Achievement.</p> <p>2018: awarded the thirteenth "People's Enterprise Social Responsibility Green Development Award".</p> <p>June 2018: along with the Phillipino digital wallet GCash, AlipayHK roll out the first blockchain cross-border funds transfer service.</p> <p>January 2017: during the Davos World Economic Forum, the UN Environment Programme and Ant Financial formally started the world's first Green Digital Finance Alliance.</p> <p>April 2016: announced that it has completed a B round fundraising of USD 4.5 Billion.</p> <p>December 2015: rolled out the "Double 12" Offline Shopping Carnival.</p>

Source: Company Official Website, Media and Crunchbase

### 2. Hyperchain

	<ul style="list-style-type: none"> <li>Year Founded: 2016</li> <li>Company Labels: the first blockchain quasi-unicorn at the Davos World Economic Forum, the record creator of the highest single fundraising transaction in the Chinese blockchain sector</li> <li>Business Activities: blockchain</li> <li>Core Businesses: focusing on blockchain product and application solutions, aiming to create the next generation of trusted value exchange network core technology and associated platforms</li> <li>Core Products and Services: Hyperchain developed an original domestically built and controllable blockchain underlying platform, data sharing and secure computation platform - BitXMesh, blockchain open source service platform FiLoop, supply chain finance platform FiloLink and record keeping platform FiloInk, etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: Series B</li> <li>Estimated Current Capitalisation: USD 430 Million</li> <li>Cumulated Total Funds Raised: USD 230 Million</li> <li>Major Institutional Investors: Sunyard, Lianlian Pay, Insigma, FOSUN RZ Capital, China Gaoxin Investment Group, Ideal International Holding Group, Lanshi Investment, etc.</li> </ul>
<b>Major Events</b>	<p>May 2019: made the "2019 Forbes Most Innovative Companies in China" list.</p> <p>November 2018: guided by the Zhejiang Internet Information Bureau, formed the Zhejiang Blockchain Research Institute in Collaboration with the Zhejiang University Blockchain Research Centre.</p> <p>June 2018: completed B round fundraising of RMB 1.2 Billion.</p> <p>December 2017: completed A round fundraising of RMB 40 Million.</p> <p>October 2016: published original domestically built and controllable blockchain underlying platform Hyperchainx.</p> <p>August 2016: completed Pre-A round fundraising of RMB 17.5 Million.</p>

Source: Company Official Website, Media and Crunchbase

## 7.4 Opportunities for the City

### 1. Surrounding the Building of a Hangzhou Global FinTech Hub, Continue to Implement Policy Support

- Hangzhou plans to make and implement a series of targeted and regionally competitive, implementable and effective policy mechanisms, including public finance and taxation, talent attraction, capital support, and industry regulatory policies, to strongly support FinTech research and commercialisation, infrastructure building, the training and attracting of specialist talent, a multi-layered capital market servicing system and identifying targeted FinTech companies for special support.

### 2. Becoming a Place for the Digitisation of the Financial Industry and Related Transformation and Innovation

- Zhejiang branches of State-owned banks and corporatised banks are building their FinTech centres in Zhejiang, developing FinTech innovation hubs; banks that have legal personal representatives in Zhejiang such as China Zheshang Bank are also actively building different types of FinTech platforms, discovering digital financial services transformation and inclusive financial capabilities, and receiving initial success.

### 3. The Unification of the Yangtze River Delta Region

- Hangzhou, as one of the two core cities in the Yangtze River Delta, has a strategic role to link up with Shanghai, and radiate to the south of the regional city group; at the same time, enjoying the excellent FinTech ecosystem in this regional city group, to promote collaboration between the cities.

### 4. Talent and Research Resources Continue to Concentrate

- Talent continues to flow in: in 2018, Hangzhou's net inflow of talent tops in China, and for nine consecutive years, it is the "most attractive Chinese city in the opinion of foreign nationals".

- Research resources concentrate actively implement the "three famous projects" – famous universities, famous research institutes, famous centres. It has universities represented by Zhejiang University, influential research platforms such as the Westlake University, Zhejiang Lab, Alibaba DAMO Academy for Discovery, Adventure, Momentum and Outlook etc and thinktank institutions continue to be established.



## CHICAGO Focusing on Current Endowments, Pay Attention to Financial Inclusion

Like New York, Shanghai and London, Chicago is a finance driven Global FinTech Hub, its GFHI total score ranks No.8, and this is the first time it becomes a Global FinTech Hub.

Specifically, Chicago's **FinTech Industry** ranks globally eighth, at the time of the report, it has three listed FinTech companies, nine highly capitalised unlisted FinTech companies, and to the greatest extent, anchoring on its endowments to develop blockchain technology and building a digital currency trading centre, such as the collaboration between Chicago and the UK's Royal Mint to establish a gold trading platform, the Chicago Futures and Commodities Exchanges became the firsts to issue digital currency derivatives contracts, etc. In terms of **consumer experience**, similar to most cities in developed countries, Chicago lacks experience in FinTech application and consumer experience, its percentage of FinTech consumers is only 36.2%, although improved by 6.5 percentage points from 2018, but fierce global competition meant its consumer experience ranking dropped five places.

In terms of **ecosystem**, Chicago's FinTech ecosystem ranking moved up one place from 2018 and ranked global eleventh. On the one hand, it has a solid foundation and abundant human resources, as an international financial centre, a global derivatives, insurance and risk management centre, Chicago carries out 20% of the world's futures, commodities and derivatives transactions, and it has world famous universities such as Chicago University, North West University, and University of Illinois at Urbana-Champaign, these factors all contributed significantly to Chicago's development of a Global FinTech Hub – through talent, technology and experience. On the other hand, Chicago actively promotes FinTech development, and place high importance on financial inclusion, it not only rolled out a FinTech incubator called FinTank, to supply FinTech start-ups with funding and space support, it also actively calls out to FinTech companies to utilise technology innovation for inclusive financial purposes.

## 8.1 Data File

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	3	6
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	246.7	5
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	9	9
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	24.3	11
	Digitisation of the Financial Sector	-	8
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	36.2	41
FinTech Ecosystem	Market Capitalisation of Global Top 200 Finance Companies (USD100 Million)	950.5	18
	Market Capitalisation of Global Top 200 Technology Companies (USD100 Million)	296.4	26
	Digital Infrastructure	-	5
	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	7
	FinTech Support Level (100 pts)	79.1	19
	FinTech Regulatory Capability (100 pts)	75.8	30
		Percentage of Top 3 Total Market Capitalisation in the City's Total Capital Raised	
Leading FinTech Companies	Listed Top 3: Transunion, Morningstar, Envestnet	100%	
	Highly Capitalised Unlisted Top 3: Avant, Raise, Braviant Holdings	83.1%	

Note: The number, capitalisation and capital raising relate data on listed FinTech companies and highly capitalised unlisted FinTech companies (cumulative venture capital exceeding USD 50 Million) are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com



## 8.2 Core Features

### 1. FinTech Industry Ranked Global Eighth, Anchoring on Endowments to Build a Global Digital Currency Trading Centre

- It has three listed FinTech companies – Transunion, Morningstar and Envestnet, their total market capitalisation reached USD 24.67 Billion, ranked global fifth; number and total funds raised ranking of highly capitalised unlisted FinTech companies is globally ranked respectively No 9 and No.11, nine companies together raised USD 2.43 Billion, representative companies include Avant, Raise, and Braviant Holdings, etc.

- Chicago is the city with the second highest leading company concentration (Hangzhou is the highest), industry tiers also require optimisation. Transunion, that has the highest market capitalisation, accounted for 60.5% of the city's total market capitalisation; and the Top 3 highly capitalised unlisted FinTech companies accounted for 83.1% of total fundraising in the city.

- Digitalisation of the financial industry ranks global eighth, financial institutions and exchanges such as the Chicago Futures Exchange, the Chicago Commodities Exchange, Citadel, Discover, DRW Trading and Northern Trust Corporation are attempting at digital transformation following the FinTech trend.

- To the largest extent taking advantage of current endowments, to develop blockchain technology and building a digital currency trading centre, such as the collaboration between Chicago and the UK's Royal Mint to establish a gold trading platform: the Chicago Futures and Commodities Exchanges became the firsts to issue digital currency derivatives contract, utilising its human resource, technology and experience to promote the development of the digital currency sector.

### 2. FinTech Adoption and Consumer Experience are Lacking, Globally Only Ranked No.41

- Similar to most cities in developed countries, the percentage of FinTech consumers in Chicago is relatively low, only at 36.2%, although increased 6.5 percentage points from 2018, during fierce global competition, its FinTech consumer experience global ranking dropped from No.36 in 2018 to No.41.

### 3. FinTech Ecosystem Ranked Global Eleventh, Rolled out FinTech Incubator

- As an international financial centre, global derivatives, insurance and risk management centre, Chicago carries out nearly 20% of the world's futures, commodities and derivatives trade, its financial foundation is solid.

- It ranked global seventh in the City's Comprehensive Research Capacity of Research Institutions and Famous Universities ranking, has world famous universities such as Chicago University, North West University, and University of Illinois at Urbana-Champaign, etc.

- Policy support: rolled out a FinTech incubator called FinTank, providing FinTech start-ups with a series of funding and space support.

## 8.3 FinTech Company Case Studies

### 1. Transunion

	<ul style="list-style-type: none"> <li>Year Founded: 1968</li> <li>Company Label: world leading risk information provider</li> <li>Business Activities: credit rating, information (security) services</li> <li>Core Businesses: providing institutional and individual customers global risk information solutions, types of solutions include online data services, marketing services and decision services, etc.</li> <li>Core Products: CreditVision, IDVision, DecisionEdge, Prama, etc.</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 25 June 2015</li> <li>Listing Exchange: New York Stock Exchange</li> <li>Securities Code: NYSE:TRU</li> <li>Current Market Capitalisation: USD 15.92 Billion</li> <li>Major Institutional Investors: Vanguard Group, BlackRock, Wellington Management, Atlanta Capital Management, and Principal Financial Group, etc.</li> </ul>
<b>Major Events</b>	<p>May 2019: took over digital marketing company TruSignal.          April 2018: took over British company CallCredit Information Group.          October 2017: took over credit risk analysis company eBureau.          June 2015: successfully listed on the New York Stock Exchange.          2010: 51% of shares were taken over by Goldman Sachs Capital Partners and Advent International.          2005: was taken over by Pritzker Family from Marmon Group.          2002: took over TrueCredit.com and entered the consumer market.          1981: taken over by the Marmon Group.          1969: took over Credit Bureau of Cook County.          1968: formally registered, as the controlling company of the railway leasing company Union Tank Car Company.</p>

Source: Company Official Website, Media and Crunchbase

### 2. Avant

	<ul style="list-style-type: none"> <li>Year Founded: 2012</li> <li>Company Label: US marketplace lending unicorn</li> <li>Business Activities: marketplace lending platform, mainly focusing on consumers whose credit ratings are less than perfect. Transactions average at USD 8,000 per loan, but loan size can be up to USD 35,000.</li> <li>Core Products and Services: marketplace lending information agent</li> </ul>
<b>Fundraising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: Series E</li> <li>Estimated Current Capitalisation: USD 2 Billion</li> <li>Cumulated Total Funds Raised: approximately USD 1.78 Billion</li> <li>Major Institutional Investors: General Atlantic, Balyasny Asset Management, and Tiger Global Management, etc.</li> </ul>
<b>Major Events</b>	<p>April 2019: fined by the US Federal Trade Commission on charges of illegal charging of fees.          February 2017: took out Pitchbook's "2 Billion Dollar Company with the Fastest Growth".          January 2017: joined MLA, an US online lending industry association.          September 2016: received FCA accreditation in the UK.          March 2015: took over debt management application Ready for Zero, and opened Chicago office.</p>

Source: Company Official Website, Media and Crunchbase

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## 8.4 Opportunities for the City

### 1. Rely on Traditional Transactions Market Foundation, Continue to Build a Global Digital Currency Trading Centre.

- The Chicago exchanges market has a long history, and assembled a broad and in-depth understanding of financial derivatives, government attention and the human resources, technology and experience from local exchanges and trading companies will continue to promote the development of its digital currency trading sector, providing it great support to building a global digital currency trading centre.

### 2. Financial Inclusion Continues to Expand, Great Potential to Improve FinTech Consumer Experience

- The Chicago government actively calls out to FinTech companies to utilise their technology innovations to support inclusive financial system, for example, the Chicago Stock Exchange collaborates with government officials and local communities, to promote utilising digital products for the purpose of creating a capital and training channel for decentralised consumers, local areas and companies. With this backdrop, the percentage of FinTech consumers and their experience has the great potential to significantly improve.

# 05

## Chapter 5

# In-depth Analysis of Regional FinTech Hubs

## SINGAPORE



9

## GFHI Total Ranking

Industry Ranking

12

Consumer Experience Ranking

20

Ecosystem Ranking

8

## SINGAPORE

 Solid Ecosystem Foundations, Global Best Practice in Policy and Regulation

Singapore is a harbour city State, located near the southern estuary of the Malacca Strait, and is named the “garden city”. It is an important global financial, port and services centre.

Singapore’s FinTech advantage is reflected in its ecosystem (globally ranked eighth), especially that its FinTech policy support level is the highest in the world, and its regulatory ability is at world best levels. Its FinTech ecosystem ranks global second (only scoring 2 points lower than London, which topped that ranking). The roles and functions of Singaporean FinTech related regulators are clearly defined, the Monetary Authority of Singapore, as the main policy maker for FinTech development purposes is responsible for strategic planning, policy framework and coordination. The FinTech Office specifically opened by the government is responsible for implementation, as well as providing a one-stop-shop for all related services. Further, FinTech consumer experience improves at a fast pace, the percentage of FinTech consumers in the population is as high as 56.6%, which is double that of 2018 levels.

