FinTech, RegTech and the Reconceptualization of Financial Regulation

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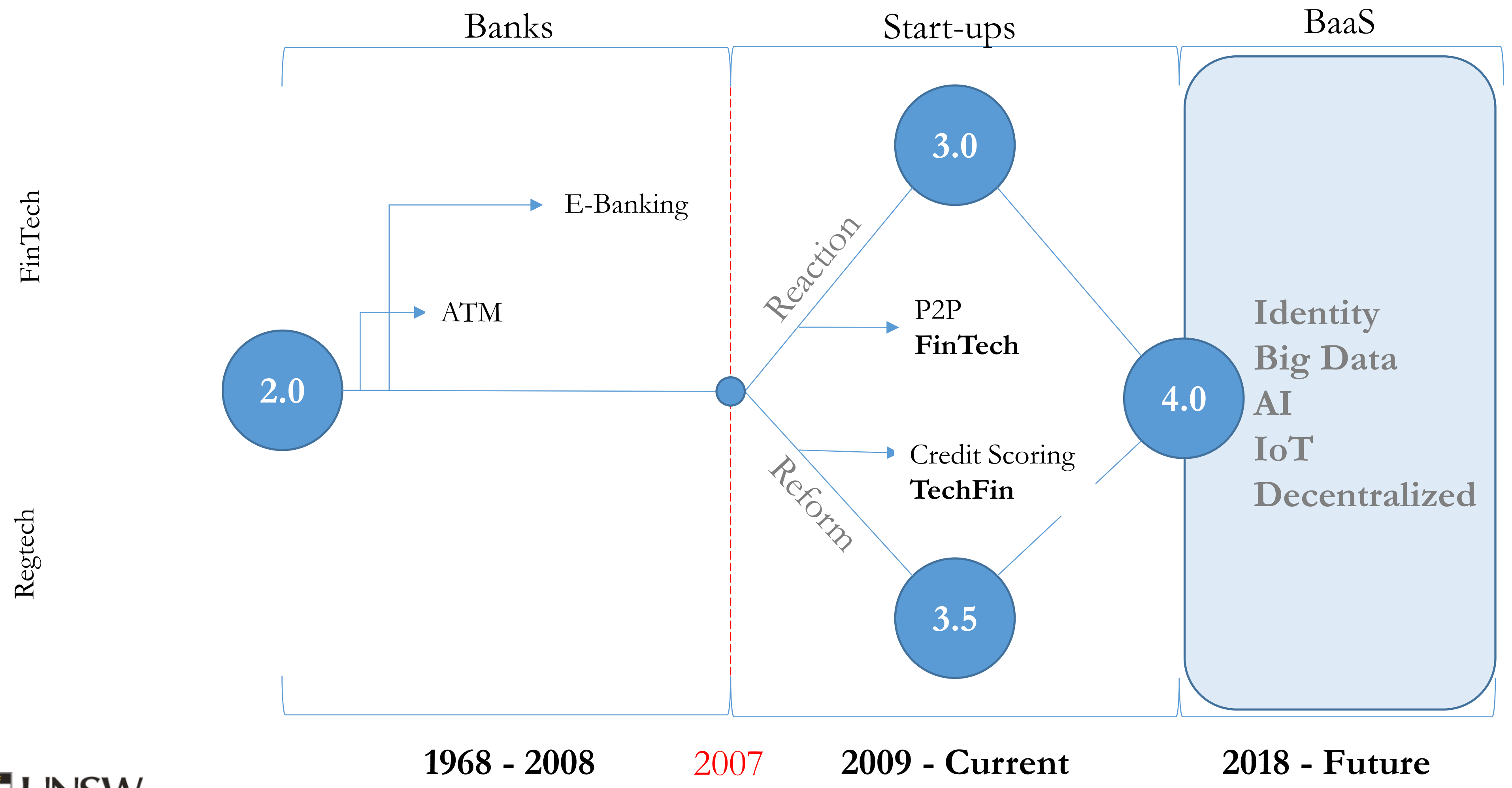
The Evolution of FinTech:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676553



In The News

IBM Buying Promontory Clinches It: Regtech I[s] Real

By Penny Crosman
September 29, 2016

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IBM's deal to buy Promontory Financial Group portends a dramatic change in the roles computers and humans play in regulatory compliance — and perhaps banking generally.

