

# Technology on the Rise, Are You Ready?

Emerging Technologies Center



STATE STREET

# Famous Quotes

“

Silicon Valley is coming...

There are hundreds of startups with lots of brains and money working on various alternatives to traditional banking<sup>1</sup>.

”

Jamie Dimon

CEO – JP Morgan, 2015

“

Technology is changing banking dramatically... but I don't think that small fintech companies are going to challenge us... So I'm not concerned that new technologies will harm [us].<sup>2</sup>

”

Jes Staley

CEO – Barclays, 2017

“

Neither RedBox nor Netflix are even on the radar in terms of competition... It's more Walmart and Apple<sup>3</sup>.

”

Jim Keyes

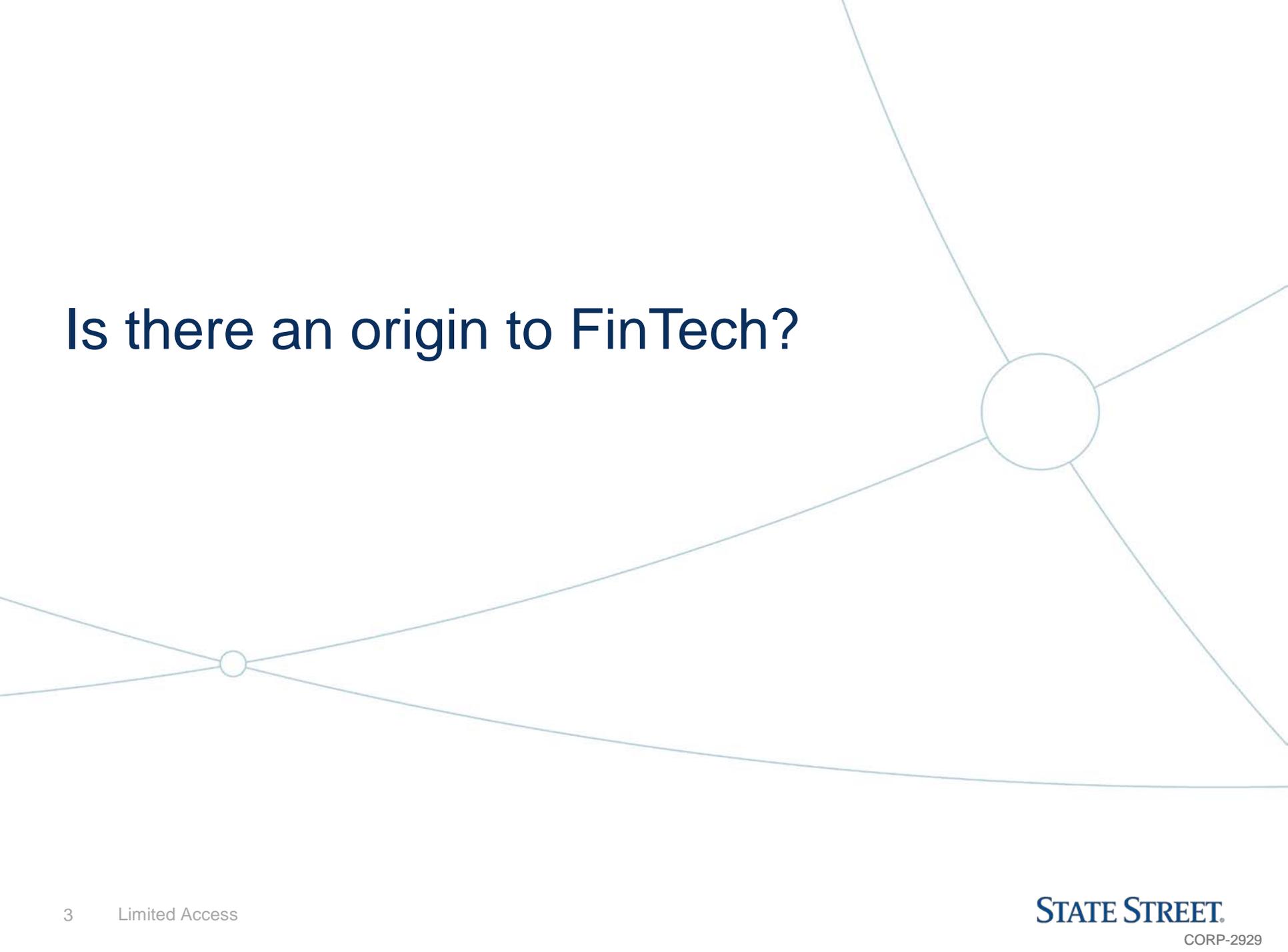