### 1.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	1	11
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	0.1	21
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	10	8
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	10.8	16
	Digitisation of the Financial Sector	-	7
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	56.6	20
FinTech Ecosystem	City’s Comprehensive Research Capacity of Research Institutions and Famous Universities	-	18
	FinTech Support Level (100 pts)	95.8	1
	FinTech Regulatory Capability (100 pts)	96.2	2
Leading FinTech Companies	CoAssets, Singapore Life, TenX and Quoine		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 1.2 Core Features

<b>FinTech Industry</b>	<p><b>Active Corporate Fundraising in the Industry</b></p> <ul style="list-style-type: none"> <li>It has ten highly capitalised unlisted FinTech companies (number of companies ranked 8<sup>th</sup> in the world), such as Singapore Life, GoBear, InstaReM, total funds raised reached USD1.08 Billion, which is approximately 1.4 times that of 2018 levels.</li> </ul> <p><b>Digitisation of Financial Sector is ranked seventh in the world</b></p> <ul style="list-style-type: none"> <li>Many banks, with the support from the government, have partnered with FinTech firms. For example, Avatec announced a joint venture between the United Overseas Bank and China's Pintec Technology Holdings Ltd.</li> </ul>
<b>FinTech Consumer Experience</b>	<p><b>High Growth in the Percentage of FinTech Consumers in the Population</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 56.6% of the population, twice as many as the number in 2018.</li> <li>64% of the population use mobile banking.</li> <li>The average mobile internet connection speed is 61.0Mbps, a 13% increase in speed.</li> </ul>
<b>FinTech Ecosystem</b>	<p><b>Strong Digital Infrastructure Foundation</b></p> <ul style="list-style-type: none"> <li>4.92 Million internet users, 84% of the total population</li> <li>Mobile users reached 8.37 Million, each person has on average 1.47 devices.</li> </ul> <p><b>Regulatory and Policy Environment – An Exemplary Model</b></p> <ul style="list-style-type: none"> <li>Most supportive and effective FinTech regulatory policies, ranking 1<sup>st</sup> in the world. Ranked 2<sup>nd</sup> best in regulatory capability, 2 score points behind London.</li> <li>In 2015, the FinTech and Innovation Group was established, promoting the <i>FinTech and Digital Finance Innovation Initiatives</i>.</li> <li>Responsibility between relating departments are clear, the Monetary Authority of Singapore is the FinTech policy maker, and the FinTech Office is responsible for policy implementation.</li> <li>The Regulatory Sandbox became a major initiative in regulatory innovation, emphasising substance over form in regulatory activities.</li> <li>Establishment of the Singapore FinTech Association (SFA) with technology and regulatory subcommittees for both educational and regulatory purposes.</li> <li>Annual Singapore FinTech Festival: In 2018, Singapore's third annual FinTech Festival was attended by 45,000 participants from 130 countries. It is now one of the largest FinTech related summits in the world.</li> </ul>

## 1.3 FinTech Company Case Studies

### CoAssets

	<ul style="list-style-type: none"> <li>Year Founded: 2013</li> <li>Company Label: Largest Singapore and Pan-Asia Pacific digital investment platform</li> <li>Business Activities: crowdfunding, online lending</li> <li>Core Businesses: debt based crowdfunding platform, focusing on servicing real estate companies or SMEs</li> <li>Core Product: CoAssets</li> </ul>
<b>Fund Raising</b>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 5 September 2016</li> <li>Listed Exchange: Australian Securities Exchange</li> <li>Securities Code: ASX:CA8</li> <li>Current Market Capitalisation: AUD13.42 Million</li> </ul>

Source: Company Official Website, Media and Crunchbase



## SYDNEY Effective Government, Ecosystem Improved Significantly

Sydney, located on Australia's east coast, is its most populous city. As one of Asia Pacific's leading financial centres, Sydney is also Australia's commercial, trade, finance, tourism and education centre.

Sydney has a well-developed FinTech ecosystem, ranked 12<sup>th</sup> in the world, which is a seven-place improvement from 2018. Its regulatory capability is ranked global ninth, where its regulators not only promoted a regulatory sandbox initiative, they also established a FinTech consulting group, simplified and made new regulations. Further, the government works hard to promote the adoption of FinTech in different sectors, such as the Blockchain technology system Govpass to solve the problems of disperse spread data and data incompleteness, etc.

### 2.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	1	11
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	0.1	22
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	8	11
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	11.4	15
	Digitisation of the Financial Sector	-	18
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	55.7	23
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	15
	FinTech Support Level (100 pts)	80.4	17
	FinTech Regulatory Capability (100 pts)	85.0	9
Leading FinTech Companies	Identitii Limited, zipMoney Payments, Brighte and MoneyMe		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 2.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>Active Corporate Fundraising in the Industry</b></p> <ul style="list-style-type: none"> <li>It has one blockchain listed FinTech company – Identitii Limited</li> <li>It has eight highly capitalised unlisted FinTech companies, including zipMoney Payments, ranking 11<sup>th</sup> globally in number, and raised a total of USD 1.14 Billion.</li> </ul> <p><b>Traditional Financial Institutions Investing in FinTech</b></p> <ul style="list-style-type: none"> <li>Although only ranked 18<sup>th</sup> in the world for its technological advancements, banks such as the Westpac Banking Corporation, National Australia Bank have started to invest more in FinTech firms in the form of venture capital investment or through mergers and acquisition.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>Percentage of FinTech Consumers increased by 14.4 percentage points from 2018 levels</b></p> <ul style="list-style-type: none"> <li>The percentage of FinTech consumers in the population is 55.7%, significantly improved by 14.4 percentage points from the 41.3% of 2018.</li> </ul> <p><b>Government-funded online payment platforms aiming to move towards a cashless society/economy</b></p> <ul style="list-style-type: none"> <li>The Reserve Bank of Australia, over four years, has invested AUD 1 Billion to create a convenient system that allows payment to be instantly cleared, called the New Payment Platform (NPP), pushing Australia to achieve its goal for a cashless society.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>Strong Financial Industry Foundations</b></p> <ul style="list-style-type: none"> <li>Total market capitalisation of Global Top 200 Finance Companies is USD 189.75 Billion, ranked global 12<sup>th</sup>. It has world famous financial institutions such as the Commonwealth Bank of Australia and Macquarie Group.</li> </ul> <p><b>The Government Strongly Promotes FinTech Technology</b></p> <ul style="list-style-type: none"> <li>The government built the Blockchain technology system Govpass to solve the problems of disperse spread data and data incompleteness. In 2019, eight government services agencies have tested the system, involving more than half a million Australians.</li> </ul> <p><b>Regulatory Capabilities Ranked Ninth in the World</b></p> <ul style="list-style-type: none"> <li>Regulatory systems are relatively well developed, regulators started a FinTech consulting group to simplify and make new regulations.</li> <li>Adopting a regulatory sandbox</li> </ul>

## 2.3 FinTech Company Case Studies

### Identitii Limited

	<ul style="list-style-type: none"> <li>Year Founded: 2014</li> <li>Company Label: Blockchain Digital Identity Management and Innovation Company</li> <li>Business Activities: Blockchain (distributed ledger); Information (Security) Services</li> <li>Core Businesses: created an interactive and accessible payments information ecosystem; pioneered a digital banking experience; adopted blockchain and digital currency to expand business scope.</li> <li>Core Products: ISO 20022, Order2Cas, etc.</li> </ul>
<p><b>Fund Raising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 17 October 2018</li> <li>Listed Exchange: Australian Securities Exchange</li> <li>Securities Code: ASX:ID8</li> <li>Current Market Capitalisation: AUD 8.597 Million</li> <li>Major Institution Investors: The Lind Partners, KTM Capital, Paradise Investment Management, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase





## TOKYO Capture Technology Advantages, Support Technology Sectors

Tokyo, located on the south-eastern side of Japan's main island – Honshu, it is the nation's capital city, political, economic and cultural centre. It is also a world famous financial, research and development, entertainment and consumer centre.

Japan's well-performing FinTech ecosystem is ranked fifth in the world (just behind Beijing in Asia). The nation capitalises on its advantages of having solid and robust financial and technology industry foundations. Its market capitalisation of Global Top 200 Finance Companies ranks sixth globally, and market capitalisation of Global Top 200 Technology Companies ranks third (just behind Seattle and San Francisco). Notable technology companies in Tokyo include Sony, Canon, Tokyo Electron Limited (TEL), etc., they provide good support to FinTech industry developments.

### 3.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	1	11
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	1.3	18
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	7	13
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	7.6	24
	Digitisation of the Financial Sector	-	10
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	27.7	53
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	11
	FinTech Support Level (100 pts)	77.9	23
	FinTech Regulatory Capability (100 pts)	84.6	10
Leading FinTech Companies	Metaps, Freee, Liquid Global, WealthNavi		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.


Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

### 3.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>Technology Driven FinTech Industry</b></p> <ul style="list-style-type: none"> <li>It has one listed FinTech Company – Metaps.</li> <li>It has seven (including Freee) highly capitalised unlisted FinTech companies, ranking global 13<sup>th</sup> in number, and raised a total of USD 760 Million.</li> <li>The industry clusters in technology driven sectors such as providing Robo-investment-advisor, information services and blockchain, sectors that focus on application such as online lending is less prominent.</li> </ul> <p><b>The Financial Sector Supports FinTech Technology</b></p> <ul style="list-style-type: none"> <li>For example, Tokyo’s MUFG Bank has adopted blockchain technology as its core infrastructure and is testing a digital cheque on a blockchain.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>Percentage of FinTech Consumers is less than 30%</b></p> <ul style="list-style-type: none"> <li>Relatively smaller proportion of FinTech consumers at 27.7% (ranked 53<sup>rd</sup>). There is a slight growth of 6.1 percentage points from the 21.6% in 2018.</li> </ul> <p><b>Digital currency is legal and adoption is being generalised into daily activities</b></p> <ul style="list-style-type: none"> <li>Japan has legalised the use of digital currencies such as Bitcoins as payment methods.</li> <li>Digital currency has already been utilised and incorporated into daily lives and now serve as common methods of payment, especially for younger investors.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>Its Finance Industry is Globally placed sixth and is also regarded as an International Financial Centre</b></p> <ul style="list-style-type: none"> <li>International Financial Centre: market capitalisation of Global Top 200 Finance Companies globally sixth, totalling USD 345.18 Billion.</li> </ul> <p><b>Technology Industry has a Solid Foundation and is Ranked 3<sup>rd</sup> in the World</b></p> <ul style="list-style-type: none"> <li>Market capitalisation of Global Top 200 Technology Companies is USD 612.26 Billion and ranked 3<sup>rd</sup> globally.</li> <li>It has well-known technology giants such as Sony, Canon, Tokyo Electron, etc., core chips and materials produced by them are sold around the world.</li> </ul> <p><b>Regulatory Capability is Ranked Global Top 10</b></p> <ul style="list-style-type: none"> <li>FinTech regulation ranked tenth globally, following right behind Singapore, Soul and Tel Aviv in Asia.</li> <li>Published a regulatory framework targeted at digital currency exchanges and ICO events.</li> <li>Adopted a regulatory sandbox initiative.</li> <li>The Financial Services Agency established a FinTech Innovation Centre, to facilitate communication between the government and start-ups.</li> </ul>

### 3.3 FinTech Company Case Studies

**Freee**

	<ul style="list-style-type: none"> <li>Year Founded: 2012</li> <li>Company Label: Online accounting, Financial Management Services</li> <li>Business Activities: Cloud computing, artificial intelligence</li> <li>Core Businesses: Automating book-keeping activities, simplifying administrative paperwork in establishing a business entity, tracking fund usage, sending invoices, managing payroll and employee insurance. Additionally, Freee can connect selling point systems through an API port, thereby enabling automatic payment and tax related calculations.</li> <li>Core Products: Cloud Accounting software, etc.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: E round</li> <li>Estimated Current Capitalisation: USD 630 Million</li> <li>Cumulated Total Funds Raised: USD 230 Million</li> <li>Major Institutional Investors: DCM, Infinity Venture Partners, Mitsubishi UFJ Financial Group, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase

## ATLANTA



12

GFHI Total Ranking

Industry Ranking

9

Consumer Experience Ranking

43

Ecosystem Ranking

29

## ATLANTA

Considerable Market Potential, Industry-Education-Research Collaboration is the Starting Point

Atlanta, located on the East Coast, is the ninth largest metropolitan area in the US. As the US state of Georgia's most populous county, Atlanta is classified as a "beta+" city that contributes a considerable impact on global commerce in industries such as finance, research technology, education and the arts. It is also one of ten cities where the wealthy choose to live in America.

FinTech in Atlanta is developing rapidly, its GFHI total ranking jumped six places to No. 12. Its FinTech developments focus on the industry itself, and its FinTech industry is ranked ninth globally (fourth in the US, behind New York, San Francisco and Chicago). It has three listed FinTech companies, represented by Cardlytics; and six highly capitalised unlisted FinTech companies represented by Kabbage raising a total of USD 2.9 Billion, where each company's average funds raised is 46% higher than the global average.

### 4.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	3	6
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	59.3	11
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	6	16
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	29.0	10
	Digitisation of the Financial Sector	-	19
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	35.5	43
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	22
	FinTech Support Level (100 pts)	76.2	29
	FinTech Regulatory Capability (100 pts)	75.1	36
Leading FinTech Companies	NCR Corporation, Greensky, Kabbage, Prime Revenue, PowerPlan		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.


Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 4.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>FinTech companies' Average capital raising is relatively high</b></p> <ul style="list-style-type: none"> <li>It has three listed FinTech companies, represented by Cardlytics; and six highly capitalised unlisted FinTech companies represented by Kabbage raising a total of USD 2.9 Billion.</li> <li>Highly capitalised unlisted FinTech companies have on average raised more funds, where each company's average funds raised is 46% higher than the global average.</li> </ul> <p><b>US National Online Payment and Transactions Centre</b></p> <ul style="list-style-type: none"> <li>Over 70% of online transactions are administered, making the city the "transaction centre" of the nation. Has firms such as NCR Corporation, First Data and various other established online payment services firms.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>Percentage of FinTech Consumers is relatively low</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 35.5% of the population (ranked No. 43), an increase of 3.2 percentage from the 32.3% in 2018.</li> <li>Credit card continues to be the main payment method.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>Well-established FinTech Start-up Incubation Chain</b></p> <ul style="list-style-type: none"> <li>Atlanta assembles some major and influential innovation incubators and accelerators, such as Atlanta Tech Village, ATDC Georgia Tech, and TechStars Atlanta, providing start-ups with comprehensive support.</li> </ul> <p><b>Advantages in R&amp;D and Talent</b></p> <ul style="list-style-type: none"> <li>Georgia Institute of Technology established the Georgia Tech Financial Service Innovation Lab.</li> <li>There are 26 tertiary education institutions in the State of Georgia, where Atlanta is located, Georgia has emphasized a focus on teaching FinTech.</li> <li>Georgia FinTech Academy was established as the first US FinTech education institution that will focus on providing specialist training.</li> </ul> <p><b>Government Support</b></p> <ul style="list-style-type: none"> <li>The state of Georgia strongly supports its FinTech industry development, multiple institutions and organisations, such as the Technology Association of Georgia (TAG), FinTech Atlanta provide a FinTech company development platform.</li> <li>FinTech conferences and conventions are held annually to further explore the future and development of the industry.</li> </ul>

## 4.3 FinTech Company Case Studies

### NCR Corporation

	<ul style="list-style-type: none"> <li>Year Founded: 1884</li> <li>Business Activities: leading supplier of relationship management solutions</li> <li>Business Label: information (security) services, Cloud computing, AI and internet of things</li> <li>Core Businesses: supply services to clients in retail, finance, telecommunications, manufacturing, transport and security, aiming to build for clients a bridge between digital and physical operations, helping clients to have instant communication with their clients, and to simplify operations.</li> <li>Core Products: Aloha, Silver, SelfServe ATMs, Optic, etc.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 20 December 1996</li> <li>Listed Exchange: New York Stock Exchange</li> <li>Securities Code: NYSE: NCR</li> <li>Current Market Capitalisation: USD 4.25 Billion</li> <li>Major Institution Investors: Blackstone Group, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase



## PARIS FinTech Start-ups are Faced with Multiple Opportunities

Paris, located in northern central France, is its capital and largest city as well as the political, economic, cultural and commercial capital of France. It is also one of the global Top 5 metropolitan cities.