If the deal announced Thursday goes through, the 600 consultants at Promontory will have the task of teaching Watson, IBM's massive artificial intelligence engine, how to handle risk management and compliance chores for financial services firms. Such automation may not make bank compliance officers obsolete, but it could mean that far fewer of them will be needed in the future, and that their time will be devoted to higher-level tasks.

"I immediately thought of all the lawyers and former government regulators that work at Promontory being replaced by computers," said Ryan Gilbert, partner at Propel Venture Partners. "If truly the purpose of this acquisition is to take the human knowledge and effectively store it in AI or Watson, it will have a huge effect on this industry."

"Financial services compliance has reached [...] human conditions — you can't just throw bod[...] the problems," said one analyst. "This is a tremendous market for IBM to get into."
IMAGE: BLOOMBERG NEWS

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Market grows for 'regtech', or AI for regulation

Artificial intelligence and biometrics help banks comply with rules

Trader on the floor of the New York Stock Exchange © Getty

OCTOBER 14, 2016 by: Martin Arnold

Hedge fund managers beware, someone is watching you. Or rather, something is watching you. A new artificial intelligence system can monitor traders, learn their behaviour patterns and raise the alarm when they do something out of character.

For example, a trader who has avoided securities for a long time after suffering a l[...] on them suddenly dives back into a losing position. This triggers an alarm in the monitoring system and sends an alert to th[e] hedge fund's compliance team.

From The Markets

Thomson Reuters Acquires Clarient, Avox

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NEW YORK/LONDON/SINGAPORE – Thomson Reuters has signed definitive agreements to acquire Clarient Global LLC and Avox Limited. Clarient is a leading global Know Your Customer ("KYC") and client reference data platform owned and used by the Depository Trust & Clearing Corporation ("DTCC"), Barclays, Credit Suisse, Goldman Sachs, J.P.

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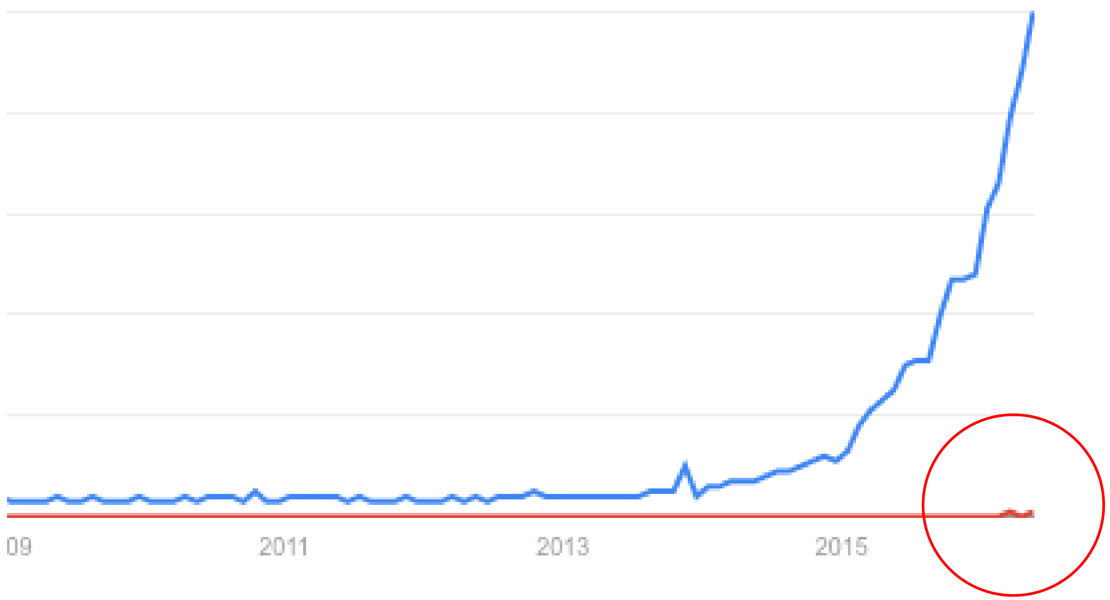
Trend

Comparatively to Fintech, RegTech has been growing very rapidly within the last 12 months raising the necessity to define the topic and its scope of applicability