CEO (former) Blockbuster  
2008

<sup>1</sup>[Jamie Dimon Letter to Shareholders](#), April 2015

<sup>2</sup>[Business Insider](#), May 2017

<sup>3</sup>[InsideRedbox.com](#), December 2008

# Is there an origin to FinTech?



# The Evolution of FinTech

## 2008 – 2017: Mobile, Data & Beyond

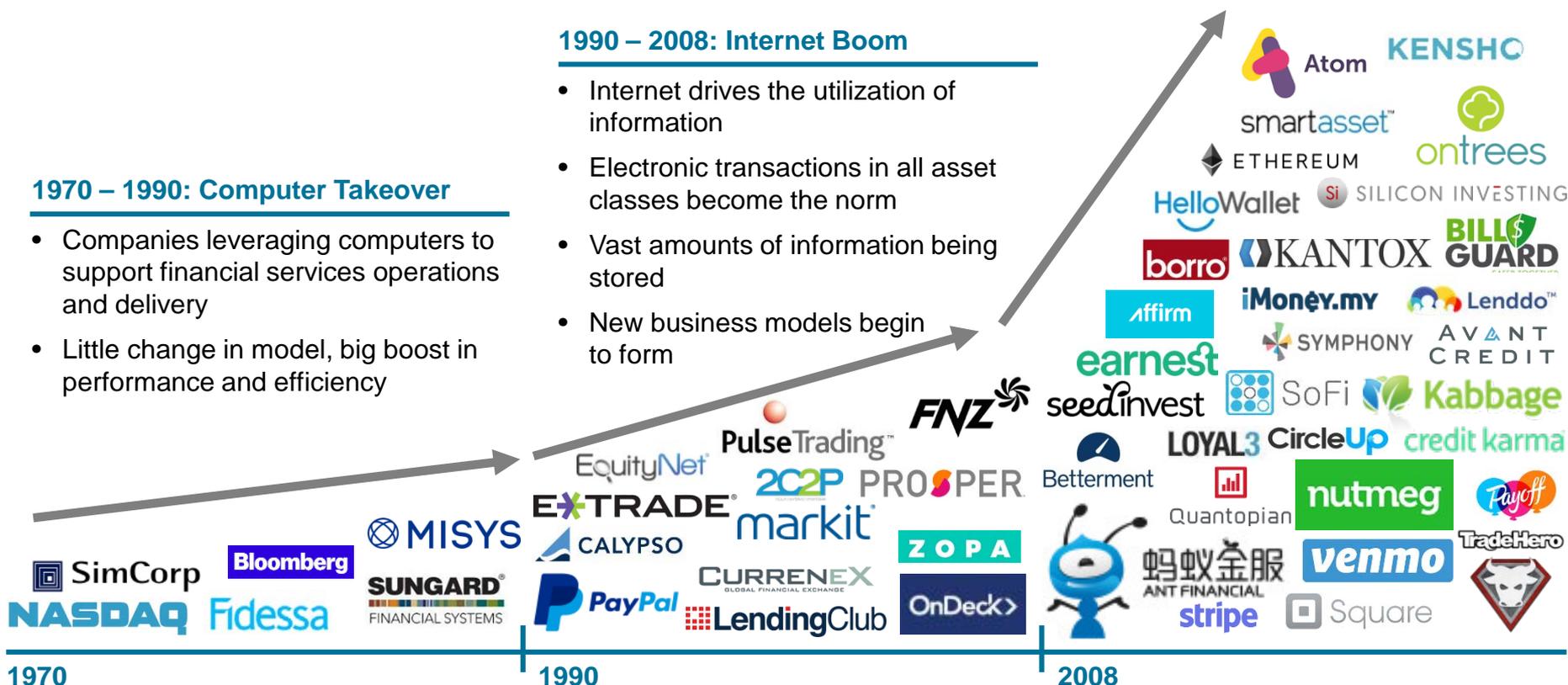
- Mobile and data begin to dominate conversations
- Instant access to data and insights
- Technologies augment human intelligence
- Business model transformation accelerates

## 1970 – 1990: Computer Takeover

- Companies leveraging computers to support financial services operations and delivery
- Little change in model, big boost in performance and efficiency

