Class 5: China’s FinTech and Asset Management

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Outline

- Asset Management in China
- FinTech Platform and Mutual Fund Distribution
- Household Finance in the Age of FinTech
Asset Management in China

- Estimated at around RMB 100 trillion by 2018:
  - Wealth management products: 32 trillion.
  - Trust products: 22 trillion.
  - Asset management products: 50 trillion.

- Household savings are 23% of GDP, 15% higher than the global average in 2016.

- As of 2020, mutual funds close to 20 trillion, including over 9 trillion money market funds.
  - Limited presence; huge potential.
  - Incoming competition from foreign asset-management companies.
  - Increasing partnerships with tech firms: Vanguard with Ant Financial; Blackrock in talks with Tencent.
## Asset Management in China

### 资管市场整体统计（协会公布）

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>资产管理业务总规模（万亿元）</td>
<td>58.99</td>
<td>52.23</td>
<td>50.36</td>
<td>53.57</td>
<td>51.79</td>
<td>38.20</td>
<td>20.50</td>
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<tr>
<td>其中：公募基金</td>
<td>19.89</td>
<td>14.77</td>
<td>13.03</td>
<td>11.60</td>
<td>9.16</td>
<td>8.40</td>
<td>4.54</td>
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<tr>
<td>其中：基金专户(含子公司)</td>
<td>8.06</td>
<td>8.53</td>
<td>11.29</td>
<td>13.74</td>
<td>16.89</td>
<td>12.60</td>
<td>5.88</td>
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<tr>
<td>其中：证券公司</td>
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<td>10.83</td>
<td>13.36</td>
<td>16.88</td>
<td>17.58</td>
<td>11.89</td>
<td>7.95</td>
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<tr>
<td>其中：期货公司</td>
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<td>0.14</td>
<td>0.13</td>
<td>0.25</td>
<td>0.28</td>
<td>0.10</td>
<td>0.01</td>
</tr>
<tr>
<td>其中：私募基金</td>
<td>16.96</td>
<td>14.08</td>
<td>12.71</td>
<td>11.10</td>
<td>7.89</td>
<td>5.21</td>
<td>2.13</td>
</tr>
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</table>

### 银行理财规模（银行理财年报）

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>银行理财总规模（万亿元）</td>
<td>23.40</td>
<td>22.94</td>
<td>29.54</td>
<td>29.65</td>
<td>23.50</td>
<td>15.02</td>
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<tr>
<td>其中：国有大型银行</td>
<td>8.53</td>
<td>8.51</td>
<td>9.97</td>
<td>9.43</td>
<td>8.67</td>
<td>6.47</td>
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<tr>
<td>其中：全国性股份制银行</td>
<td>9.72</td>
<td>8.80</td>
<td>11.95</td>
<td>12.25</td>
<td>9.91</td>
<td>5.67</td>
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<tr>
<td>其中：城市商业银行</td>
<td>4.03</td>
<td>3.64</td>
<td>4.72</td>
<td>4.40</td>
<td>3.07</td>
<td>1.70</td>
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<tr>
<td>其中：外资银行</td>
<td>0.09</td>
<td>0.10</td>
<td>0.32</td>
<td>0.33</td>
<td>0.29</td>
<td>0.39</td>
</tr>
<tr>
<td>其中：农村中小金融机构</td>
<td>1.02</td>
<td>0.95</td>
<td>1.57</td>
<td>1.64</td>
<td>0.91</td>
<td>0.46</td>
</tr>
<tr>
<td>其中：其他机构</td>
<td>0.02</td>
<td>0.04</td>
<td>0.96</td>
<td>1.01</td>
<td>0.65</td>
<td>0.34</td>
</tr>
<tr>
<td>数量（万）</td>
<td>4.73</td>
<td>4.80</td>
<td>9.35</td>
<td>7.42</td>
<td>6.09</td>
<td>5.50</td>
</tr>
</tbody>
</table>

备注：2018 年之后的数据只包括非保本理财产品。
中国公募基金（亿元）

自2014年，货币型基金成为管理规模最大的一类基金。
FinTech Platforms and Mutual Fund Distribution

- Traditionally, mutual funds are distributed by fund families, banks, and brokers:
  - Different distribution channels offer different collections of funds.
  - Flow of information:
    - Barricaded and segmented, both within and across distribution channels.
    - Biased, as each channel promotes its own funds, both online and offline.