Paris's FinTech developments mainly benefit from its solid financial industry foundation as a European financial centre; and its world third ranking in the City's Comprehensive Research Capacity of Research Institutions and Famous Universities list. It has more than 70 specialist tertiary education institutions (more than half of France's total), including The Institut de France, The University of Paris, École Polytechnique, and 13 Universities.

### 5.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	1	11
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	70.6	9
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	8	11
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	10.6	17
	Digitisation of the Financial Sector	-	23
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	29.0	51
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	3
	FinTech Support Level (100 pts)	64.9	53
	FinTech Regulatory Capability (100 pts)	75.7	31
Leading FinTech Companies	NCR Corporation, Greensky, Kabbage, Prime Revenue, PowerPlan		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.


Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 5.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>Relatively Balanced FinTech Industry</b></p> <ul style="list-style-type: none"> <li>It has one listed FinTech Company Ingenico.</li> <li>It has eight highly capitalised unlisted FinTech companies, including Baobab Group, raised a total of USD 1.06 Billion in funding.</li> <li>FinTech subsectors are relatively evenly distributed, of which, there are slightly more third-party payment companies.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>Slower Growth of the Percentage of FinTech Consumers in the Population</b></p> <ul style="list-style-type: none"> <li>The percentage of FinTech consumers in the population was 29.0%, almost no growth from the 28.9% in 2018, very slow growth.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>One of Europe's Financial Centres</b></p> <ul style="list-style-type: none"> <li>Market Capitalisation of Global Top 200 Finance Companies reached USD 138.13 Billion (ranked 13<sup>th</sup> globally), it is one of the most important financial centres in Europe, even in the world.</li> <li>Brexit pushes relevant industry factors to move to Paris, some financial institutions moved out of London, and the head office of the European Banking Authority also moved from London to Paris.</li> </ul> <p><b>City's Comprehensive Research Capacity of Research Institutions and Famous Universities Ranked 3<sup>rd</sup> in the World</b></p> <ul style="list-style-type: none"> <li>It has more than 70 specialist tertiary education institutions (more than half of France's total) and 13 Universities including The Institut de France, The University of Paris, The French National Centre for Scientific Research, etc.</li> </ul> <p><b>Not much Specific Support for FinTech but Supporting Small and Micro Business Development</b></p> <ul style="list-style-type: none"> <li>The government supports the development of small and micro businesses: almost every year, it issues fundraising support policies, the government agreed to a 50% tax discount for small and micro business investments by high net wealth individuals, and the discount could be over five years. Additionally, the government provides free workspaces and unconditional government subsidies for those SMEs and micro businesses that meet certain criteria.</li> <li>Financial regulation: the European Securities and Markets Authority (ESMA) has budgeted over EUR 1 Million for the purposes of FinTech and cryptoassets regulation.</li> </ul>

## 5.3 FinTech Company Case Studies

### Ingenico

	<ul style="list-style-type: none"> <li>Year Founded: 1980</li> <li>Company Label: global leader in seamless payment</li> <li>Business Activities: third party payment, information (securities) services, internet of things</li> <li>Core Businesses: working to provide clients with secure payment clearing technology, its traditional business is to produce POS payment terminals, other businesses include supplying payment software and other merchant focused software.</li> <li>Core Products: Ingenico ePayments, ePOS, etc.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Year: 1985</li> <li>Listed Exchange: Euronext (Paris Stock Exchange before merger)</li> <li>Securities Code: EPA:ING</li> <li>Current Market Capitalisation: EUR 6.1 Billion</li> <li>Major Institution Investors: BlackRock, and Allianz Global, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase



## GUANGZHOU Government Drives Development, Consumer Experience Benefits People's Livelihoods

Guangzhou, situated in southern China, is one of China's major cities, an international commercial centre and comprehensive port and transportation hub. It is a hub city in the belt and road initiative that connects to the Guangdong-Hong Kong-Macao Greater Bay Area and the Pan-Pearl River Delta Region (PPRD).

The GFHI ranks the city as 14<sup>th</sup> on the list, two places higher than that of 2018. Its world-class FinTech consumer experience can be seen by FinTech consumers accounting for 87.3% of the population, its consumer experience ranked third in the world, just behind Hangzhou and Shenzhen. Its FinTech industry development trend is slightly less optimistic, industry ranking fell four places from 2018 levels, but the government has provided support to the industry through different means; at the same time, it began Regtech collaboration with Tencent, these will all bring power to drive FinTech industry development.

### 6.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	1	11
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	4.0	17
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	1	32
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	2.1	34
	Digitisation of the Financial Sector	-	22
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	87.3	3
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	20
	FinTech Support Level (100 pts)	87.4	9
	FinTech Regulatory Capability (100 pts)	75.2	35
Leading FinTech Companies	PUYI INC., Guangzhou HeLiBao Payment Technology		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 6.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>Industry Development Trend is Slightly less Optimistic</b></p> <ul style="list-style-type: none"> <li>Industry ranking fell four places from 2018.</li> <li>It has listed FinTech company PUYI INC.</li> <li>It has highly capitalised unlisted companies including Guangzhou HeLiBao Payment Technology, etc, raising a total of USD 210 Million.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>Percentage of FinTech Consumers in the Population Remains at 3<sup>rd</sup> in the World</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 87.3% of the population, ranked third globally, just behind Hangzhou and Shenzhen.</li> <li>It implements a resident convenience mobile payment initiative, actively promoting the comprehensive adoption of mobile payment by government services networks, speeding up transforming payment to mobile terminals, its government services and transport mobile payments servicing city network is the largest in China.</li> <li>117 hospitals have enabled medical social insurance mobile payments, FinTech has solved people’s livelihood issues.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>Policy Support Ranks Ninth Globally</b></p> <ul style="list-style-type: none"> <li><i>The Implementation Opinion for Guangzhou to Promote FinTech Innovation Development</i> issued in 2018 enable the building of a FinTech model special to Guangzhou.</li> <li>Established a Guangzhou Municipality FinTech Comprehensive Services Centre and building a “one-stop-shop” FinTech services platform.</li> <li>Guangzhou Science and Technology Finance Group Co., Ltd was formally unveiled and began operation, it is predicted that by 2024, it will achieve asset scale of over RMB 20 Billion.</li> </ul> <p><b>Public Private Collaboration Promotes Regtech Developments</b></p> <ul style="list-style-type: none"> <li>The Guangzhou Finance Bureau signed a strategic framework agreement with Tencent regarding Regtech, the two parties will collaborate to optimise a regional big data financial security warning platform.</li> </ul>

## 6.3 FinTech Company Case Studies

### Guangzhou HeLiBao Payment Technology

	<ul style="list-style-type: none"> <li>Year Founded: July 2013</li> <li>Company Label: payment technology empowered platform (T2B2C)</li> <li>Business Activities: third party payment</li> <li>Core Businesses: it is licensed for cross-border RMB activities, it is one of China’s leading third-party payment organisations, covering online payment, mobile payment, and bankcard clearance services (covering the whole of China)</li> <li>Core Products: Xinfubao, Lidaitong, etc.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: Mergers and Acquisition</li> <li>Cumulated Total Funds Raised: RMB 1.4 Billion</li> <li>Major Institutional Investors: Rendong Holdings, China Zheshang Bank, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase



## HONG KONG



15

GFHI Total Ranking

Industry Ranking

10

Consumer Experience Ranking

36

Ecosystem Ranking

20

## HONG KONG Economic Environment Impacted on Benefiting from its Advantages

Hong Kong, located at China's south and east of the Pearl River Estuary, it is a hub city in the Guangdong-Hong Kong-Macao Greater Bay Area. As an international financial centre, it is one party in the New York-London-Hong Kong triumvirate, it is also an important international trade and port centre and innovative technology centre.

Hong Kong's FinTech development has generally slowed down, its GFHI total ranking fell five places from 2018, the significant drop in the FinTech ecosystem score is the major impact factor. Social unrest played a role to negatively impact on Hong Kong's FinTech policy support levels, regulatory capability, and its City's Comprehensive Research Capacity of Research Institutions and Famous Universities, etc, leading to its ecosystem ranking falling seven places to rank 20<sup>th</sup> globally.

### 7.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	1	11
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	11.6	15
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	7	13
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	51.5	7
	Digitisation of the Financial Sector	-	13
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	40.8	36
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	16
	FinTech Support Level (100 pts)	72.5	38
	FinTech Regulatory Capability (100 pts)	71.4	43
Leading FinTech Companies	Futu Securities International, Block.One, WeLab, Bitcoin2Gen		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 7.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>FinTech Industry Ranking is Unchanged</b></p> <ul style="list-style-type: none"> <li>FinTech Industry ranked tenth globally, remaining the same from 2018.</li> <li>Its listed FinTech company Futu Securities International is the first Chinese internet security stock to be listed on an overseas securities exchange.</li> <li>It has seven highly capitalised unlisted FinTech companies, total funds raised is ranked No.7 in the world, average funds raised is double that of the global average.</li> </ul> <p><b>Benefiting from its Advantages as an International Financial Centre, Promoting the Digital Transformation of its Financial Sector</b></p> <ul style="list-style-type: none"> <li>In May 2018, Hong Kong Monetary Authority issued <i>Licensing of Virtual Banks</i>, at the time of writing, it has issued 12 virtual bank licenses.</li> <li>The Hong Kong Monetary Authority announced that it will develop a framework for an open application programming interface (API) for the banking sector and will enable the API functions in four stages.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>The Percentage of FinTech Consumers in the Population is Far Below Chinese Mainland Cities</b></p> <ul style="list-style-type: none"> <li>FinTech consumers only account for 40.8% of the population, although it grew 5.7 percentage points from the 35.1% in 2018, it is still far below the levels in mainland China (FinTech consumers on average accounted for 78.3% in mainland Chinese cities).</li> </ul> <p><b>The Government Invest to Support Online Payments</b></p> <ul style="list-style-type: none"> <li>The Hong Kong Monetary Authority brought out a fast clearing system (The Faster Payment System) and opened it to all banks and licensed payment companies, providing an instant 24/7 clearance service between banks and between operation networks.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>FinTech Ecosystem Rankings has taken a Significant fall of seven Places</b></p> <ul style="list-style-type: none"> <li>Social unrest played a role to negatively impact on Hong Kong’s FinTech policy support levels, regulatory capability, and its City’s Comprehensive Research Capacity of Research Institutions and Famous Universities, etc, leading to its ecosystem ranking falling seven places to rank 20<sup>th</sup> globally.</li> </ul> <p><b>International Financial Centre</b></p> <ul style="list-style-type: none"> <li>Its market capitalisation of Global Top 200 Finance Companies ranked tenth in the world, it has many financial giants, such as AIA Group Limited, Hang Seng Bank, etc, and Hong Kong Exchanges and Clearing – the sixth largest securities exchange in the world.</li> </ul> <p><b>Its FinTech Regulatory Capabilities have a Relative Advantage over Mainland Chinese Cities</b></p> <ul style="list-style-type: none"> <li>Its FinTech Regulatory Sandbox upgraded from 1.0 to 2.0, it now has added a FinTech regulatory chatroom and other facilities.</li> </ul>

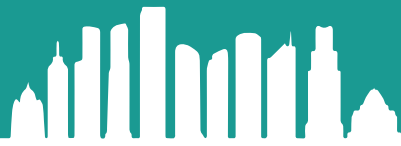
## 7.3 FinTech Company Case Studies

### Futu Securities International

	<ul style="list-style-type: none"> <li>Year Founded: 2012</li> <li>Company Label: a licensed operator recognised by the Hong Kong Securities and Futures Commission; it is a localised brokerage platform</li> <li>Business Activities: online securities, smart investment consulting</li> <li>Core Businesses: an online securities brokerage provider, it mainly provides investors with American and Hong Kong securities brokerage and securities related account management services.</li> <li>Core Products: Futu Niuniu</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: IPO</li> <li>Listing Date: 8 March 2019</li> <li>Listed Exchange: Nasdaq</li> <li>Securities Code: NASDAQ:FHL</li> <li>Current Market Capitalisation: USD 1.18 Billio</li> <li>Major Institution Investors: Tencent Holdings, Matrix Partners, Sequoia Capital, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase

## MELBOURNE



16

GFHI Total Ranking

Industry Ranking

19

Consumer Experience Ranking

28

Ecosystem Ranking

15

## MELBOURNE Most Improved in the World, Due to Fast Expansion of the Industry

Melbourne, located in Australia's southeast, is the capital of the Australian state of Victoria and the second most populous city in the country. It is Australia's cultural and industrial centre and voted as the most liveable city in the world for seven consecutive years.

FinTech in Melbourne is exhibiting strong growth, the city is ranked 13<sup>th</sup> globally in the GFHI total rankings, moved up 17 places from 2018. The reason for this improvement is that its FinTech industry has grown materially, moved up 23 places in that ranking. Relying on a good FinTech ecosystem, it nurtured the development of the listed FinTech company AfterPay Touch, and some high quality highly capitalised unlisted FinTech companies, including Judo Bank.

### 8.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	1	11
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	58.6	12
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	1	32
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	8.3	19
	Digitisation of the Financial Sector	-	15
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	53.6	28
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	9
	FinTech Support Level (100 pts)	76.5	26
	FinTech Regulatory Capability (100 pts)	85.4	7
Leading FinTech Companies	AfterPay Touch, Judo Bank		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.


Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 8.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>The FinTech industry experienced significant improvements, rising 23 place in ranking</b></p> <ul style="list-style-type: none"> <li>Listed company AfterPay Touch received market approval, where its market capitalisation materially increased, and Judo Bank recently raised USD 400 Million.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>FinTech Consumer Experience Significantly Improved</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 53.6% of the population, up 14.8 percentage points from the 38.8% in 2018.</li> </ul> <p><b>FinTech Application Scenario Steadily Broadened</b></p> <ul style="list-style-type: none"> <li>Promoting mobile payment for public transport to replace physical Myki Cards</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>The City has Strong Research Capacity</b></p> <ul style="list-style-type: none"> <li>It ranks ninth in City’s Comprehensive Research Capacity of Research Institutions and Famous Universities, it has famous universities such as Melbourne University, Monash University and RMIT.</li> </ul> <p><b>Establishing Specialised Regulatory Departments and Utilising Regtech to Improve Efficiency</b></p> <ul style="list-style-type: none"> <li>The Australian Senate Established a Select Committee on Financial Technology and Regulatory Technology, it plans to improve compliance and regulation through AI.</li> </ul> <p><b>Host International Conferences</b></p> <ul style="list-style-type: none"> <li>Continue to Host the Intersekt, Australia’s leading FinTech summit, building an industry exchange platform.</li> </ul>

## 8.3 FinTech Company Case Studies

### Judo Bank

	<ul style="list-style-type: none"> <li>Year Founded: 2017</li> <li>Company Label: Australia’s first online bank for small and medium enterprises</li> <li>Business Activities: online bank</li> <li>Core Businesses: providing small and medium enterprise clients with flexible business loans, low value loans, plant and equipment loans, financing leases and housing mortgages</li> <li>Core Products and Services: business loans, low value loans, plant and equipment loans, financing leases, SMSF term deposits, business term deposits, etc.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: Series B</li> <li>Estimated Current Capitalisation: nearly USD 2 Billion</li> <li>Cumulated Total Funds Raised: approximately USD 830 Million</li> <li>Major Institutional Investors: Bain Capital Credit, Tikehau Capital, Abu Dhabi Capital Group, OPTrust, Ironbridge, SPF Investment Management, Credit Suisse, Goldman Sachs, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase



## SEATTLE Technology Supports High Quality Industry Development

Seattle, located on the west coast of the US, is the largest city in the state of Washington. Leading industries in Seattle are aerospace, computer software, biotechnology, genetic engineering, remote medical treatment and environmental engineering.

FinTech industry developments in Seattle mainly benefit from its significant ecosystem advantages, especially where its technology industry foundation ranks No. 1 globally. Its total Market Capitalisation of Global Top 200 Technology Companies reaches USD 906.65 Billion, world famous technology giants Microsoft, Amazon, and America's third largest telecommunication company T-mobile are headquartered here. Additionally, Seattle has the largest talent market in the US, closely behind San Francisco, these factors all provide great support to its FinTech industry developments.

### 9.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of listed FinTech Companies	1	11
	Total Market Capitalisation of Listed FinTech Companies (USD100 Million)	56.5	13
	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	3	25
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	3.6	31
	Digitisation of the Financial Sector	-	25
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	42.5	33
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	19
	FinTech Support Level (100 pts)	82.5	15
	FinTech Regulatory Capability (100 pts)	82.3	12
Leading FinTech Companies	Avalara, Remitly, Tango Card		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.


Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 9.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>FinTech Companies take the Small but High-Quality Route</b></p> <ul style="list-style-type: none"> <li>It has three highly capitalised unlisted FinTech companies, including Remitly, its average fundraising is only 1/3 that of the global average.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>Slower Growth of the Percentage of FinTech Consumers in the Population</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 42.5% of the population, ranking 3<sup>rd</sup> in the US, only rose 1 percentage point from 2018, reflecting slow growth.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>World Leading Internet and Information Technology</b></p> <ul style="list-style-type: none"> <li>Its Market Capitalisation of Global Top 200 Technology Companies ranks first globally, it has world famous companies Boeing, Microsoft, Amazon, etc.</li> </ul> <p><b>Its Cybersecurity Ranks Second in the World</b></p> <ul style="list-style-type: none"> <li>The government's cybersecurity and risk teams work to protect the confidentiality, completeness and usability of all systems, networks, application programmes and data.</li> </ul> <p><b>Significant Advantages in Research and Talent</b></p> <ul style="list-style-type: none"> <li>It is the second largest talent market in the US, coming behind just San Francisco.</li> <li>The computer science department of the globally top ranked research university – Washington University is ranked tenth in the US, and 90% of its graduates are staying in Seattle.</li> </ul>

## 9.3 FinTech Company Case Studies

### Remitly

	<ul style="list-style-type: none"> <li>Year Founded: 2011</li> <li>Company Label: largest independent mobile transmittance company in the US</li> <li>Business Activities: Third Party Payments</li> <li>Core Businesses: cross border mobile payment/transmittance, through newest mobile technology and equipment, assisting individuals (many are migrants) to transmit to developing or emerging markets, allowing them to avoid the traditional transmittance process of filling out forms, codes, agency, time and money consuming, making the transfer process quicker, simpler, more transparent, with lower cost.</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: Series E</li> <li>Estimated Current Capitalisation: Approximately USD 1 Billion</li> <li>Cumulated Total Funds Raised: Approximately USD 420 Million</li> <li>Major Institutional Investors: Bezos Expeditions, Threshold Ventures, Generation Investment Management, Stripes, Prudential Financial, Silicon Valley Bank, Goldman Sach, Barclays, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase

## STOCKHOLM



18

GFHI Total Ranking

Industry Ranking

20

Consumer Experience Ranking

27

Ecosystem Ranking

18

## STOCKHOLM

Internet is Highly Popularised, Consumer Experience has Effectively Improved

Stockholm is located on Sweden's east coast and is the capital of Sweden, many banks headquarter here. Its industrial sector is mature and is also home to some of Europe's top ranking universities and was named as the most innovative city in Europe.

Stockholm's FinTech industry, consumer experience and ecosystem developments are relatively balanced, respectively ranked 20<sup>th</sup>, 27<sup>th</sup> and 18<sup>th</sup> in the world. In relation to the industry, it has five highly capitalised unlisted FinTech companies, total funds raised is ranked globally 12<sup>th</sup>. In relation to consumer experience, percentage of FinTech consumers in the population reaches 54%, above the European city average of 49.9% by 4.1 percentage points. In relation to ecosystem, Stockholm has well-developed digital infrastructure, internet popularisation ranks first globally; and the government promotes FinTech developments through building a variety of technology parks and FinTech centres.

### 10.1 Data Files

	Indicator	Score	Global Ranking
FinTech Industry	Number of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	5	19
	Total Market Capitalisation of Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million	21.8	12
	Digitisation of the Financial Sector	-	17
FinTech Consumer Experience	Percentage of FinTech Consumers in the Population (%)	54.0	27
FinTech Ecosystem	City's Comprehensive Research Capacity of Research Institutions and Famous Universities	-	17
	FinTech Support Level (100 pts)	76.0	30
	FinTech Regulatory Capability (100 pts)	76.2	28
Leading FinTech Companies	Klarna, Lendify, iZettle		

Note: The number of Listed FinTech Companies and Unlisted FinTech Companies with Cumulated Venture Capital Exceeding USD50 Million and their market capitalisation and capital raising related data are as at October 2019.

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University, Hangzhou Moses Technology Co., Ltd., Crunchbase, Tianyancha, Bloomberg, and Investing.com

## 10.2 Core Features

<p><b>FinTech Industry</b></p>	<p><b>The Average Fundraising in the FinTech Industry is Relatively High</b></p> <ul style="list-style-type: none"> <li>It has five highly capitalised unlisted FinTech companies, including Klarna and iZettle, raised USD 2.18 Billion in total and ranked 12<sup>th</sup> globally, exceeding Singapore, where there are eleven highly capitalised unlisted FinTech companies.</li> </ul> <p><b>Traditional Banks Actively Group Together to Speed up Their Digital Transformation</b></p> <ul style="list-style-type: none"> <li>Six banks from different regions collaborate to bring out the mobile payment system Swish, currently 3.7 million Swedes (nearly 40%) are using it.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>Percentage of FinTech Consumers in the Population more than Doubled 2018 Levels</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 54% of the population, more than double the 25.4% in 2018.</li> <li>Domestic third-party payment companies engage in cross border collaboration, continue to improve the people’s online payment experience.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>Digital Infrastructure is Well-developed, Internet Popularisation is first in the World</b></p> <ul style="list-style-type: none"> <li>It has 1.2 Million km of optic fibre network, covering every company and every dwelling; achieving 100% cable and broadband Wi-Fi coverage.</li> <li>The internet of things, especially enterprise software as a service (SaaS) has become one of the Top 10 investment areas, accounting for 54% of total investment in the Nordics.</li> </ul> <p><b>The Government is Building a Variety of Technology Parks and FinTech Centres</b></p> <ul style="list-style-type: none"> <li>It has the renowned “Swedish Silicon Valley” – Kista Technology Park, attracting the likes of Microsoft, Intel and Motorola.</li> <li>Established the Stockholm FinTech Centre.</li> </ul>

## 10.3 FinTech Company Case Studies

### Klarna

<p><b>Klarna.</b></p>	<ul style="list-style-type: none"> <li>Year Founded: 2005</li> <li>Company Label: the largest private FinTech company in Europe</li> <li>Business Activities: third party payment, consumer finance</li> <li>Core Businesses: supplier of e-commerce platform payment solutions</li> <li>Core Products: direct payment, lay-by and pay by instalment plans</li> </ul>
<p><b>Fundraising</b></p>	<ul style="list-style-type: none"> <li>Most Recent Funding Round: strategic fundraising</li> <li>Estimated Current Capitalisation: approximately USD 5.5 Billion</li> <li>Cumulated Total Funds Raised: approximately USD 1.2 Billion</li> <li>Major Institutional Investors: Merian Chrysalis, IVP, IPGL, HMI Capital, Dragoneer Investment Group, Commonwealth Bank of Australia, BlackRock, etc.</li> </ul>

Source: Company Official Website, Media and Crunchbase





## NANJING Industry Optimisation, Ecosystem Still the Key

Nanjing, located in the Yangtze River Delta in China, is an important national gateway city in China's central-west development plan involving support from the Yangtze River Delta, it is also one of China's major research and education bases and comprehensive transport hubs.

Nanjing's FinTech development is signified by a monopolistic industry that is driven by consumer experience. In terms of industry, among the highly capitalised unlisted companies, Suning Finance itself captured 95% of the funds that were raised, dominating the sector. In terms of consumer experience, the percentage of FinTech consumers in Nanjing reached 76.8%, ranked global sixth, making this the competitive advantage in its FinTech developments. Further, although Nanjing's FinTech ecosystem does not rank highly, it has a good financial industry foundation, many high-quality universities and government policy support, giving it large room to optimise its ecosystem.

FinTech Representative Companies: Suning Finance, FuRongBao

### Core Features

<p><b>FinTech Industry</b></p>	<p><b>FinTech Industry Dominated by One Large Company</b></p> <ul style="list-style-type: none"> <li>among the highly capitalised unlisted companies, Suning Finance itself captured 95% of the funds that were raised, materially dominating the sector.</li> </ul> <p><b>The financial sector actively seek collaboration with FinTech companies to achieve digital transformation</b></p> <ul style="list-style-type: none"> <li>The Bank of Nanjing officially established its digital banking management division in 2018 and collaborated with Alibaba Cloud and Ant Financial to create China's first Cloud-based internet finance platform "XinCloud +".</li> <li>The Bank of Jiangsu actively adopts FinTech to build a smart bank, it signed cooperation agreements with 24 internet companies, including Alibaba, Tencent, Baidu and JD.</li> </ul>
<p><b>FinTech Experience</b></p>	<p><b>Comprehensive FinTech Coverage</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 76.8% of the population, ranked sixth globally.</li> <li>Public services departments opened online payment "windows" and public transport offers online mobile payment options.</li> <li>Nanjing's mobile payment services ranked Top 10 in the <i>China Mobile Payment Index 2019</i> issued by The State Information Center (the Administration Center of China's E-government Network).</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>The city performs well in the City's Comprehensive Research Capacity of Research Institutions and Famous Universities rankings, ranks global 13<sup>th</sup> and third in China</b></p> <ul style="list-style-type: none"> <li>It has 53 Universities, including Nanjing University, Southeast University and Nanjing University of Science And Technology, out of which, 12 were selected for development as a "double first class" university in China, coming just behind Beijing (with 29) and Shanghai (with 13).</li> </ul> <p><b>Supportive Government</b></p> <ul style="list-style-type: none"> <li>FinTech policy support is ranked tenth globally.</li> <li>The Nanjing Jiangbei New Area issued the <i>Pilot Opinions on Speeding-up the Building of a Yangtze River New Finance Hub</i> and established an RMB 10 Billion new finance development fund.</li> <li>The Nanjing government, collaborated with Nanjing University, the Bank of Jiangsu, the Nanjing Branch of the People's Bank of China, and the Digital Currency Research Institute of the People's Bank of China, to build a "Nanjing FinTech Research and Innovation Centre" aka "the Digital Currency Research Institute of the People's Bank of China (Nanjing) Application Demonstration Base".</li> </ul>



## MUMBAI Consumers are Active, there is Great Market Potential

Mumbai, the capital city of the Indian state of Maharashtra, is the largest port and transport hub in India and is known as the “western gate” of India. It is one of the most populous cities in India, and in the world.

Compared to 2018, Mumbai’s GFHI total ranking moved up six places, moving into the global Top 20 for the first time. On the one hand, Mumbai’s FinTech industry is experiencing fast growth, it has six highly capitalised unlisted FinTech companies, including Freecharge and InCred, ranking 16th globally in number. On the other hand, FinTech consumer experience is Mumbai’s long straw, relying on its huge population base and excellent demographic structure (average age is only 27), its FinTech consumers account for 64% of the population, ranking 12<sup>th</sup> globally, and first in Asia other than Chinese cities.

FinTech Representative Companies: Freecharge, InCred, Acko

### Core Features

<b>FinTech Industry</b>	<p><b>Market Driven Business Model are Relatively More Developed</b></p> <ul style="list-style-type: none"> <li>Its FinTech industry ranking moved up four places from 2018, the FinTech industry is mainly consisting of market driven business models, such as marketplace lending, third party payment and consumer finance, etc.</li> </ul> <p><b>The Financial Sector is Speeding-up Digital Transformation</b></p> <ul style="list-style-type: none"> <li>Traditional financial institutions are actively engaged in digital transformation, for example, the State Bank of India brought out a general services and financial services platform, YONO, and the HDFC Bank brought out the mobile payment application UltraCash, etc.</li> </ul>
<b>FinTech Consumer Experience</b>	<p><b>It has the best FinTech Consumer Experience outside of China</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 64% of the population, ranked 12<sup>th</sup> in the world, just behind Chinese cities in Asia.</li> </ul>
<b>FinTech Ecosystem</b>	<p><b>India’s Largest Financial Centre</b></p> <ul style="list-style-type: none"> <li>It has large financial institutions such as HDFC Bank, Kotak Mahindra Bank, ICICI Bank, and State Bank of India, and ranks seventh in Market Capitalisation of Global Top 200 Finance Companies, moved up six places from 2018.</li> </ul>



**ZURICH**

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**21**

**GFHI Total Ranking**

Industry Ranking	<b>17</b>
Consumer Experience Ranking	<b>19</b>
Ecosystem Ranking	<b>28</b>

## ZURICH Global Innovation Leader, Targeting to be a Blockchain Hub

Zurich, located in the north-east of Switzerland, it is Switzerland’s political, economic, cultural and transport centre, continuously voted one of the world’s most liveable cities by the United Nations.