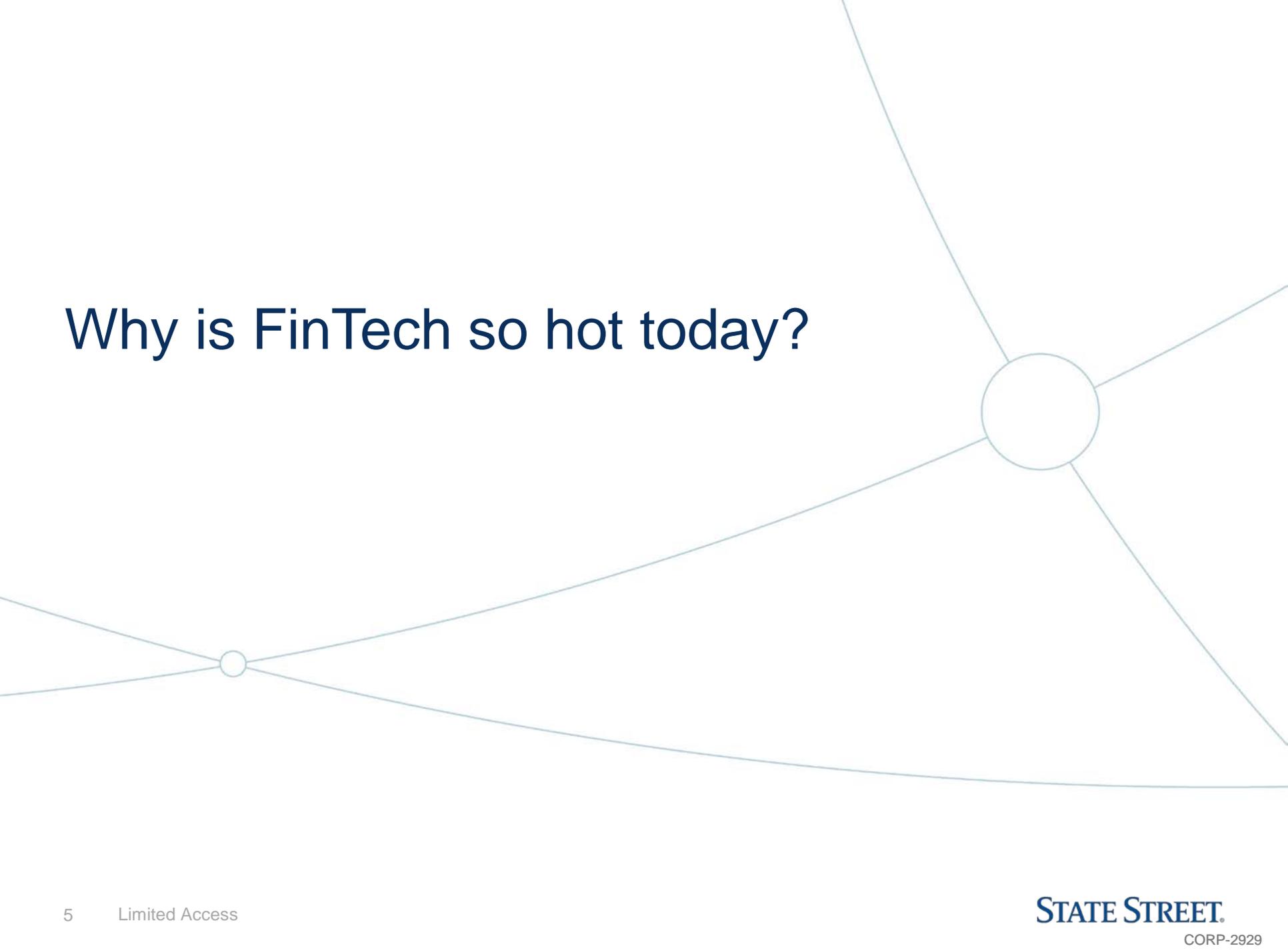
## 1990 – 2008: Internet Boom

- Internet drives the utilization of information
- Electronic transactions in all asset classes become the norm
- Vast amounts of information being stored
- New business models begin to form



