

150 Years of FinTech: *An Evolutionary Analysis*

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Overview

Principal current concerns of policymakers arise not from the technology but from ***who*** is applying the technology to finance.

We take an evolutionary approach to create an historical framework of understanding that hopefully allows a fuller appreciation of these developments.

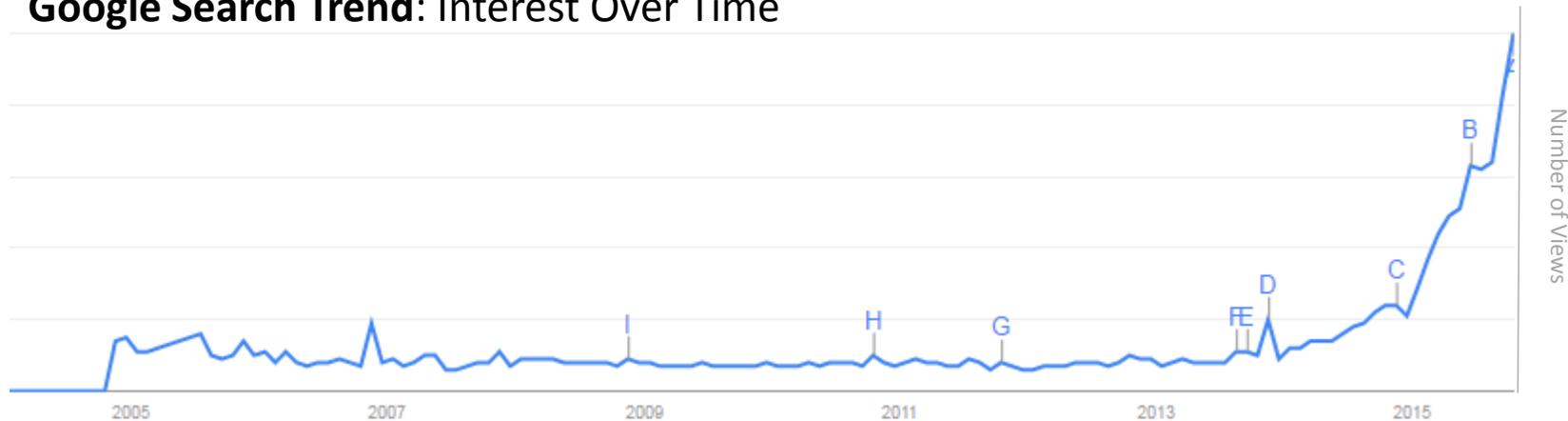
For the past 20 years, the sector that has spent the most on Tech has been finance, more than defence, and more than the IT sector itself.

Goldmans employs more engineers than LinkedIn, Twitter or Facebook.

Origin of Term

The term's origin can be traced to the early 1990s with the “Financial Services Technology Consortium”, a project initiated by Citigroup to facilitate technological cooperation. However, only since 2014 has the sector attracted the focused attention of regulators, consumers and investors.

Google Search Trend: Interest Over Time



Evolution

The marriage of financial services and technology has evolved over three distinct time periods.

Date	1866 - 1967	1967 - 2008	2009 – Current	
Era	FinTech 1.0	FinTech 2.0	FinTech 3.0	FinTech 3.5
Geography	Developed World	Global	Developed World	Developing World
Key Players	Banks & Infrastructure	Banks	Start-ups	Banks & Telcos
Shift Origin	Globalization	Technology	2008 Financial Crisis	Market Reform

FinTech 1.0 (1866 – 1967)

In the late 19th century finance and technology combined to produce the first period of financial globalization – in the years leading up to WWI financial globalization reached levels not again seen until the lead up to 2008.

Enabled By:

- **1838:** Introduction of the telegraph
- **1866:** Laying of the first transatlantic telegraph cable

FinTech 2.0 (1967 – 2008)

New period of regulatory attention to the risks of cross-border financial interconnections and their intersection with technology. Led by traditional financial institutions

Examples:

- **1950:** Introduction of credits cards (Diner's Club) in the USA
- **1967:** Barclays deploys first Automated Teller Machine (ATM)
- **1967:** Texas Instruments develops handheld financial calculator
- **1971:** NASDAQ created, triggering electronic trading

FinTech 3.0 (2008 – Present)

Emergence of new players (*e.g. start-ups*) alongside existing large companies (*e.g. core banking vendors*).

“Silicon Valley is coming: There are hundreds of startups with a lot of brains and money working on various alternatives to traditional banking [...] They are very good at reducing the “pain points” in that they can make loans in minutes, which might take banks weeks.

**Jamie Dimon
CEO, JP Morgan**

Examples:

- **2008:** Wealthfront is founded and provides automated investment services
- **2009:** Square is created, providing mobile payments solutions
- **2009:** Kickstarter introduced a reward-based crowdfunding platform

Was 2008 A Game Changer?

The 2008 GFC had a catalysing effect on the growth of the FinTech sector due to:

- **Financing gap:** Contraction of the interbank market and increase in regulatory capital to be held against loan portfolio – less credit
- **Operational cost reduction:** Downsizing meant people looking for new ways to apply their skills
- **Public perception:** Growing public distrust of banks (67% vs 30%)
- **Technology:** Smartphone penetration increased

FinTech 3.5 (2008 – Present)

In Asia and Africa recent FinTech developments have been primarily prompted by the pursuit by the G20 and Governments of ‘financial inclusion’ and thus economic development:

Examples:

- **2007:** M-Pesa introduced in Kenya, by Vodafone for Safaricom
- **2010:** Alibaba introduces loans to SMEs on its e-commerce platform
- **2015:** India announces the creation 11 new payment banks (e.g. Fino PayTech)
- **2015:** MyBank and WeBank, two new Chinese private banks

The Game Changer was government policy, and the M-Pesa story from Kenya, not the GFC and global regulatory initiatives.