Zurich ranks 21<sup>st</sup> globally in the GFHI total rankings, moved up eight places from 2018, there is great growth potential. In terms of industry, Zurich assembles many blockchain and digital currency leading companies, Internet banks and online software service providers. In terms of consumer experience, its FinTech consumers increased by 25.7% in the population. In terms of ecosystem, Zurich is a world famous international financial centre, cumulated Market Capitalisation of Global Top 200 Finance Companies reached USD 254.48 Billion, ranking ninth globally. Additionally, Zurich has strong innovative capabilities, and its government supports new technology innovations in the financial sector, especially in the development of blockchain and digital currency, related regulatory capacities is also at the world’s forefront, which means it has a good ecosystem for FinTech to development.

FinTech Representative Companies: CREALOGIX, Avaloq, Tradeplus24, Numbrs

### Core Features

<b>FinTech Industry</b>	<p><b>Working Towards Building a Global Blockchain Hub, Internet Banking and Banking Software are also Relatively Mature Industries</b></p> <ul style="list-style-type: none"> <li>▪ Working towards building a global blockchain hub, it has many world leading digital currency start-ups or organisations, including Xapo, Metaco, and Lykke etc.</li> <li>▪ It has Internet banks such as CREALOGIX, and excellent banking software providers such as Avaloq and Numbrs.</li> </ul> <p><b>Relying on its Mature Financial Sector to Develop FinTech</b></p> <ul style="list-style-type: none"> <li>▪ For example, UBS has established research labs around the world for FinTech R&amp;D and invested in FinTech start-ups.</li> </ul>
<b>FinTech Consumer Experience</b>	<p><b>FinTech Consumer Experience Improved Significantly</b></p> <ul style="list-style-type: none"> <li>▪ Percentage of FinTech Consumers in the Population Increases from 30.9% to 56.6%.</li> <li>▪ SIX Payment Services, Switzerland’s largest bankcard clearance organisation, through its parent company Worldline achieved collaboration with WeChat in China, and brought WeChat Pay to merchants and tourist attractions in Switzerland.</li> </ul>
<b>FinTech Ecosystem</b>	<p><b>International Financial Centre</b></p> <ul style="list-style-type: none"> <li>▪ It has world famous financial institutions including UBS and Credit Suisse, its cumulative Market Capitalisation of Global Top 200 Finance Companies reached USD 245.48 Million, ranks ninth globally.</li> </ul> <p><b>World Leading Innovation Nation</b></p> <ul style="list-style-type: none"> <li>▪ Switzerland has topped the rankings for nine consecutive years in the Global Innovation Index published by the World Intellectual Property Organisation (WIPO).</li> </ul> <p><b>The Government is Relatively Supportive of Blockchain and digital currency Developments</b></p> <ul style="list-style-type: none"> <li>▪ The Swiss Financial Market Supervisory Authority (FINMA) is supportive of technology innovations in the financial sector and is open to blockchain and digital currency.</li> </ul> <p><b>Leads Globally in Blockchain Regulation</b></p> <ul style="list-style-type: none"> <li>▪ While FINMA supports blockchain developments, it also pays attention to their risks. It issued in September 2017 the <i>Initial Coin Offering (ICO) Regulatory Guideline</i>, and updated that Guideline in February 2018, to further clarify the typology of crypto-assets, its legal framework, etc.</li> <li>▪ In relation to blockchain and digital currency, FINMA maintains a “case-by-case” approach, whether a project requires regulation is decided based on actual circumstances. It then lowers its regulatory cost through charging a fee to projects that consults it for regulatory compliance purposes.</li> </ul>



**BOSTON** The Industry is Facing a Consumer Experience Bottleneck, its Research Capacity may be the Breakthrough Point.

Boston, located in the north-east of the United States, is a major high-tech innovation centre, its largest medical research centre, and the second largest biotechnology centre in the US.

Boston’s GFHI total ranking fell eight places from 2018, the development of its FinTech industry and consumer experience are relatively slow, falling ten and eleven places respectively in global rankings. FinTech ecosystem, however, is its long straw, especially that it ranks sixth in the City’s Comprehensive Research Capacity of Research Institutions and Famous Universities ranking. It has world leading Universities such as Harvard and MIT, providing the future development of its FinTech industry with research and talent.

FinTech Representative Companies: Toast, Circle, and Flywire

**Core Features**

<b>FinTech Industry</b>	<p><b>FinTech Industry Develops Slowly</b></p> <ul style="list-style-type: none"> <li>Its FinTech industry ranking fell ten places. It has four highly capitalised unlisted FinTech companies; total fundraising is close to USD 1 Billion.</li> </ul>
<b>FinTech Consumer Experience</b>	<p><b>Slow Growth in the Percentage of FinTech Consumers in the Population</b></p> <ul style="list-style-type: none"> <li>FinTech consumers in the population increased 3.5 percentage points (to 37.9%) from 2018, under fierce global competition, its ranking fell eleven places.</li> </ul>
<b>FinTech Ecosystem</b>	<p><b>Venture Capital Firms Assemble</b></p> <ul style="list-style-type: none"> <li>It assembled world famous venture capital investors, such as IDG Capital, and MatrixPartners, and investment is active.</li> </ul> <p><b>Ranks sixth in City’s Comprehensive Research Capacity of Research Institutions and Famous Universities</b></p> <ul style="list-style-type: none"> <li>Assembling higher education institutions, it has world famous Universities, including Harvard and MIT.</li> </ul>

SEOUL

23

GFHI Total Ranking

Industry Ranking	25
Consumer Experience Ranking	30
Ecosystem Ranking	16

## SEOUL Well-developed Digital Infrastructure, Ecosystem Pushes Development

Seoul, located in the middle of the Korean Peninsula, is its political, economic, science and technology, education and cultural centre.

Seoul’s GFHI total ranking is 23<sup>rd</sup> globally. Specifically, its FinTech ecosystem is the bright spot, ranking 16<sup>th</sup> in the world. On the one hand, Seoul is highly digitised, digital infrastructure ranks second globally, its internet popularisation level score comes just behind Stockholm by 0.5 point. On the other hand, Seoul continues to optimise its regulatory environment for FinTech, its regulatory capabilities rank sixth globally, the government implements a regulatory sandbox and issued laws and regulations such as the *FinTech Special Support Act*, in order to maintain stability of the FinTech innovation environment.

FinTech Representative Companies: Bithumb, Blockchain Exchange and Alliance Toss

### Core Features

FinTech Industry	<p><b>Blockchain Supports Industry Development, it has a Mature digital currency Market</b></p> <ul style="list-style-type: none"> <li>▪ It has five highly capitalised unlisted FinTech companies, with total fundraising of USD 790 Million.</li> <li>▪ Of these highly capitalised unlisted FinTech companies, the main businesses for Bithumb, Blockchain Exchange Alliance and EOS are blockchain technology R&amp;D and digital currency exchange, and Bithumb has become one of the world’s largest digital currency exchanges.</li> </ul>
FinTech Consumer Experience	<p><b>FinTech Consumer Experience Materially Improved</b></p> <ul style="list-style-type: none"> <li>▪ Percentage of FinTech consumers in the population grew by 18.9 percentage points to 51.2%.</li> </ul>
FinTech Ecosystem	<p><b>Ranks Global Second in Digital Infrastructure</b></p> <ul style="list-style-type: none"> <li>▪ Extremely high levels of digitisation, its digital infrastructure ranking only comes behind that of London, and its Internet adoption rate only comes behind Stockholm by 0.5 points.</li> <li>▪ It plans to achieve full public WIFI coverage by 2022</li> </ul> <p><b>It Ranks eighth in City’s Comprehensive Research Capacity of Research Institutions and Famous Universities</b></p> <ul style="list-style-type: none"> <li>▪ Moving up two places from 2018. It has 34 tertiary institutions, including Seoul National University, Hanyang University and Sungkyunkwan University. It is deservedly a university city.</li> </ul> <p><b>Regulatory Policy Ranking Moved up eleven Places from 2018</b></p> <ul style="list-style-type: none"> <li>▪ Policy Support: the government founded a USD 1 Billion “Seoul New Growth Fund”, for the purpose of supporting FinTech industry developments.</li> <li>▪ Regulatory capabilities rank global sixth: the government implemented a regulatory sandbox, passed the <i>FinTech Innovation Support Special Act</i>, to provide the FinTech regulatory sandbox with a legal foundation; the government announced that it will continue to push for making laws or law amendments for the marketplace lending and the credit information industries.</li> </ul>



## TORONTO AI Supports the Financial Centre’s Technological Transformation

Toronto, located at the north-western coast of the Ontario Lake in Canada, is a world-famous international metropolis, it is also Canada’s political, economic, cultural and transport centre.

Toronto ranks 24<sup>th</sup> in the GFHI total ranking, falling one place from 2018. Specifically, like Seoul, its FinTech ecosystem is performing relatively better than FinTech industry and consumer experience, its ecosystem ranks 17<sup>th</sup> globally. On the one hand, Toronto is an international financial centre, its total Market Capitalisation of Global Top 200 Finance Companies ranks third globally, the headquarters of famous Canadian financial institutions such as the Royal Bank of Canada, Canadian Imperial Bank of Commerce, and Bank of Montreal are assembled here. On the other hand, Toronto’s FinTech regulatory capabilities ranks fourth globally, and its regulators have established FinTech labs aiming to promote FinTech innovation and development.

FinTech Representative Companies: Wealthsimple, SecureKey Technologies, and Wave Financial

### Core Features

<p><b>FinTech Industry</b></p>	<p><b>World AI Leader</b></p> <ul style="list-style-type: none"> <li>It has formed a comprehensive AI ecosystem, including more than 60 research labs, more than 600 start-ups, more than 40 incubators and many AI academic laboratories.</li> </ul> <p><b>Anchoring on its Position as an International Financial Centre, Traditional Financial Institutions Actively Seek Digital Transformation</b></p> <ul style="list-style-type: none"> <li>For example, the Royal Bank of Canada achieved collaboration with the FinTech company VersaPay, to build an Electronic Invoice Presentment and Payment Platform.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>FinTech Experience Materially Improved</b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 39.1% in the population, increased by 9.4 percentage points from 2018.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>International Financial Centre, its Financial Industry Infrastructure Ranks Global Third</b></p> <ul style="list-style-type: none"> <li>Headquarters of famous Canadian banks are located here, such as Royal Bank of Canada, Canadian Imperial Bank of Commerce, and Bank of Montreal.</li> <li>More than 90% of foreign bank branches in Canada are located in Toronto.</li> <li>Toronto Stock Exchange is now the third largest securities exchange in North America (based on transaction volume).</li> </ul> <p><b>The Government Establishes FinTech Lab</b></p> <ul style="list-style-type: none"> <li>The Office of the Superintendent of Financial Institutions has established a FinTech lab, it will rely on this platform to promote FinTech innovation and development.</li> </ul>

AMSTERDAM



25

GFHI Total Ranking

Industry Ranking

18

Consumer Experience Ranking

22

Ecosystem Ranking

36

**AMSTERDAM** Mature Payment Technologies Leading Industry Developments

Amsterdam, located in the northwest of the Netherlands, is its capital, largest city and financial and trade centre. It is a famous international metropolis, and one of Europe’s air hubs.

Amsterdam’s GFHI total ranking moved up five places from 2018, mainly benefiting from a relatively well-developed FinTech industry, its total market capitalisation of listed FinTech companies ranks third in the world, but its industry tier structure is in great need for optimisation, the top market capitalisation third party payment company Adyen accounted for most of the capitalisation, this company has at one time replaced PayPal to provide payment services to eBay.

FinTech Representative Companies: Adyen, Gemalto and Bitfury

**Core Features**

<p><b>FinTech Industry</b></p>	<p><b>Industry Tier Structure is in Great Need for Optimisation</b></p> <ul style="list-style-type: none"> <li>Although the total market capitalisation of listed FinTech companies ranked third globally, but the third-party payment company Adyen accounted for most of the capitalisation, this company has at one time replaced PayPal to provide payment services to eBay.</li> </ul> <p><b>High Level of Mobile Banking Popularisation</b></p> <ul style="list-style-type: none"> <li>It has Europe’s highest mobile banking popularisation rate and is leading in payment technologies.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>FinTech Consumer Experience Materially Improves</b></p> <ul style="list-style-type: none"> <li>Percentage of FinTech consumers almost doubled in the population from 2018, reaching 56.1%.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>Digital Infrastructure Ranks Global Third</b></p> <ul style="list-style-type: none"> <li>Internet popularisation reaches 90.9%, ranked sixth globally, providing the application and promotion of FinTech with a good foundation.</li> <li>It has the world’s largest internet exchange institution, the AMS-IX, its fibre-optics network is amongst the best, regardless of quality, speed or reliability.</li> </ul> <p><b>Regulatory Sandbox</b></p> <ul style="list-style-type: none"> <li>Implemented regulatory sandbox, providing more space for innovation in the FinTech sector.</li> </ul>

# BANGALORE



# 26

GFHI Total Ranking

Industry Ranking

21

Consumer Experience Ranking

13

Ecosystem Ranking

34

## BANGALORE The Government Provides Strategic Support for Mobile Payment

Bangalore, located in India's south, and its information technology centre, is known as "Asia's Silicon Valley". It assembles famous tertiary institutions, including Indian Institute of Science and Bangalore University, and is one of India's major centres for scientific and technological research.

Bangalore shines on FinTech consumer experience, ranking 13th based on FinTech consumers accounting for 63.9% of the population, coming just behind Mumbai, which is also an India city. Its FinTech advantages mainly come from the popularisation of mobile payment. In order to enable the implementation of its cashless transaction policies, the Indian government offers merchants who accept more than 50% of payments through online payment methods with policy support, therefore the mobile payment popularisation rate grows quickly in small value payment scenarios such as restaurants, shopping malls and hotels.