Source: State Street Analysis, Data from CB Insights, DealRoom, Tech in Asia, Crunchbase

# Why is FinTech so hot today?

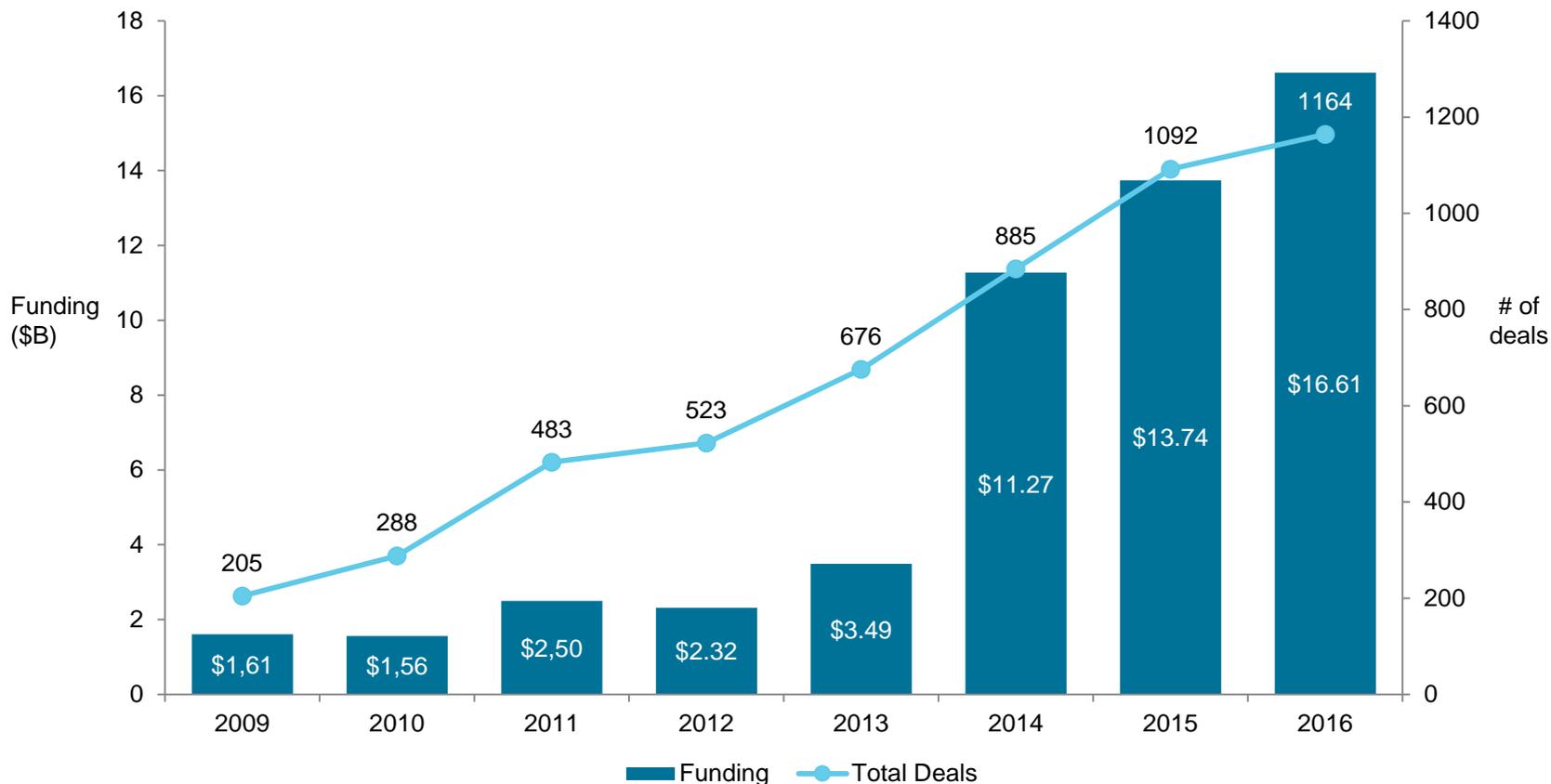




# Abundance of Investment



FinTech investment dollars and deals (2009-2016)