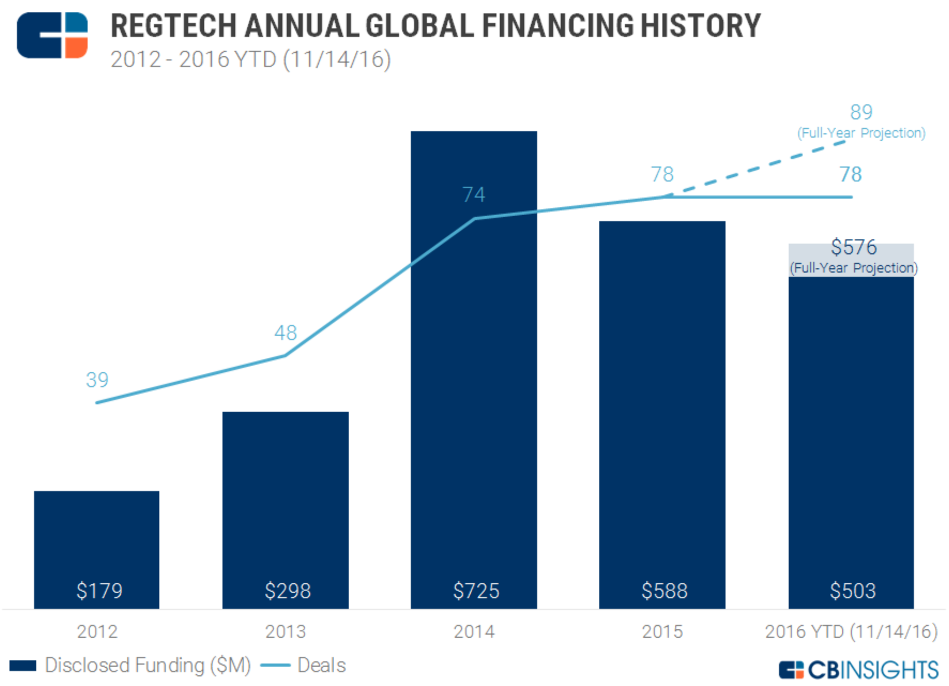
FinTech Vs RegTech



RegTech

Market Size

A total of US$2.2 billion has been invested in RegTech startups. The majority of market activity is currently in Europe and the USA.



Each 12min new regulatory alert

160 RegTech Start-ups

55% of Investment London

Definitions

RegTech (contraction of 'regulatory' and 'technology'): the use of technology to address regulatory and compliance requirements more effectively and efficiently

Examples:

- Electronic KYC
- Fraud monitoring
- Automatic Clearing Registry

Outcome

RegTech digital disruption is not just about greater efficiency in existing processes but new processes altogether.

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The financial services landscape

2 painful pressure points

Expense side

- Huge ongoing costs of compliance and regulation
- Post-GFC fines > US$200 billion

Revenue side

- Rising competition from FinTech companies
- US$4.7 trillion of revenue at risk from FinTech

The financial services landscape

The 2008 GFC was a turning point in the development of both FinTech and RegTech

Impacts of post-crisis regulation on financial institutions

Reduced:

- level of risk-taking
- spectrum of operations; and
- profitability

Origin of FinTech

Fin-Tech has grown organically from the bottom up

- **Emergence attributable to:**
    - Post-GFC financial market deficiencies
    - Public distrust in financial services
    - Political pressure for alternative sources of finance
    - Market penetration of internet and mobile phones

- **Impact:**
    - Financial market participants increasingly fragmented
    - Financial services industry increasingly digitized

Rise of RegTech

Has emerged as a result of **top-down institutional demand**

- Growth a response to:
  - massively increased costs of compliance
  - post-crisis regulatory changes requiring massive additional data reporting and disclosure
  - data science developments
  - regulators' efforts to enhance efficiency of supervisory tools

Evolution of RegTech

1987 - 2008	2008 – Present	Looking Forward
RegTech 1.0	**RegTech 2.0**	**RegTech 3.0**

RegTech 1.0 (1987 - 2008)

- Analysing exchange-based activities
- Quantitative risk management / Basel II

RegTech 2.0 (2008 – Present)

- 2 stages:
  1. facilitate compliance
  2. improve supervision and regulation

RegTech 3.0 (Looking Forward)

- From KYC to KYD
- RegTech to reconceptualize finance and financial regulation

The financial system is on the edge of moving from being based on Know-Your-Customer (KYC) principles to a Know-Your-Data (KYD) approach.