FinTech Representative Companies: PhonePe, Obopay and Capital Float

### Core Features

<p><b>FinTech Industry</b></p>	<p><b>There is a Relatively Large Number of Companies, but Average Fundraising is Below the Global Average</b></p> <ul style="list-style-type: none"> <li>It has seven highly capitalised unlisted FinTech companies, including PhonePe, Obopay, and Capital Float.</li> <li>Company sizes are relatively smaller, average fundraising is USD 120 Million, lower than the global average.</li> <li>It assembles big data companies, accounting for 40% of India's big data job market share.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>FinTech Consumer Experience Ranks Global 13<sup>th</sup></b></p> <ul style="list-style-type: none"> <li>FinTech consumers account for 63.9% of the population, ranks second in India (behind just Mumbai).</li> <li>The Indian government offers merchants who accept more than 50% of payments through online payment methods with policy support, in order to enable the implementation of its cashless transaction policies, therefore the mobile payment popularisation rate grows quickly in small value payment scenarios such as restaurants, shopping malls and hotels.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>India's Silicon Valley, it has a Good Technology Industry Foundation</b></p> <ul style="list-style-type: none"> <li>As India's information technology centre, its total Market Capitalisation of Global Top 200 Technology Companies reaches USD 70.04 Billion, ranking 15th globally.</li> <li>More than 470 Global 500 Companies established an R&amp;D centre in Bangalore. For example, Google founded its first AI lab in India, Research India in Bangalore.</li> </ul> <p><b>The Government Works towards Improving Policy and Regulation</b></p> <ul style="list-style-type: none"> <li>It implemented the "digital India" strategy and established a FinTech Steering Committee.</li> <li>Reserve Bank of India formally acknowledged digital currency and began to increase related research.</li> <li>Securities and Exchange Board of India implemented an innovations sandbox, providing FinTech companies an offline testing environment that is independent of the market.</li> </ul>



## DUBLIN



27

GFHI Total Ranking

Industry Ranking

31

Consumer Experience Ranking

21

Ecosystem Ranking

21

## DUBLIN Technology Foundations and Tax Expenditure Policies to Promote Industry Developments

Dublin, located on the eastern coast of Ireland, its capital and largest city, is the political, economic, cultural, tourism and transport centre of Ireland.

Dublin's FinTech development competitive advantage is its ecosystem, where its technology industry foundation and FinTech regulatory policies stand out. On the one hand, Dublin is the technology capital of western Europe, it has strong technology industry foundations. Its total Market Capitalisation of Global Top 200 Technology Companies is USD 152.47 Billion, ranking eighth globally; it also has the offshore headquarters or data centres of more than 200 information technology companies. On the other hand, the government clearly supports the development of blockchain and other emerging technologies and is working toward building a FinTech and blockchain ecosystem.

FinTech Representative Companies: Fenergo, Future Finance and Transfer-Mate Global Payments

### Core Features

<b>FinTech Industry</b>	<p><b>FinTech Industry Ranks Global 31<sup>st</sup></b></p> <ul style="list-style-type: none"> <li>It has three highly capitalised unlisted FinTech companies, including Fenergo and Future Finance, where Future Finance that focuses on education loans accounted for 68.2% of total fundraising.</li> </ul>
<b>FinTech Consumer Experience</b>	<p><b>Percentage of FinTech Consumers Increased 1.2 Times from 2018</b></p> <ul style="list-style-type: none"> <li>FinTech consumers already account for 56.5% of the population, increasing 1.2 times from 2018, and moved 20 places in rankings, it is now ranked global 21<sup>st</sup>.</li> </ul>
<b>FinTech Ecosystem</b>	<p><b>The Technology Centre of Western Europe</b></p> <ul style="list-style-type: none"> <li>It has a solid technology industry foundation. Its total Market Capitalisation of Global Top 200 Technology Companies is USD 152.47 Billion, ranking eighth globally.</li> <li>It has offshore headquarters or data centres of many Global Top 200 technology companies, including Google, Facebook, LinkedIn, Airbnb, Amazon and eBay.</li> </ul> <p><b>Policy Support</b></p> <ul style="list-style-type: none"> <li>It clearly supports the development of blockchain and other emerging technologies, and work towards building a FinTech and blockchain ecosystem.</li> <li>Its corporate income tax rate, at 12.5% is the lowest in western Europe, it further provides attractive tax reduction and stimulus policies for FinTech companies.</li> <li>It actively hosts summits such as the European Financial Forum and the FinTech Summit – MoneyConfto to encourage exchange.</li> </ul>

**BERLIN**



**28**

**GFHI Total Ranking**

Industry Ranking **16**

Consumer Experience Ranking **26**

Ecosystem Ranking **45**

**BERLIN** Its Start-ups Atmosphere Gave Birth to Many High-Quality Companies

Berlin, located in the northeast of Germany, its capital and largest city, is Germany's political, cultural, transport and economic centre.

Berlin's GFHI total ranking fell six places from 2018. Specifically, its FinTech industry is relatively mature, ranking 16<sup>th</sup> globally. It has nine highly capitalised unlisted FinTech companies including N26, and Raisin, total fundraising reached USD 1.71 Billion, covering multiple business models including banking, payment, lending and insurance. In contrast, comparing with cities in developed countries, or even other major cities in the world, Berlin's FinTech ecosystem is relatively weak, only ranking 45<sup>th</sup> globally. It needs to work on its ecosystem in the future.

FinTech Representative Companies: N26, Raisin and FinLeap

**Core Features**

<p><b>FinTech Industry</b></p>	<p><b>FinTech Industry Ranks Global 16<sup>th</sup>, it has Many Business Models</b></p> <ul style="list-style-type: none"> <li>It has nine highly capitalised unlisted FinTech companies including N26, and Raisin, total fundraising reached USD 1.71 Billion, covering multiple business models including banking, payment, lending and insurance. They raised a total of USD 1.71 Billion, ranking global 16<sup>th</sup> in capital raising.</li> <li>N26, headquartered in Berlin, is the FinTech unicorn in Germany with the highest market valuation, its fundraising volume accounts for 40% of total funds raised.</li> </ul>
<p><b>FinTech Consumer Experience</b></p>	<p><b>Percentage of FinTech Consumers in the Population Improved by 16.3% from 2018</b></p> <ul style="list-style-type: none"> <li>FinTech consumers already account for 54.4% of the population, ranks global 26<sup>th</sup>, improving 16.3 percentage points from 2018.</li> </ul>
<p><b>FinTech Ecosystem</b></p>	<p><b>Policy and Regulatory Capabilities are Gradually Growing</b></p> <ul style="list-style-type: none"> <li>It established a FinTech committee to focus on digital finance, in order to further FinTech industry developments.</li> <li>The Federal Financial Supervisory Authority (BaFin) created a FinTech innovation department to improve FinTech business regulation.</li> </ul> <p><b>A Good Atmosphere for Start-ups</b></p> <ul style="list-style-type: none"> <li>Of every 10,000 residents, 193 are engaging in a start-up, on average, 44,000 new companies are born every year.</li> <li>It has many start-ups incubators, including Finleap, Europe's largest FinTech incubator.</li> </ul>

## CHENGDU



29

GFHI Total Ranking

Industry Ranking

32

Consumer Experience Ranking

8

Ecosystem Ranking

30

## CHENGDU High and New Technology Base in Western China

Chengdu, located in south-eastern China, is a major city centre, high and new technology base, trade and logistics centre and comprehensive transport hub in China's west.

### Core Features

#### (1) Significant Advantages in FinTech Consumer Experience, Ranked eighth Globally

- FinTech consumers account for 74.2% of the population, ranked eighth globally, online payment adoption reaches 87.7%, people are relatively accepting towards online wealth management.
- Formally began its “coded transport” era, established a 5G government services centre, achieving immediate services for residents, and promoting smart government services.

#### (2) FinTech Policy Support Level is Ranked eighth Globally, it has Issued FinTech Specific Support Policies

- FinTech policy support scored 88.1 points, ranked eighth globally, moved up three places from 2018.
- Issued several policy documents, including *Several Policies Relating to FinTech Industry Innovation Developments*, providing guidance for policy support to FinTech companies in Chengdu.
- Continue to push for FinTech innovative projects and hosting services, constructing a FinTech extended ecosystem, implementing, actualising and put into operation a series of FinTech innovation projects such as the Jiaozi FinTech Centre, Jiaozi FinTech Dreamworks·Financial Wheat Field and the Jiaozi Finance Museum.

## SAO PAULO



# 30

GFHI Total Ranking

Industry Ranking

24

Consumer Experience Ranking

25

Ecosystem Ranking

37

## SAO PAULO the Star of South America

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São Paulo, located in the southeast of Brazil, is the capital of the São Paulo state and the largest city in Brazil. And it is also one of the most prosperous cities in South America.

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### Core Features

**(1) The Average Fundraising of its Highly Capitalised Unlisted FinTech Companies is Higher than the Global Average**

- It has four highly capitalised unlisted FinTech companies, including Creditas and Nubank, accumulating USD 1.65 Billion of total fundraising, the average fundraising of each company is higher than the global average.

**(2) The Largest Financial Centre in South America**

- As the largest financial centre in South America, São Paulo has financial institutions including Itaú Unibanco, Itausa-Investimentos Itau, and Banco Safra, its market capitalisation of Global Top 200 Finance Companies is ranked global 14<sup>th</sup>. Additionally, many foreign financial institutions have branches or subsidiaries in São Paulo.

**(3) Regulatory Sandboxes and Licensing are Implemented Together, there is Potential for Ecosystem Optimisation**

- It implements “smart city” and “broadband upgrade” initiatives, working towards 90% 4G coverage in 2020, and achieved total WIFI coverage of significant public areas.

- Brazilian regulators brought out a “regulatory sandbox” initiative, covering multiple FinTech sectors such as blockchain, crypto currency, promoting FinTech industry innovation and development.

- The Central Bank of Brazil National Monetary Council (CMN) formally began issuing marketplace lending licenses in 2018, progressing in regulating the development of the local marketplace lending sector.

## LOS ANGELES



31

GFHI Total Ranking

Industry Ranking

26

Consumer Experience Ranking

40

Ecosystem Ranking

24

## LOS ANGELES

 California's Economic Representative

Los Angeles, located in the southwest of California, is the second largest city in the US, one of America's major industry and commercial, international trade, research and education, and entertainment and sports centres.

### Core Features

**(1) It has Five Highly Capitalised Unlisted FinTech Companies; their Fundraising Levels are Similar**

- It has five highly capitalised unlisted FinTech companies, business sectors covering third party payment, crowdfunding, credit rating and AI, etc, their cumulative fundraising is USD 570 Million, and each company's fundraising level is similar.

**(2) It has Abundant Talent, and Ranks Top 10 in City's Comprehensive Research Capacity of Research Institutions and Famous Universities**

- It has famous tertiary institutions such as University of California Los Angeles, California Institute of Technology, University of Southern California, etc, and ranks tenth in City's Comprehensive Research Capacity of Research Institutions and Famous Universities.

- As many as 10,000 students graduate annually from engineering.

**(3) Active Start-up Scene, and the Special "Silicon Beach" Model Stands Tall**

- Los Angeles is the third largest start-ups centre in the US, closely behind San Francisco and New York, its development model is known as the "Silicon Beach" model. Many start-ups, venture capital firms, incubators flock to Los Angeles, thereby continue to optimise its start-ups ecosystem.



32

GFHI Total Ranking

Industry Ranking

35

Consumer Experience Ranking

10

Ecosystem Ranking

32

## CHONGQING The City of Opportunities in Western China

Chongqing, located in inland China, is one of its four Centrally Administered Municipalities, and a national centre. It is one of China's major modern manufacturing bases, the tertiary education centre of western China, it has national strategic projects, including the China (Chongqing) Pilot Free Trade Zone and the Chongqing-Xinjiang-Europe Railway.

### Core Features

#### (1) Digital Transformation of the Financial Sector, Aiding Consumer Experience Upgrade

- For example, the Chongqing Rural Commercial Bank brought out Mobile Bank 5.0, to push for full coverage of smart public services; the ICBC Chongqing Branch develops small and micro business “tax e-lending”, relying on big data to implement a convenient motor vehicle and driving management system; the Chongqing branch of the China Merchants Bank opened an online vertical customer channel, increasing the immersion frequency into the lives of young customers; all of which improve FinTech consumer experience.

#### (2) Benefiting from Policy Dividends, Supporting the Development of a FinTech Ecosphere

- Relying on the double dividend from the Liangjiang New Area and Pilot Free Trade Zone policies, the Chongqing government built the Ji-angbeizui Financial Technology Port to profit from its advantages as a FinTech and finance standardisation dual pilot city and to develop a FinTech ecosphere.

#### (3) Great Opportunities for Cross-border Cooperation, Space for FinTech “Going-out”

- Seven foreign exchange management related reform pilots including the pilot free trade zone RMB exchange simplification pilot, pushing for fast growth in cross-border e-commerce.
- The implementation of projects such as the China - Singapore FinTech Innovation Pilot Zone and the China - Singapore FinTech Alliance speeds up the establishment of institutional branches between China and Singapore.

## TEL AVIV



33

GFHI Total Ranking

Industry Ranking

30

Consumer Experience Ranking

44

Ecosystem Ranking

26

## TEL AVIV the Heart of the Innovation Nation

Tel Aviv, Israel's second largest city, it is Israel's centre of public finance, finance, commercial and trade, transport and culture. It has Israel's only securities exchange – Tel Aviv Stock Exchange.

### Core Features

#### (1) The Financial Sector is Speeding up Digital Transformation

- The financial sector is speeding-up its digital transformation, Israel's largest bank HaPoalim is headquartered in Tel Aviv, it is speeding-up its mobile financial services capabilities, and collaborating with Microsoft to develop a blockchain guarantee platform.

#### (2) Its FinTech Regulatory Capabilities Rank Fifth Globally

- The Israel Securities Authority established a FinTech Innovation Centre, as a bridge between regulators and the FinTech industry, in order to secure compliant developments.
- The Bank of Israel established a FinTech Support Centre, at the same time, the regulators started their regulatory sandbox initiative and sped up issuing of FinTech licenses, to further promote FinTech innovation and developments.

## CAPE TOWN



# 34

GFHI Total Ranking

Industry Ranking

40

Consumer Experience Ranking

9

Ecosystem Ranking

38

## CAPE TOWN Africa's FinTech Pioneer

Cape Town is the legislative capital of South Africa, its second largest city and its economic centre. It is located at a major international waterway junction, it has advanced natural harbour facilities, the second largest dry dock in the southern hemisphere and the second largest international airport in South Africa, making it a comprehensive global transport hub.

### Core Features

**(1) FinTech Consumer Experience Qualified as Global Top 10, Significantly Improved from 2018**

- Cape Town's FinTech consumers account for 73.2% of the population, ranking ninth globally, just coming behind Chinese cities, and is far above the global average, it moved up 16 places in rankings from 2018.
- The people of Cape Town are relatively welcoming to FinTech, the number of people who adopted mobile payment is three times that of people who have bank accounts. Next to cash, mobile payment is the next most adopted payment method.