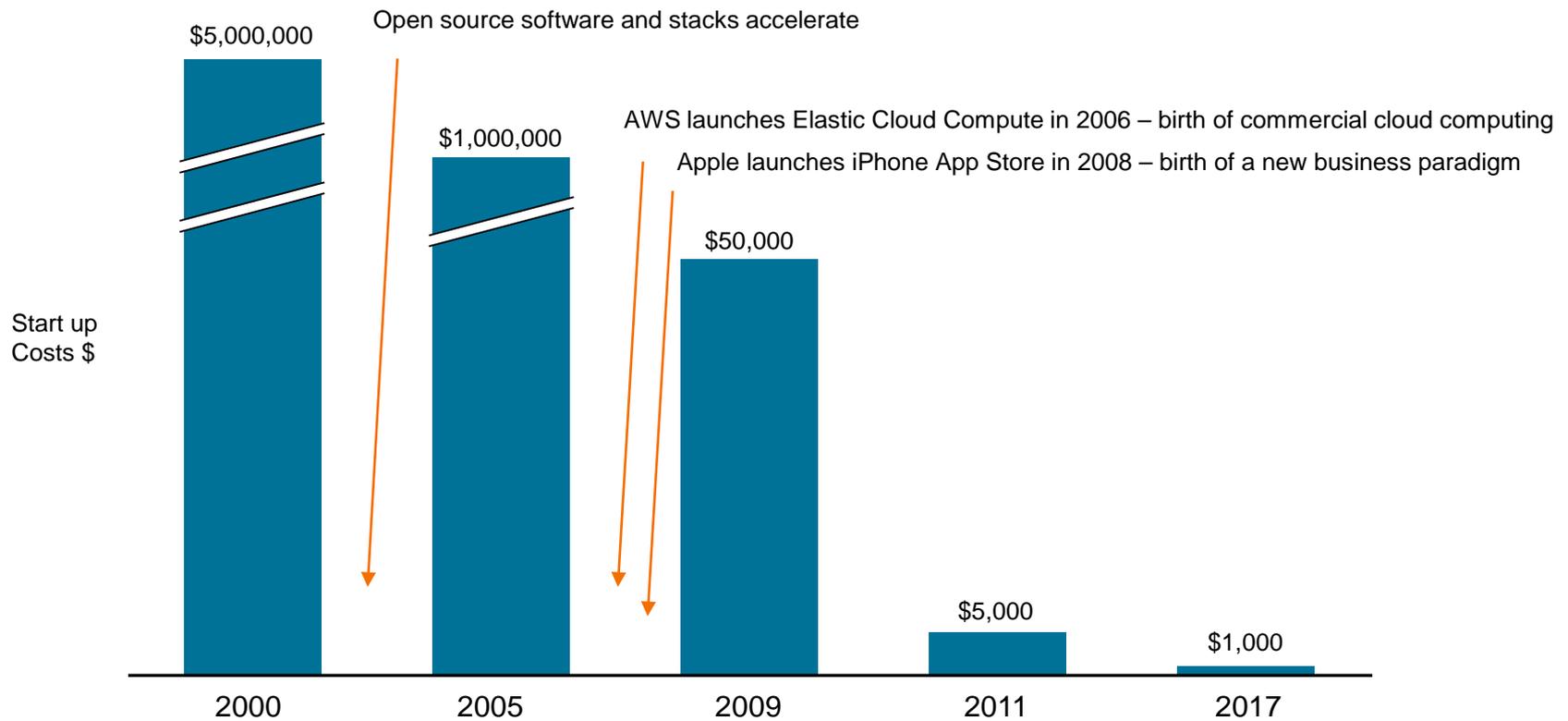


Source data: CB Insights / Analysis: State Street 2017

# Lower Cost of Technology

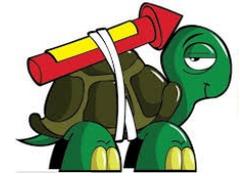


## Start up Costs (2000 – 2017)

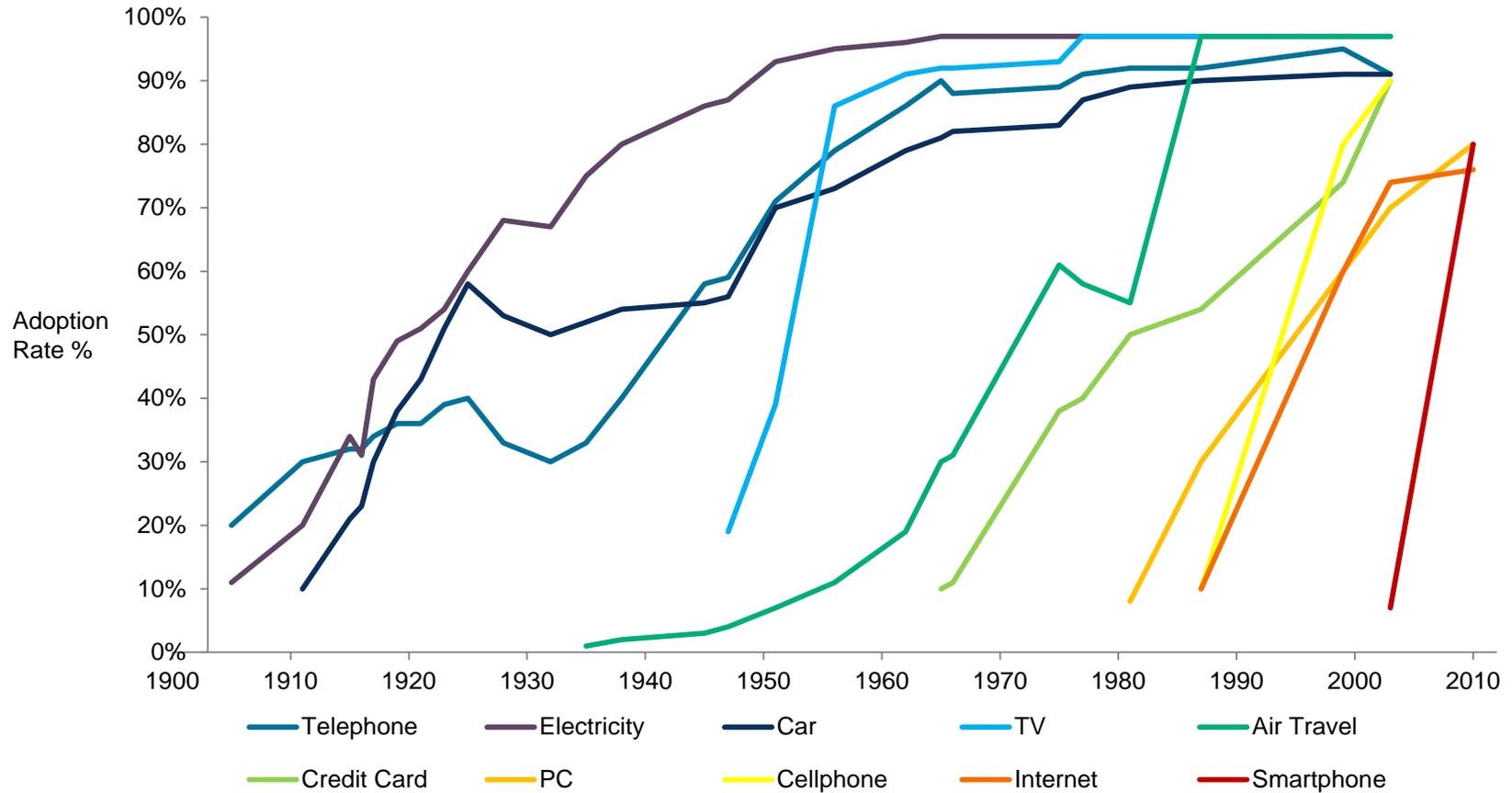


Source data: CB Insights, Upfront Ventures

# Pace of Technology Innovation & Adoption

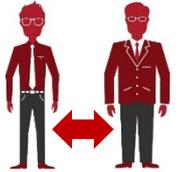


Adoption of Technology in the US (1900 - Present)