- Created by tech-driven firms, platforms are independent of the traditional channels:
  - Thrive on scale – vast fund coverage and large user base.
  - Improve the means of connectivity:
    - take down the barriers,
    - allow information to flow more freely,
    - and level the playing field for all mutual funds.
  - Technological efficiency – mobile apps allow for quick and convenient access to trading, moving away from physical counters and pc-based websites.
The Emergence of FinTech Platforms

Platform Coverage of Actively-Managed Mutual Funds

- Shumi+Ant
- Tiantian
- Howbuy
- Tong Huashun

Fraction of Funds (%)

Yu'ebao

Brokers

Banks

Ant enters Platforms
## Mutual Fund Distribution Channels

### 2021Q1 Sales of Mutual Funds by Distribution Channels

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Institution Name</th>
<th>Equity +混合公募基金规模 (亿)</th>
<th>货币市场公募基金规模 (亿)</th>
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<tbody>
<tr>
<td>1</td>
<td>招商银行股份有限公司</td>
<td>6711</td>
<td>7079</td>
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<td>2</td>
<td>蚂蚁（杭州）基金销售有限公司</td>
<td>5719</td>
<td>8901</td>
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<tr>
<td>3</td>
<td>中国工商银行股份有限公司</td>
<td>4992</td>
<td>5366</td>
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<tr>
<td>4</td>
<td>中国建设银行股份有限公司</td>
<td>3794</td>
<td>4101</td>
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<tr>
<td>5</td>
<td>上海天天基金销售有限公司</td>
<td>3750</td>
<td>4324</td>
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<td>6</td>
<td>中国银行股份有限公司</td>
<td>3048</td>
<td>4572</td>
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<td>7</td>
<td>交通银行股份有限公司</td>
<td>2381</td>
<td>2483</td>
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<tr>
<td>8</td>
<td>中国农业银行股份有限公司</td>
<td>2268</td>
<td>2468</td>
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<tr>
<td>9</td>
<td>上海浦东发展银行股份有限公司</td>
<td>1656</td>
<td>1708</td>
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<tr>
<td>10</td>
<td>中国民生银行股份有限公司</td>
<td>1512</td>
<td>1566</td>
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<tr>
<td>11</td>
<td>兴业银行股份有限公司</td>
<td>1380</td>
<td>1441</td>
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<td>12</td>
<td>中信证券股份有限公司</td>
<td>1298</td>
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<td>13</td>
<td>中信银行股份有限公司</td>
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<td>14</td>
<td>平安银行股份有限公司</td>
<td>910</td>
<td>1039</td>
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<td>15</td>
<td>中国光大银行股份有限公司</td>
<td>793</td>
<td>864</td>
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<td>16</td>
<td>广发证券股份有限公司</td>
<td>741</td>
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<td>17</td>
<td>中国邮政储蓄银行股份有限公司</td>
<td>703</td>
<td>1128</td>
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<tr>
<td>18</td>
<td>鹏安基金销售（深圳）有限公司</td>
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<td>1040</td>
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<td>19</td>
<td>宁波银行股份有限公司</td>
<td>562</td>
<td>592</td>
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<tr>
<td>20</td>
<td>华泰证券股份有限公司</td>
<td>545</td>
<td>594</td>
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</table>

### Distribution Channels of Mutual Funds Sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Commercial Bank (%)</th>
<th>Securities Company (%)</th>
<th>Fund Company (%)</th>
<th>Independent Fund Sales Institution (%)</th>
<th>Others (%)</th>
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<tbody>
<tr>
<td>2015</td>
<td>25.22</td>
<td>10.01</td>
<td>61.90</td>
<td>2.14</td>
<td>0.73</td>
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<tr>
<td>2016</td>
<td>23.43</td>
<td>8.23</td>
<td>65.62</td>
<td>2.24</td>
<td>0.48</td>
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<tr>
<td>2017</td>
<td>24.41</td>
<td>6.05</td>
<td>65.38</td>
<td>3.84</td>
<td>0.32</td>
</tr>
<tr>
<td>2018</td>
<td>24.14</td>
<td>6.41</td>
<td>61.26</td>
<td>7.76</td>
<td>0.42</td>
</tr>
<tr>
<td>2019</td>
<td>23.59</td>
<td>7.59</td>
<td>57.29</td>
<td>11.03</td>
<td>0.49</td>
</tr>
</tbody>
</table>
The Economic Impact of FinTech Platforms

- As the platforms make the **distribution of funds** more efficient, do they also make the **allocation of risk** more efficient for investors?
- As the platforms improve the **means of connectivity**, what is the impact on the **means of production**, particularly for the actively-managed mutual funds?
- More generally, what are the economic consequences, *both intended and unintended*, of this new and powerful distribution channel?
- **Findings:**
  - Investors: striking increase in performance chasing associated with the emergence of FinTech platforms.
  - Fund managers: increased risk taking to enhance the probability of getting into the top rank.
  - Fund families: the organizational structure of large fund families weakens as the introduction of platforms levels the playing field for all funds.
Fund Flow and Past Performance

Decile Rank, Sorted by Past 12-month Returns

Quarterly Flow (%)

Equity Funds

- 2.5%
- 19.2%

Before

After

US Equity Funds

- 6.7%
- 5.8%

Before

After

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Time-Series Variation of Performance Chasing

Equity Funds

Mixed Funds

Quarterly Flow (%)

Quarterly Flow (%)

Top Decile - Average
Value-Weighted Average Flow

Top Decile - Average
Value-Weighted Average Flow
Direct Evidence from Howbuy

Purchases, Equity Funds

Market Share in Purchases, Equity Funds

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Household Finance in the Age of FinTech

- The current wave of “Fin + Tech” development is unique in that
  - **FinTech Platforms**: created by tech not finance firms.
    - Giant user bases, low operational costs, and a culture of “winner-take-all.”
  - **Super Apps**: financial services delivered directly to households via super apps.
    - Free of traditional financial advisors.
    - All-in-one ecosystems with a wide range of products.