**(2) Solid Technology Industry Foundations, High Levels of Policy Support for Technologies such as Blockchain**

- The technology industry in Cape Town is very active, the total Market Capitalisation of Global Top 200 Finance Companies headquartered in Cape Town reached USD 99.41 Billion, ranking 12<sup>th</sup> globally, moved up six places from 2018.
- Its FinTech support level score increased ten points from 2018. The South African Reserve Bank welcomes digital currency and blockchain technology, it is exploring potential of implementing blockchain technology for interbank clearances.



## MEXICO CITY



35

GFHI Total Ranking

Industry Ranking

37

Consumer Experience Ranking

17

Ecosystem Ranking

41

## MEXICO CITY

A Modern City in Latin America

Mexico City, located in the mid-south of Mexico, its capital, political, economic, cultural and transport centre. Almost half of the country's industry, businesses, service industry and financial institutions are located here, it is the most populous metropolis in Latin America (its population exceeds 20 Million).

### Core Features

**(1) Its FinTech Industry is Experiencing High Speed Growth, FinTech Companies Spring-up**

- Since Konfio received USD 350 Million in capital, Mexico has its first highly capitalised unlisted FinTech company. According to the Inter-American Development Bank's Annual Report, there are 273 FinTech companies in Mexico, and 125 were established in the most recent year. FinTech companies continue to spring up.

**(2) It Promulgated the FinTech Law, to Strictly Regulate Industry Developments**

- By implementing the *FinTech Law*, it is the first Latin American country to have created a legal framework for its FinTech companies.



36

GFHI Total Ranking

Industry Ranking

42

Consumer Experience Ranking

11

Ecosystem Ranking

42

## MOSCOW The Consumer Experience City in Europe

Moscow, located in the middle of the European portion of Russia, is Russia's capital, and its political, economic, cultural, financial and transport hub city.

### Core Features

#### (1) FinTech Consumer Experience Experiencing Strong Growth, Actively Embracing Mobile Payment

- The percentage of FinTech consumers in Moscow materially grew from 2018 levels, reaching 68.3%. The city's transport systems including public transport, subway, rental bikes have enabled Alipay, and supports QRCode for ticket purchases; at the same time, people in Moscow continue to warm to cross-border e-commerce, mobile cross-border payments are on the rise.

#### (2) It Established a FinTech Development Association to Promote Industry Innovation and Development

- The Central Bank established the Russian FinTech Development Association to secure fast growth of Russia's financial markets and to promote the digitisation of Russia's economy. So far, the Association has collaborated with the 14 largest banks in Russia to create the blockchain platform Masterchain.

#### (3) Announced the FinTech Development Plan, Planning the Blueprint for Future Developments

- Announced the *FinTech Development Plan 2018-2020*, discussing Russia's FinTech development plans, as well as proposing detailed policies for FinTech application adoption, regulatory policies and talent attraction.

## NEW DELHI



37

GFHI Total Ranking

Industry Ranking

39

Consumer Experience Ranking

14

Ecosystem Ranking

35

## NEW DELHI

India's Political and Cultural Centre

New Delhi, located in India's north-west, is India's capital, political, economic and cultural centre. Its population size exceeds 28 Million and is the most populous in India. In terms of FinTech, New Delhi enjoys good consumer experience. FinTech consumers account for over 60% of the population, ranked 14th globally, and third in India.

## Core Features

**(1) FinTech Consumers Account for over 60 Percent of the Population, Online Lending and Mobile Payment Perform Well**

- FinTech consumers in New Delhi account for 63.9% of its population, ranked 14th globally, and third in India (closely behind Mumbai and Bangalore). As India announced its banknote demonetisation and the huge demand for small value loans, etc, online lending and mobile payment are welcomed in New Delhi, and the whole of India, growth is apparent.

**(2) The First Blockchain Incubator in South-east Asia is Located here, FinTech Hosting Infrastructure Improves by the Day**

- South-east Asia's first blockchain incubator Satoshi Studios is in New Delhi, it will bring energy to local Blockchain start-ups.

## BARCELONA



# 38

GFHI Total Ranking

Industry Ranking

36

Consumer Experience Ranking

34

Ecosystem Ranking

33

## BARCELONA A Bridge for International Technology Exchange

Barcelona, located at the north-east of the Iberian Peninsula, is the second largest city in Spain, a city famous for its tourism, history and culture, it is also Spain's major trade, industrial and financial base.

### Core Features

#### (1) Focused on International FinTech Collaboration

- The Spanish government started its FinTech collaboration initiative with Israel – Desafia Tel Aviv, promoting strategic cooperation between Spanish companies and local Israeli FinTech companies and achieving synergies. At the same time, Chinese giants such as Alibaba, Alipay and WeChat are engaging in business cooperation with local partners in Barcelona, assisting the popularisation of activities such as mobile payment.

#### (2) FinTech Policy Support and Regulatory Capabilities Improve

- The Barcelona Technology Centre announced that it will develop a blockchain technology special development zone, to promote the growth and innovation of the local digital ecosystem.
- Its FinTech regulatory capacity rank 26<sup>th</sup> in the world, the Spanish parliament passed a draft legislation that helps to regulate blockchain technology and digital currency.

#### (3) FinTech Summits Concentrate, Improving International Influence

- Barcelona has many global technology summits, including the Smart City Expo World Congress (SCEWC) and the World Mobile Congress (MWC) and the 5G Global Summit, etc.



39

GFHI Total Ranking

Industry Ranking

34

Consumer Experience Ranking

45

Ecosystem Ranking

39

## JAKARTA South-east Asia's Economic Centre

Jakarta, located on the north-western coast of the Java island, is Indonesia's capital and the largest city in South-east Asia, it is also the transport hub between the Pacific and Indian Oceans.

### Core Features

#### (1) Its FinTech Industry is Experiencing Fast Growth, the Financial Sector Actively Embraces Technology

- Although its FinTech industry only ranks 34<sup>th</sup> globally, it moved up nine places from 2018. It has representative FinTech companies such as Akulaku, Kredivo and GO-PAY(GO-JEK). From the perspective of business models, online lending and third-party payment grow fast, payment companies such as Go-pay, OVO, LinkAja, DANA take up a large portion of Indonesia's market.
- Traditional financial institutions actively seek digital transformation, for example, one of Indonesia's major State owned commercial banks, Bank Rakyat Indonesia collaborate with Go-Jek to simplify bill payments, and relies on the sharing economy to promote inclusive financial system developments; one of Indonesia's largest private banks, Bank Central Asia started a FinTech accelerator, to promote FinTech industry development.

#### (2) Good Financial Industry Foundations

- The financial industry has a good foundation, cumulative Market Capitalisation of Global Top 200 Finance Companies reached USD 114.31 Billion, ranking 15<sup>th</sup> globally, and first in southeast Asia.

#### (3) Highly Ranked Policy and Regulations

- FinTech support level and FinTech regulatory capacity rank global 12<sup>th</sup> and 18<sup>th</sup> respectively; the Indonesia Central Bank issues digital currency regulations, and publishes a standardised QR-code payment system; another regulator, the OJK established a FinTech centre and a FinTech office in Jakarta, and promulgated a series of related regulations.



40

GFHI Total Ranking

Industry Ranking

45

Consumer Experience Ranking

31

Ecosystem Ranking

23

## GENEVA Swiss Policy High Ground

Geneva, located at the south-western corner of Lake Geneva, is the second largest city in Switzerland. Many world-renowned international organisations, including the headquarter of the Red Cross, the WHO, and the United Nations Office at Geneva are located here.

### Core Features

#### (1) The Blockchain and Digital Currency Industry is Experiencing Relatively Fast Growth

- It has many blockchain/digital currency companies, such as MoonX, DECENT, Mt Pelerin, etc. Large information technology companies have established blockchain subsidiaries or R&D centres in Geneva, for example, WISEKEY opened its blockchain centre of excellence in Geneva, and the Libera Association is registered in Switzerland, etc.

#### (2) FinTech Support Level and FinTech Regulatory Capacity Ranked Global sixth and Third Respectively

- Geneva's FinTech support level scored 88.4 and is ranked sixth in the world. For example, the government issued a FinTech delegation regulation, FinTech companies that are compliant to the new licensing system could receive as much as CHF100 Million (approximately USD 100 Million) in public funding.

- FinTech regulatory capabilities scored 90.1, ranking third in the world, just behind London and Singapore. For example, the government has a regulatory sandbox that covers FinTech sectors such as crowdfunding and online lending, companies that are captured by the sandbox could receive as much as CHF 1 Million (approximately USD 1 Million) in public funding.

# 06

## Chapter 6 Emerging Cities

Other than the cities in the GFHI Top 40, there are many cities that are on a strong upward trend, this report refers to them as “FinTech development emerging cities”, they have great potential for FinTech development, and should be given appropriate attention.

<b>Asia</b>	<p><b>Ho Chi Minh City @ Vietnam</b></p> <ul style="list-style-type: none"> <li>Leading FinTech Companies: MoMo, Modern Tech</li> <li>FinTech Industry: ★★★★★</li> <li>FinTech Experience: ★</li> <li>FinTech Ecosystem: ★</li> <li>Industry reform enabled the FinTech industry to develop.</li> </ul>	<p><b>Xi’an, China</b></p> <ul style="list-style-type: none"> <li>Leading FinTech Companies: Pu-Si Financial, Fangyuanjinfu</li> <li>FinTech Industry: ★</li> <li>FinTech Experience: ★★★★★</li> <li>FinTech Ecosystem: ★★</li> <li>The Xi’an Branch of the People’s Bank provided a seamless service experience to clients.</li> <li>Number of FinTech related summits increased, enlarged scale and policy support levels grew.</li> <li>Through a two handed strategy — digitisation of the industry and industrialisation of digital technology to promote the digital economy.</li> </ul>
	<p><b>Kuala Lumpur @ Malaysia</b></p> <ul style="list-style-type: none"> <li>Leading FinTech Companies: Jirnexu, Mobiversa</li> <li>FinTech Industry: ★★</li> <li>FinTech Experience: ★★★</li> <li>FinTech Ecosystem: ★★★★★</li> <li>Issued new crowdfunding regulations, steadily encouraging FinTech developments.</li> </ul>	<p><b>Abu Dhabi @ UAE</b></p> <ul style="list-style-type: none"> <li>Leading FinTech Companies: Finablr, CallowBlue</li> <li>FinTech Industry: ★★★</li> <li>FinTech Experience: ★★</li> <li>FinTech Ecosystem: ★★★★★</li> <li>First in the Middle East and North Africa region to adopt a Regulatory Sandbox and issue virtual bank licences.</li> <li>The Abu Dhabi Global Market (ADGM) collaborate with the US accelerator Plug and Play to develop an accelerator.</li> </ul>
	<p><b>Bangkok @ Thailand</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Omise, ClaimDi</li> <li>FinTech Industry: ★★</li> <li>FinTech Experience: ★★</li> <li>FinTech Ecosystem: ★★★★★</li> <li>Signed a FinTech cooperation agreement with China, to improve innovation and cooperation.</li> </ul>	<p><b>Dubai, UAE</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: OneGram, Beehive</li> <li>FinTech Industry: ★★</li> <li>FinTech Experience: ★</li> <li>FinTech Ecosystem: ★★</li> <li>The Dubai International Financial Center (DIFC) established a USD 10 Million FinTech specific fund.</li> <li>The DIFC was the first to establish a FinTech accelerator – the FinTech Hive.</li> </ul>
	<p><b>Manila @ The Philippines</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: PayMongo, Acudeen</li> <li>FinTech Industry: ★★</li> <li>FinTech Experience: ★</li> <li>FinTech Ecosystem: ★</li> <li>Number of FinTech companies and investment levels significantly grew.</li> </ul>	<p><b>Istanbul @ Turkey</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Papara, Parasut</li> <li>FinTech Industry: ★</li> <li>FinTech Experience: ☆</li> <li>FinTech Ecosystem: ★</li> <li>Established a committee to improve FinTech ecosystem.</li> </ul>
	<p><b>Karachi @ Pakistan</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: 1Link, Monet Private Limited</li> <li>FinTech Industry: ★</li> <li>FinTech Experience: ★</li> <li>FinTech Ecosystem: ☆</li> <li>Cross-border enterprise collaboration to design a new standard for electronic payment activities.</li> </ul>	



Europe	<p><b>Frankfurt @ Germany</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Savedroid, Clark</li> <li>FinTech Industry: ★★</li> <li>FinTech Experience: ★★★★★</li> <li>FinTech Ecosystem: ★★★</li> <li>General adoption of online consulting services and mobile payment.</li> </ul>	<p><b>Milan @ Italy</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Nexi i, Satispay</li> <li>FinTech Industry: ★★★</li> <li>FinTech Experience: ★★★</li> <li>FinTech Ecosystem: ★★</li> <li>Established the first FinTech District in Italy (Milan FinTech District).</li> </ul>
	<p><b>Warsaw @ Poland</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Paymax, Ramp</li> <li>FinTech Industry: ★★★</li> <li>FinTech Experience: ★★</li> <li>FinTech Ecosystem: ★★</li> <li>Start-ups are mainly involved in sub-sectors such as electronic payments, digital currency, crowdfunding and online lending, etc.</li> </ul>	<p><b>Vilnius @ Lithuania</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Bankera, Kevin</li> <li>FinTech Industry: ★★★</li> <li>FinTech Experience: ★</li> <li>FinTech Ecosystem: ★★</li> <li>Brought out innovative new finance lending platform – the Debitum network.</li> </ul>
	<p><b>St. Petersburg @ Russia</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Autosprite, CoinKeeper</li> <li>FinTech Industry: ★</li> <li>FinTech Experience: ★★★★★</li> <li>FinTech Ecosystem: ★</li> <li>Mobile payment is well established, significant port advantages.</li> </ul>	<p><b>Brussels @ Belgium</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Yields.io, Qover</li> <li>FinTech Industry: ★★</li> <li>FinTech Experience: ★★</li> <li>FinTech Ecosystem: ★★★</li> <li>Building super funds, and adopt public financial incentives.</li> </ul>
Africa/ the Americas	<p><b>Nairobi @Kenya</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Cellulant, WayaWaya</li> <li>FinTech Industry: ★★</li> <li>FinTech Experience: ★★</li> <li>FinTech Ecosystem: ★</li> <li>Mobile payment is nationally adopted, huge consumer lending.</li> </ul>	<p><b>Buenos Aires @Argentina</b></p> <ul style="list-style-type: none"> <li>FinTech Representative Companies: Afluente, Ualá</li> <li>FinTech Industry: ★★★</li> <li>FinTech Experience: ★★★</li> <li>FinTech Ecosystem: ★</li> <li>Established the first digital banking branch, leading to a smart transformation in the industry.</li> </ul>

# 07

Chapter 7

## City Development Plan: in Three Steps

In the first six chapters, in order to provide readers with a complete picture of global FinTech developments, we traced to sources and clarified “what actually is FinTech”; we then analysed through the GFHI the global development of FinTech according to structure, trends and its three dimensions; as well as an in-depth analysis of the GFHI Top 40 cities and other emerging cities. In this chapter, we summarise our recommended steps and plans for the cities, and hopefully help more cities to find the best paths for development, thereby not failing each city’s hardwork and expectations.