Source: Market Realist, Blackrock

# Change in Consumer Expectations



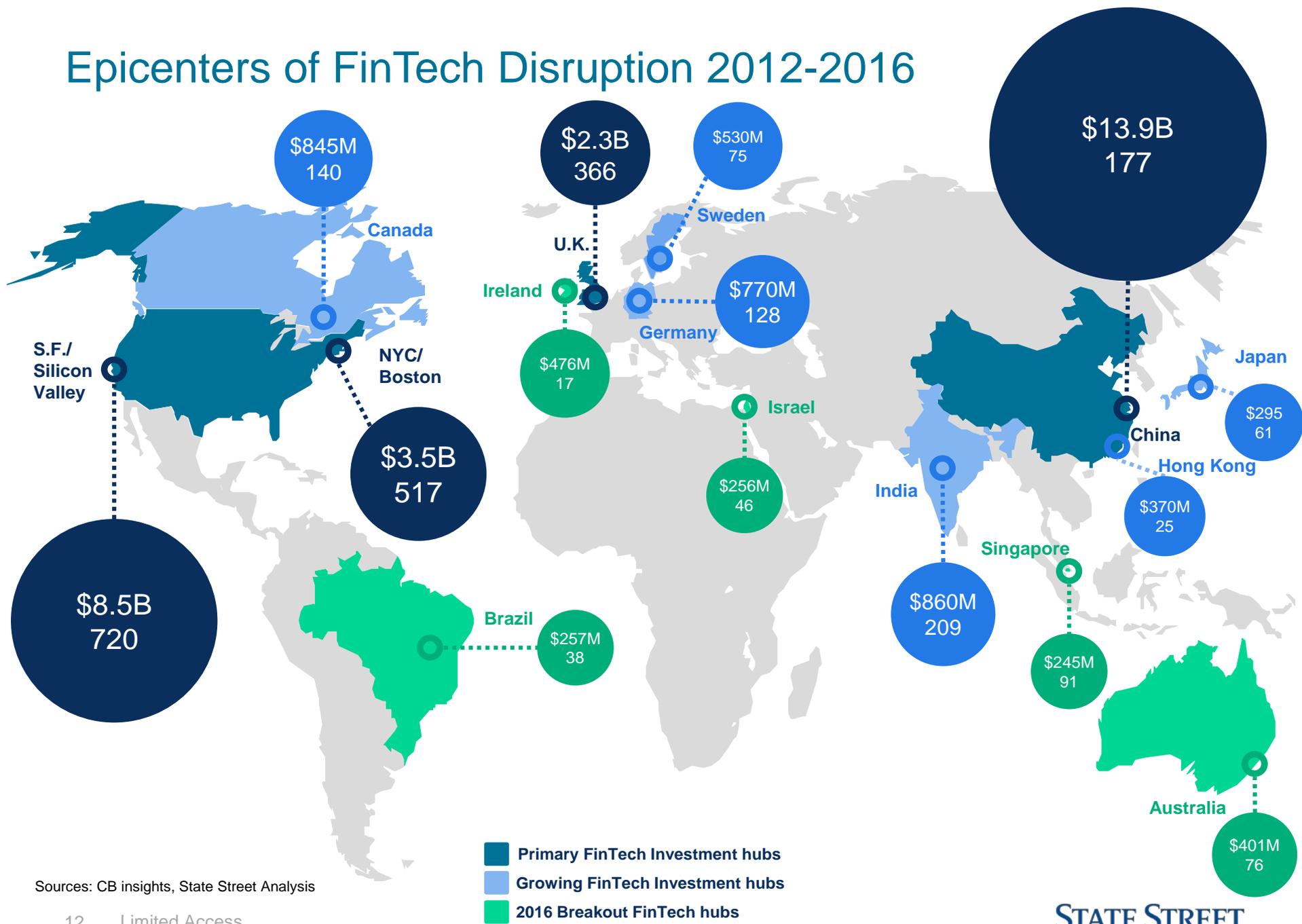
	Information Expectations	Service Provider Delivery	End User Engagement
Mobile Technology	<ul style="list-style-type: none"> <li>• Available anytime / anywhere</li> </ul>	<ul style="list-style-type: none"> <li>• “Always on” Customer Service</li> </ul>	<ul style="list-style-type: none"> <li>• Self-Service / Happy to help themselves</li> <li>• Expect mobile / user friendly experience</li> </ul>
Social Media	<ul style="list-style-type: none"> <li>• Information travels instantaneously at network effect (avg. 1:200)</li> </ul>	<ul style="list-style-type: none"> <li>• Targeted advertising / no wasted ads</li> <li>• Direct access to consumers</li> </ul>	<ul style="list-style-type: none"> <li>• Empowered to praise or critique</li> <li>• Provide friends with recommendations</li> </ul>
E-Commerce	<ul style="list-style-type: none"> <li>• Inevitable price transparency and comparison</li> </ul>	<ul style="list-style-type: none"> <li>• Review systems (e.g. yelp) drives accountability to deliver excellence</li> </ul>	<ul style="list-style-type: none"> <li>• Personalized product recommendations</li> </ul>
Internet of Things	<ul style="list-style-type: none"> <li>• Everything is connected, one digital identity</li> </ul>	<ul style="list-style-type: none"> <li>• Better insights onto customer behavior and usage</li> </ul>	<ul style="list-style-type: none"> <li>• Omni-Channel Servicing</li> </ul>