Regulatory Threshold

New emerging FinTech companies often have limited track records regarding their business (*e.g. risk management, liquidity and profitability*) and difficulty identifying their obligations (*e.g. applicable regulations or licences*).

For regulators, these early-stage companies represent a limited prudential & consumer risk. However, exponential company growth can create “risk blind spots”. Additionally, frequent failures or fraud can impact market or investor confidence.



Risk Blind-Spot

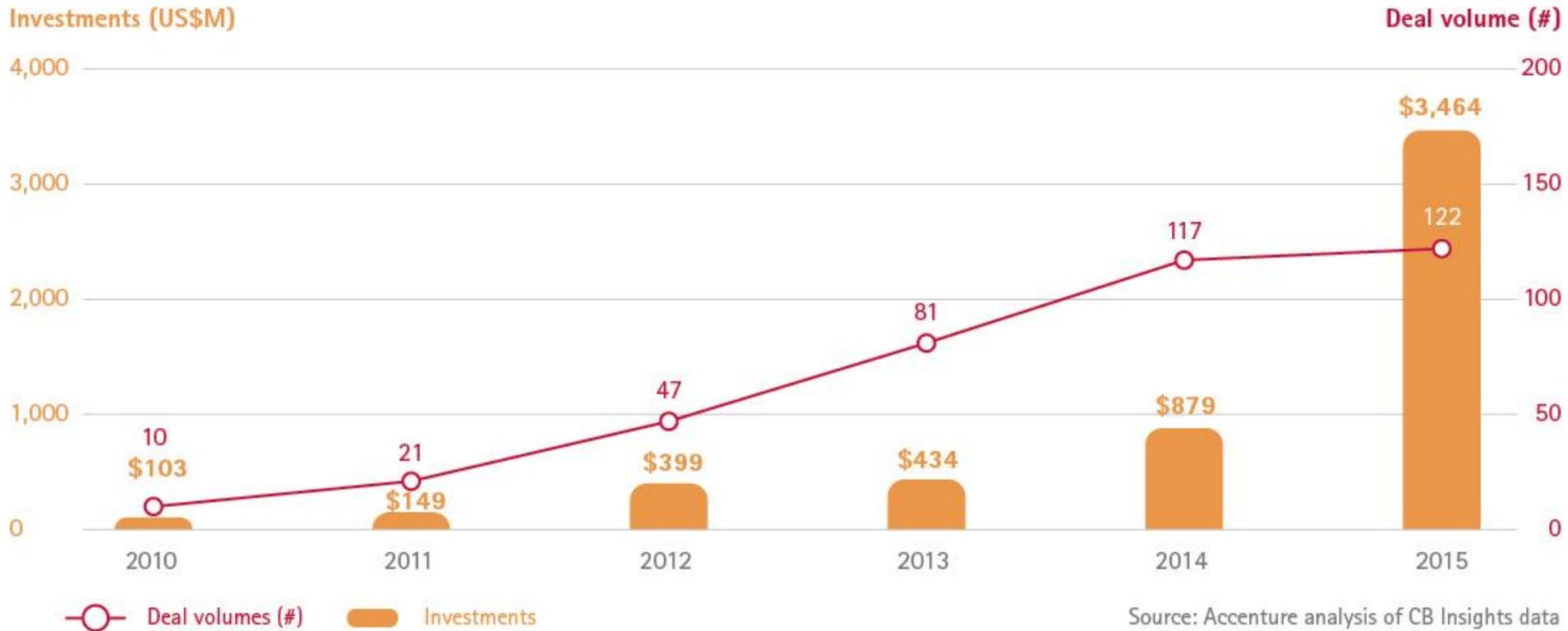
Using company size as a way to evaluate risk is not adequate, given interconnectedness of financial markets and rapid up-take of certain financial products. Today, some small companies' path to become systemic is not linear but exponential:

- **Kenya (2008):** In three years M-pesa was being used by over 18 million customers and 43% of Kenya's GDP was flowing thru this service
- **China (2014):** Third party mobile payment market reached 1,433 trillion yuan, a +400% increase compared to 278 trillion exchanged in 2013
- **China (2014):** Yu'e Bao, a money market fund in the Ant Financial Group (Alibaba) held over US\$ 90billion (*e.g. 4th largest in the world*) just 10 months after its creation

Investment Trends

FinTech Investment in APAC has quadrupled in last 12 months reaching UD\$ 3.5 billion

Investment in APAC fintech on the rise



Open Questions

The emergence of this new era of FinTech raises a series of questions:

- Can regulators set frameworks that allow low-cost business models of FinTech companies to flourish with costly financial regulation?
- What are the regulatory consequences of China leapfrogging the world by delivering financial services and products on an unprecedented scale?
- Who are the responsible regulators for telecom operators providing services that are close substitutes to ones provided by banks?
- Should we expect rapid global harmonization of new regulatory standards to facilitate the development of FinTech and RegTech sectors?

Q&A

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