## Step 1: Self Body Check, Recognise Advantages and Disadvantages

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“Know what it is” before one can “know why it is”, then search for the appropriate development models for the city, therefore the first step in each city’s development plan is to use the GFHI for a comprehensive “body check”. The GFHI consists of three first level indicators, eight second level indicators, 17 third level indicators and more than 20 sub-level indicators, each has a value against a Global Ranking.

**Horizontal Comparison:** comparing across more than 70 cities worldwide;

**Vertical Comparison:** internal longitudinal comparison of the city’s own development through 2017-2019;

**After Horizontal and Vertical Comparison,** recognise the city’s current FinTech developments, the stage it is at, its global position, advantages and disadvantages.

## Step 2: Identify Benchmark Target, Clarify Whom to Learn From

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After each city has a clear understanding of themselves, in order to sustainably develop, they should learn bravely and wisely, and to find a study plan that suits themselves. The second step in the city development plan, is therefore, to solve the issue of “how to learn”.

### ■ Seek the Benchmark City that is the Most Similar to the Self:

each city necessarily has different natural endowments, although they are all “FinTech Hubs”, but their characteristics, motivations and development priorities differ. Take the eight Global FinTech Hubs for example, Beijing, New York, London and Shanghai could be characterised as “Finance + Technology Driven” cities, they are either famous international financial centres or they have abundant financial resources, their FinTech developments are mostly focused on finance embracing technology; but San Francisco (Silicon Valley), Shenzhen and Hangzhou could be identified as “Technology + Finance Driven” cities, they have a solid technology foundation, especially in information technology, their FinTech developments are focused more on technology empowering finance. Additionally, San Francisco (Silicon Valley), Shenzhen and Hangzhou are representatives of cities that have the best innovation and start-ups environment in the world, VC/PE institutions also congregate in these cities, providing active investment and funding. In order to find a benchmark city, therefore, it is necessary to seek one that is the most similar and most suitable for the self.

■ Learn from the “Best-Performing Allrounder”, “Single Subject Top Performer” and the “Most Improved”:

the “Best-Performing Allrounder” mainly refers to the eight Global FinTech Hubs, the “single subject top performers” are those cities that have ranked highly in one or more of the three dimensional rankings – FinTech industry, consumer experience and ecosystem, and the most improved are those cities that have made the most improvements in one or more of the three dimensional rankings.

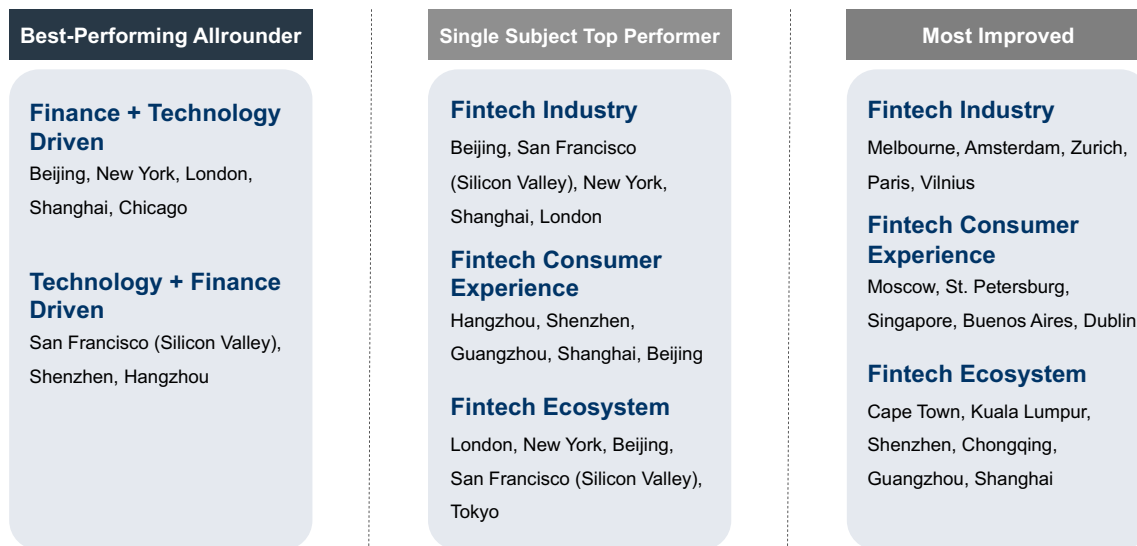


Figure 2020 GFHI “Best-Performing Allrounder”, “Single Subject Top Performer” and the “Most Improved”

Data Source: Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University , Hangzhou Moses Technology Co., Ltd.

## Step 3: Empower the Three Dimensions, Devise a Detailed Plan

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As the current position and target benchmark are clarified, cities should move to devise a detailed working and implementation plan that considers all three dimensions: industry, consumer experience and ecosystem, where they issue related policies with an international and long-term view, thereby achieving “a strategy for the era, and planning moves first”.

Some examples of items to prioritise in each dimension include:

### Industry:

- √ Identify the sector that needs significant development, whether to nurture or to assemble.
- √ Increase the digitisation of financial sector.
- √ Focus on optimising the tier structure in the industry.

### Experience:

- √ Focus on and clarify that the primary goal of FinTech is financial inclusion.
- √ Focus on consumer experience and the adoption of FinTech.

### Ecosystem:

- √ Infrastructure: optimise FinTech infrastructure and technology infrastructure.
- √ Research: government, industry, education and research collaboration.
- √ Policy: planning first, increase resources, and implement to where it is needed.
- √ Regulation: strengthen a systemic mind-set, vertical leadership and horizontal coordination.
- √ Environment: faith is dearer than gold.

The three steps above certainly require a case by case analysis, and after these three steps, there should be annual evaluation and analysis of whether the plan is effective, in order to adjust and optimise the big picture plan. Academy of Internet Finance, Zhejiang University aims to become a global FinTech ecosystem builder, and we hope to provide our wisdom and hardwork to the world's FinTech development, and to promote the actualisation of the financial inclusion goal where “everyone is born equal”.

## Acknowledgement

### Joint Publication Institutions:

Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University  
Zhejiang University International Business School (ZIBS)  
Institute of Data & Risk, Zhejiang University (IDR)  
Zhejiang Association of Internet Finance (ZAIF)  
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### Data Support:

Hangzhou Moses Technology Co., Ltd.

# About Us

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## AIF

Academy of Internet Finance (AIF), Zhejiang University is headquartered in Hangzhou – One of the foremost FinTech hubs in China and the world. The first, and broadest, interdisciplinary research institute of its kind in China, AIF takes pride in the unrivalled connectivity with industry and government authorities, as it has served as the founding presidency of Zhejiang Association of Internet Finance, alongside Ant Financial, a global FinTech leader. Since its inception in 2015, AIF has taken a global perspective with its academic boards as among the most international of its kind with members hailing from leading institutions in China and abroad.

Sinai Lab from Academy of Internet Finance(AIF), Zhejiang University specialises in research and development of index products across a wide range of sectors, providing valuable insights for industry, government and academia.

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## IDR

Institute of Data & Risk, Zhejiang University (IDR) is jointly founded by the Guiyang Municipal Government and Zhejiang University, where the AIF and the Guiyang Innovation Driven Development Strategy Research Institute act as working parties; in order to build a high quality research base that aims to research into “big data risk management”. It was formally unveiled on 14 October 2016 at the Zhejiang University Zijingang Campus. The IDR relies on the leadership position of the internet finance industry in Zhejiang, and the multidisciplinary and multisector research specialties of Zhejiang University, to focus on risk management in digital finance. It aims to become a first class big data financial risk management research institution, a big data risk management application platform, and a big data talent training centre in China that has international influence; thereby promoting big data financial risk management theoretical research and innovative application in China and around the world.

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## FIRST

Beijing Frontier Institute of Regulation and Supervision Technology (FIRST) is a not-for-profit, non-governmental research institute founded under the guidance of the Beijing Local Financial Supervision and Administration Bureau.

Leveraging the resources and capacity of Academy of Internet Finance (AIF) at Zhejiang University through its experience and success on academic research, education and training, international collaboration, incubation and entrepreneurship, and its continuous expansion of industry network since November 2014, Beijing FIRST has been closely working with Beijing municipality and established itself as an active contributor to promoting Beijing’s Regulatory Technology (RegTech) development and strengthening its global leadership in Financial Technology (FinTech).

The Institute is committed to conducting research on cutting-edge theories and practice of Fintech and RegTech, such as its “Global Fintech Hub Report” series, with a particular focus on China’s RegTech development. The integration of technology and its application in finance demands and nurtures cross-disciplinary talents, all of which empowers the development of both supervision technology (SupTech) and compliance technology (CompTech). As a sponsor of the China Forum of Regulatory Technology 50 (CRT50), Beijing FIRST offers a platform to promote capacity building, to facilitate knowledge sharing, and most importantly, to strengthen international collaboration amongst regulators, industry associations, financial service providers (FSPs), technology companies, and research institutes. In so doing, we are dedicated to create a well functioned ecosystem for the parallel development of regulatory technology and financial technology.

## ZIBS

Headquartered in Yangtze River Delta, one of the world's most dynamic regions, Zhejiang University International Business School (ZIBS) has presence in global business hubs including the Silicon Valley in the USA and London, UK.

Our vision is to be a leading global ecosystem with business education as its core pillar. Our mission is to train business talents who are ready for the new global economic era, with a particular focus on new technologies, new economy and new finance. We will achieve this by drawing on China's leadership in these emerging sectors, leveraging the interdisciplinary strength of the university and forging and expanding our partnerships with leading peer academic and corporate institutions across the globe.

By cooperating with Academy of Internet Finance and Institute of China Studies, Zhejiang University, ZIBS currently offers an International Master of Business Administration (iMBA) program with two tracks: Fin-Tech Industry Management and International Management; ZIBS also offers the track of China Business Studies under the Master of China Studies which is tailor-made for international students. Our Executive Education Center provides programs across a wide range of topics, both for open enrolment and customized corporate needs. Programs are taught in our campuses in Hangzhou, Haining, Shanghai and globally.

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## ZAIF

Founded on September 29, 2015, Zhejiang Association of Internet Finance (ZAIF) is an industry association to promote the development of internet finance ecosystems in Zhejiang—one of the most dynamic FinTech hubs in China and the world. Academy of Internet Finance (AIF) of Zhejiang University, Ant Financial Holdings, and China Zheshang Bank are joint founders of ZAIF and serve as its co-chairs.

## Recommended By:

I am very pleased to see the publication of the *When Thousands of Boats Compete to Sail, the Best Built Wins: Global FinTech Hub Report 2020*, which will be an influential report for the FinTech industry. On the one hand, this report brings FinTech information to different cities, giving them better understanding of each other, and of themselves, to increase collaboration. On the other hand, this becomes a global FinTech development “Guidebook”, not only does it provide future development direction to FinTech companies, it will give policy makers a better understanding of the importance of FinTech, and pushing them to better target policies for their region’s FinTech ecosystem, thereby promoting FinTech and financial inclusion developments.

— **Dr. HAN Seung-soo** Former Prime Minister of Republic of Korea  
President of the 56th session of the General Assembly of the United Nations, Co-Chair of the International Finance Forum (IFF)

The deepening merge between finance and technology has become the global trend. Beijing as the nation’s capital, is the national technology and innovation centre and the nation’s financial regulatory centre, its advantages are not just in endowments and resources for new FinTech developments, its regulatory structure is relatively developed, its ecosystem relatively healthy and services capability continues to rise. Beijing retained its strong comprehensive abilities ranking in the Global FinTech Hubs competition and has received high praise from national and international institutions, such as the Academy of Internet Finance (AIF), Zhejiang University, and ranked first in its index and ranking. I hope, through the report’s analysis, Beijing will continue to encourage the sustainable healthy development of FinTech.

—**HUO Xuewen** Party Secretary and Director General of Beijing Financial Services Bureau

Currently, a new round of FinTech innovation brought new reforms to the financial sector, the world’s innovations scene is being restructured, and FinTech is becoming the first driver for the new norm in the economy. In recent years, Shanghai’s developments into an international financial centre continue to materially strengthen. Building a Shanghai FinTech Hub is the new connotation, opportunity and driver for the further building of an international financial centre in the new era; it is also the major pivot to implement national strategies, and to promote the collaborative development between the Shanghai financial centre and its scientific, technology and innovations centre. Certainly, Shanghai in its FinTech hub developments has much to learn and great room for improvement. This report illustrates many good experiences, Shanghai should closely study it, and take an open, innovative, and inclusive view to embrace the world’s technological innovations. I look forward to a win-win with everyone.

—**XIE Dong** Member of the national committee of CPPCC, Director General of Shanghai Financial Services Bureau

Zhejiang has very good grounds for innovative FinTech developments. At the same time, FinTech’s development is gradually becoming the core contents and driver for Zhejiang to build its alternative financial centre. In this report, Hangzhou is recognised as one of eight Global FinTech Hubs along with Beijing, San Francisco, New York and Shanghai, and its FinTech Consumer Experience has ranked first in three consecutive years, where its FinTech adoption rate reached 93.5%, and established the best practice of a “global mobile payment city”. Zhejiang’s FinTech development future is clear, and the road forward for Hangzhou’s Global FinTech Hub is wide. Welcome to Zhejiang, and to Hangzhou – a ground vibrant with the innovation spirit, let’s draw the new blueprint together.

—**ZHANG Yanyun** Party Secretary and Director General of Zhejiang Provincial Financial Services Bureau

FinTech is increasingly becoming the core driver for financial innovation and development, and it is becoming an indispensable part of the modern financial system. Shenzhen is a national forerunner in the FinTech sector, alternative financial institutions grow at a fast pace. Whether the FinTech industry could grow fast is closely related to whether there is a high-quality FinTech ecosystem. From this report, it can be seen that, Shenzhen’s hard work in optimising its FinTech ecosystem has achieved some success. In the future, Shenzhen will work towards making itself a core FinTech driver, a FinTech talent standard showcase and the FinTech sustainable development leader in the Bay Area.

—**HE Jie** Director General of Shenzhen Financial Services Bureau

The Global FinTech report maps the global ecosystem in FinTech, discussing the top global and regional hubs in FinTech. For the major hubs, it discusses the major policy initiatives and the corresponding FinTech developments. This is a very useful exercise that allows cities all over the world to benchmark themselves in the area of technology and finance development.

—**Raghavendra Rau**

Sir Evelyn de Rothschild Professor of Finance at Cambridge Judge Business School

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