Source: Pew Research Center, 2016, icmi.com

# FinTech Footprint



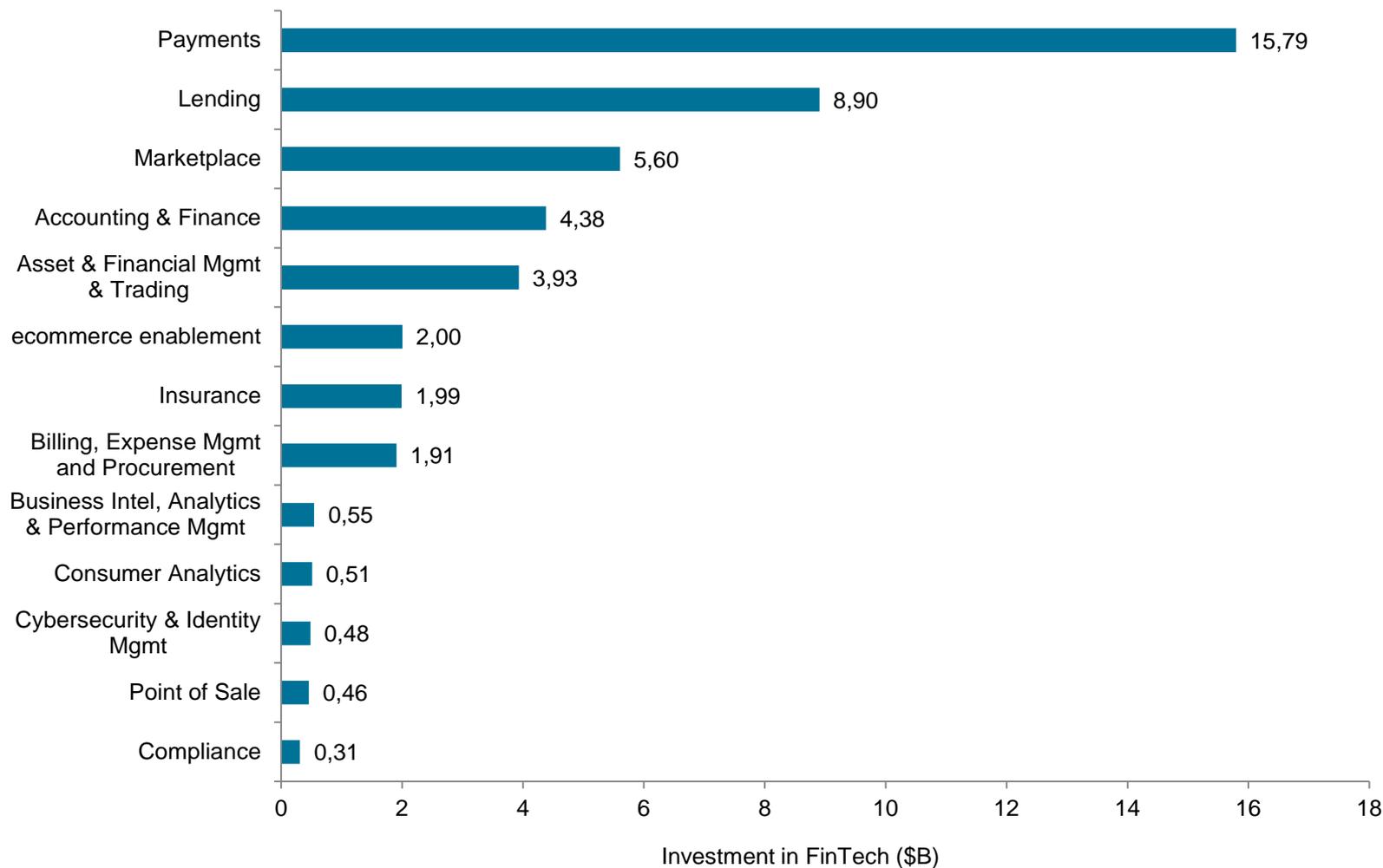
# Epicenters of FinTech Disruption 2012-2016



Sources: CB insights, State Street Analysis

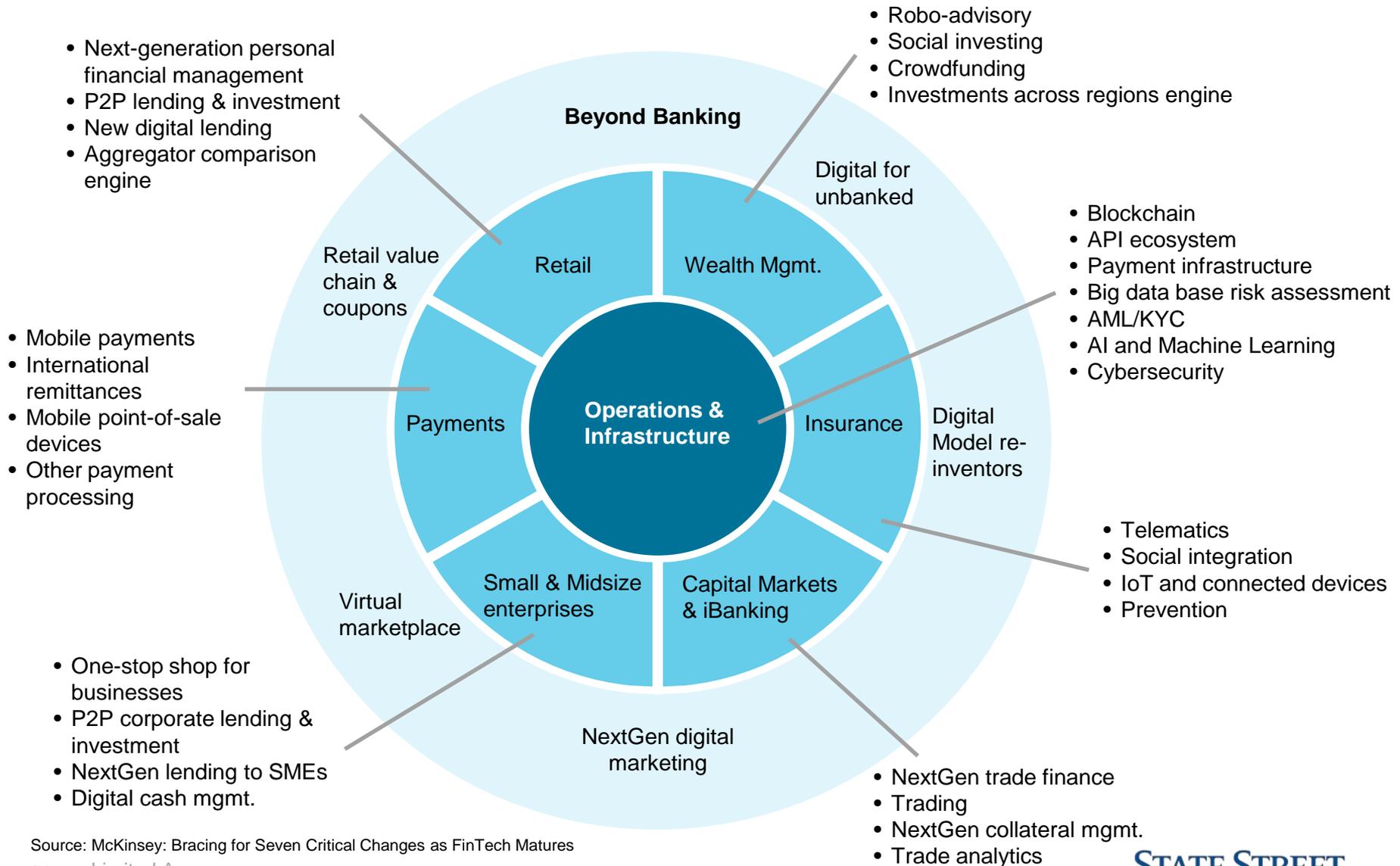
# Progression of Financial Sector Disruption