RegTech Benefits

For businesses:

- massive **cost savings** for established institutions
- great **opportunities** for emerging FinTech start-ups, IT and advisory firms
- Ability to liberate excess regulatory capital

For regulators:

- more **granular and effective supervision** of markets and market participants
  - Prospect of **continuous monitoring** providing **close to real-time insights**
  - Ability to identify problems as they are developing
  - Reduced time to investigate firms for compliance breaches
- the means to move towards a **proportionate risk-based approach**
- reduced risk of **regulatory capture / Goodhart's law**

RegTech encompasses industry and regulators

Financial institutions and industry

- Major drivers of RegTech development
- Demand efficient tools to deal with regulatory and compliance demands
- Global firms developing centralized risk management

Regulators

- Lag in regulator adoption relative to private sector
- Yet need to develop systems to deal with rivers of new data and cybersecurity

Start-ups

- Incentives to trade off-data for faster market entry
- Automation of reporting and compliance more aligned with lean business model

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Financial institutions and industry in detail

Late 1960s – 2008

- financial institutions expanded in scope and scale
- operational and regulatory challenges
- growth of quantitative finance and IT → financial engineering and VaR systems
- overconfidence in ability to manage risks

Post-GFC

- annual compliance spending > US$70 billion
- uncertainty regarding future regulatory requirements
- multinationals implementing systems for different requirements across jurisdictions
- IT firms, advisory firms and start-ups involved in creating RegTech solutions

Regulators in detail

Big Data

- Need to develop IT capabilities and systems to monitor and analyze new regulatory datasets
- Opportunity for collaboration between regulators and academia

Cybersecurity

- Digital transformation of finance industry has made it more vulnerable to attack, theft and fraud
- Data abundance may not create the right incentive for firms to enhance their cybersecurity
- Clear example of how FinTech demands RegTech

Macroprudential policy

- Seeks to use massive amounts of data to identify patterns and reduce severity of financial cycle
- Greatest potential for RegTech

FinTech requires RegTech

- FinTech is moving from digitization of money to monetization of data

- Building a new framework requires a sequenced approach:

  1. Focus on building 21st century **infrastructure** to support market functions
  2. Develop **appropriate regulatory responses** to FinTech innovation
     - Need to apply graduated regulatory requirements to firms based on their level of risk
  3. Consider **regulatory sandboxes** as an opportunity to test new approaches

From KYC to KYD

- Main impetus, longer-term, for RegTech may be the regulators' ability to analyse the increased amount of data generated by the technology

- There needs to be a **coordinated approach** by regulators to support RegTech
    - Methodology proposed by the UK Blackett report & FCA consultation paper

- Regulatory sandboxes and clinical trials are likely to be the best way to pilot RegTech development

    - UK FCA Project Innovate has established a framework for this, as has ASIC

Case Study: India Stack

VISION

Presence-Less

Unique digital biometric identity

Paper-Less

Electronic documentation protected by digital signature and storage

Cash-Less

Single interface to all interconnected payments platform

Consent

Consent-enabled data sharing framework

IMPACT

1,000% Efficiency Gain for end-to-end account creation :

	Bank	Prepaid Card Issuer
Days	14- 30 days	1 – 2 days
Time	70 – 91 min	6 – 20 min
Costs (USD)	US$ 5.2 – 8.7	US$ 0.34 – 1.6

Re-aligns economic viability of financial inclusion delivery

Moving towards a paradigm shift

Over the past 50 years the application of technology within regulation has changed dramatically. The transformative potential of technology will only be fully captured by a **new and different regulatory framework.**

We argue that RegTech:

- Cannot be seen as a mere subset of FinTech – as broader than finance
- Is more than an efficiency tool
- Will play a critical role in the impending paradigm shift in regulation
- Has potential for application in a wide range of contexts, such as environmental compliance, in oyster farming for example.

Human Capital

Being "technologically neutral" has lead regulators to distance themselves from the necessity to understand new technological innovation.

Creates a knowledge gap in the consequences in the use of new processes & algorithm

FICO Score => Regulated
Alternative Credit Score => Unregulated

Risk mispricing of credit or loan origination

Catalyst

Q&A

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