- In China, activities central to household finance are taking place on FinTech platforms via super apps:
  - **Consumption**: online consumption accounts for 25% of the total.
  - **Investments**: 30% of mutual fund purchases takes place on FinTech platforms.
  - **Payments**: digital payments everywhere.
Consumption, Investments, and Payments
aggregated over a random sample of 50,000 individuals
Imagine if
1. Main-street banks
2. Wall Street’s brokers
3. Boston’s asset managers
4. Connecticut’s insurers

all shrunk to fit into
1. a single app designed in Silicon Valley

that almost everyone used.

— The Economist, Oct 8th 2020
Measuring FinTech Adoption in China

Using individual $i$'s month-$t$ consumption on Alipay and Taobao:

$$\text{AliFrac}_t^i = \frac{\text{Alipay}_t^i}{\text{Alipay}_t^i + \text{Taobao}_t^i}$$

2017Q2 2017Q4 2018Q2 2018Q4
City-Level FinTech Penetration

Average Level of FinTech Penetration

2018 minus 2017
FinTech Adoption and Household Risk-Taking

- Can FinTech lower investment barrier and improve household risk-taking?
  - Under risk-taking: access costs, lack of familiarity, trust, financial education.
  - FinTech platforms: easy access, low costs, brand recognition, repeated usage.
  - FinTech convenience reduces physical costs, increasing participation.
  - Repeated usage of Alipay builds familiarity and trust, increasing risk-taking.

- Who benefits the most from FinTech Advancements?
  - The otherwise more constrained investors prior to the arrival of FinTech:
    - Individuals who are more risk-tolerant.
    - Individuals living in areas under-served by financial institutions.
  - Individual heterogeneity: risk tolerance inferred from consumption volatility.
  - Geographical variation in financial inclusion: areas under-served by financial institutions, using the number of local bank branches as a proxy.
Financial Theory on Household Finance

- **Optimal portfolio choice and consumption:**
  - Mean-variance: Markowitz (1952) and Tobin (1958).

- **Insights from Merton’s portfolio problem:**
  - The link between the optimal portfolio weight $w^*$ and risk-aversion $\gamma$
    \[
    w^* = \frac{1}{\gamma} \frac{\mu - r}{\sigma_R^2}
    \]
  - The link between the optimal consumption volatility $\sigma_c$ and risk-aversion $\gamma$
    \[
    \sigma_c = \sigma_w = w^* \sigma_R = \frac{1}{\gamma} \frac{\mu - r}{\sigma_R}
    \]

- **Beyond Merton:** alternative specifications of household utility, stochastic interest rates, and time-varying risk premiums.
FinTech Adoption and Risk-Taking

Participate

\[ \text{Participation} = 29.27 + 15.32 \times \text{Tech-Savviness} ; \quad R^2 = 79\% . \]

Risky Share

\[ \text{Risky Share} = 38.24 + 12.9 \times \text{Tech-Savviness} ; \quad R^2 = 71\% . \]

Portfolio Volatility $\sigma_W$

\[ \sigma_W = 1.53 + 0.43 \times \text{Tech-Savviness} ; \quad R^2 = 38\% . \]
Optimal Alignment of Consumption and Investment

All Active Users

\[ \sigma_W = 6.54 + 0.79 \sigma_C; \quad R^2 = 62\%. \]

High and Low FinTech Adoption

High FinTech: \[ \sigma_W = 6.23 + 0.91 \sigma_C; \quad R^2 = 77\%. \]

Low FinTech: \[ \sigma_W = 6.65 + 0.58 \sigma_C; \quad R^2 = 45\%. \]
Which Cities Benefit More from FinTech Advancements?

**Level**

Low Coverage: Risky Share = 0.28 + 0.57 Tech-Penetration  
[2.62]; $R^2 = 5\%$

High Coverage: Risky Share = 0.55 + 0.01 Tech-Penetration  
[0.07]; $R^2 = 0\%$

**Change**

Low Coverage: $\Delta$ Risky Share = -0.11 + 2.33 $\Delta$ Tech Penetration  
[2.82]; $R^2 = 8\%$

High Coverage: $\Delta$ Risky Share = -0.01 - 0.74 $\Delta$ Tech Penetration  
[1.90]; $R^2 = 3\%$

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