## Investment in FinTech by Sector



Source: CB Insights / Analysis: State Street

# Changes to Traditional Financial Services



Source: McKinsey: Bracing for Seven Critical Changes as FinTech Matures

# What are banks doing about it?



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# Going on the offensive

## Incumbents dive in to FinTech with projects, partnerships and investment



**State Street tests blockchain based system for securities lending** in effort to adopt emerging technologies (December 2016)



**Barclays & Techstars graduate latest FinTech Accelerator Class** in New York (September 2016)



**Northern Trust & IBM launch the first commercial deployment of blockchain for private equity** based on the Hyperledger Fabric (February 2017)



**UBS, the first global bank to create an innovation lab at accelerator Level 39**, to focus on Blockchain & FinTech innovations (April 2015)

**BLACKROCK**

**Blackrock leads funding round for FinTech startup iCapital** (December 2016)

**J.P.Morgan**

**JPMorgan partners with InvestCloud** for Digital Wealth Management (September 2016)

**HSBC**



**HSBC announces partnership with FinTech company Tradeshift** (March 2017)

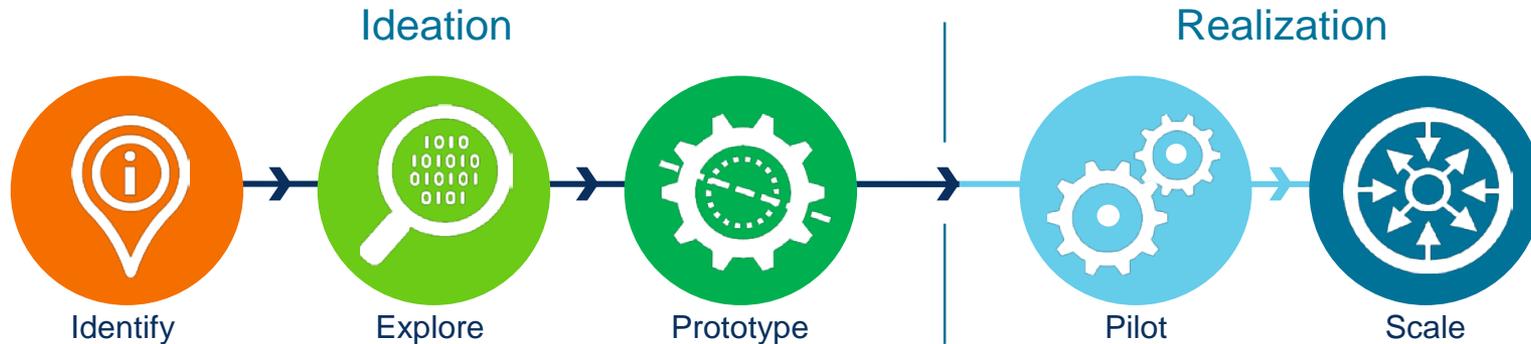
**citigroup**



**Citigroup creates Citi FinTech** to embrace the FinTech Revolution (June 2016)

Source: Banking Technology, Bloomberg, Business Insider, Crowd Fund Insider, EconoTimes, Fortune, Fund Intelligence, Reuters, Xconomy

# State Street's Innovation Philosophy



## We Will Achieve This Through...

A portfolio approach to managing emerging and disruptive technologies

- Undertake multiple projects concurrently to diversify risk
- There is no one single technology that will define the future

Design-thinking as a way of creative idea generation and prototype implementation

- Apply analysis then synthesis when evaluating trends
- Start with divergent thinking before converging ideas

Willingness to take action and experiment without all the information

- Avoid “paralysis by analysis” by taking quick actions

Embracing “not created here” ideas and encourage “outside-in” thinking

- Ideas are generated everywhere and we must be willing to try competitive ideas

Acceptance of failure

- Must be willing to take calculated risks when evaluating disruptive trends
- Resiliency is key with this type of work

# State Street's Innovation Footprint

## Boston & New York

- Research relationships including MIT and Harvard
- Founding member of many industry consortiums and partnerships networks
- Board member at FinTech Sandbox & Mass TLC
- Investments/partnerships with local FinTech Startups

## San Francisco & Bay Area

- Research consortium with Stanford and UC Berkeley
- Prototyping with several local FinTech on Machine Learning and Blockchain
- Active engagement with VC community

## Dublin & London

- Mentorships with start-up accelerators: Accenture, National Digital Research Centre (NDRC), Level39 and Innovate Finance
- Consortiums: Deloitte Investor and Fund square Investor AML utility
- R&D partnerships with UCC Advanced Technology Centre and CeADAR

## Hangzhou & Hong Kong

- Partnership with Zhejiang University on Advanced computer technology and research development



 Locations where STT has FinTech related relationships
  STT office locations

# Important Risk Information

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