Panorama internacional y regulación de las fintech

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I Panorama internacional y regulación de las fintech

1. Regulation of technology?
2. The example of EU/US financial crime legislation post financial crisis
3. The global challenges of regulating emerging Fintech businesses:
   - Virtual currency exchanges and e-wallets (VC E& e-W)
   - Crowdfunding
   - Remittances
4. What are the tools to mitigate risks?
   - Regtech and the opportunities it presents
   - Data Analytics Tools
   - Smart Contracts and Use Cases examples
5. Conclusions

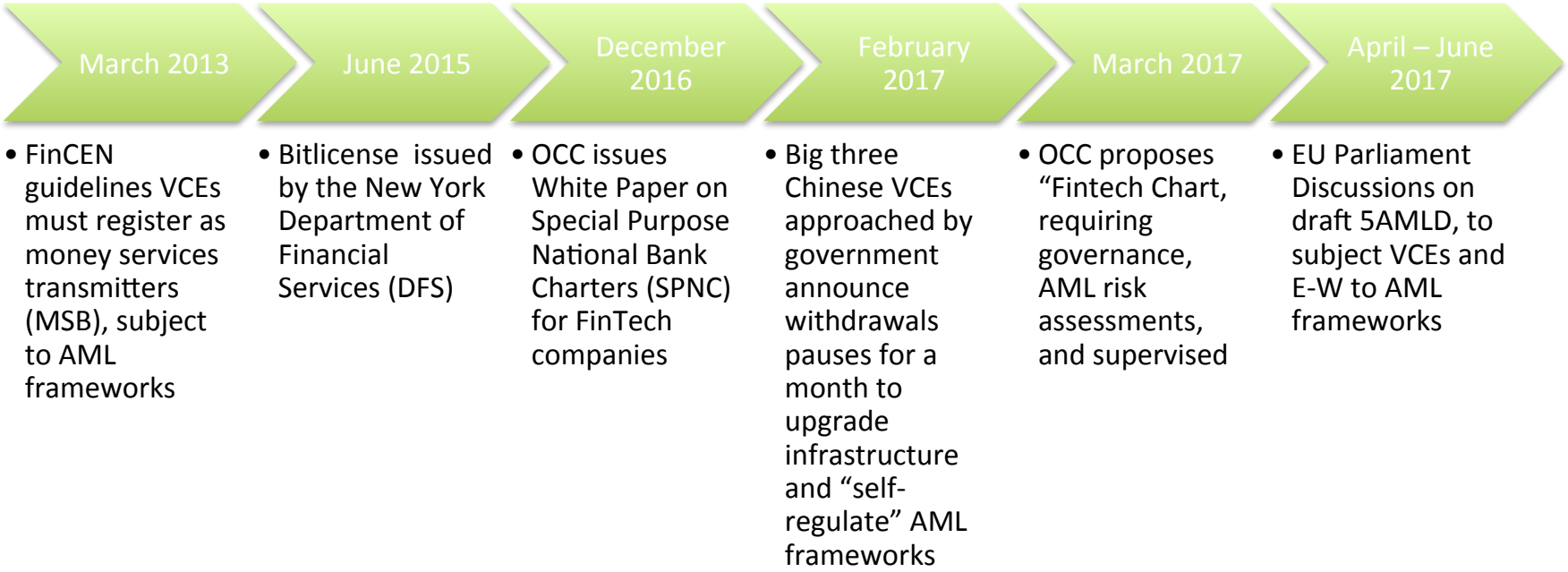
Regulation of technology?

- Fintech (Finance and Technology) currently refers to a variety of business:
  - Some of them provide ancillary services to finance and do not need a banking license to operate (i.e., improve settlements and processes)
  - Some of them engage in financial services (i.e., payments, credits, forex exchange), which are highly regulated and compete with the financial sector
- Technology regulation (example: blockchain, DLT) should be neutral
- Fintech legislation should address new business which offer financial services using new technologies - similar existing principles and risk-based approach
- Fintech companies, regulators and banks should enter into a dialogue to balance the need to identify new risks and obstacles to innovation

Increasing AML requirements: EU/US financial crime legislation post-crisis

- After the Paris terrorist attacks in 2015, the EU Commission presented an action plan to strengthen the fight against terrorist financing and a proposal to review the 4AMLD
- The proposal to review the 4AMLD of July 2016 (also called “5AMLD” due to the substantial changes included), addressed terrorist financing risks linked to virtual currencies and anonymous prepaid instruments (cards)
- The US Treasury (FinCEN) has required Fintech business which enter into money services business (payments, remittances, exchanges) to have AML frameworks since 2013
- After the Panama leaks in April 2016, both the 5AMLD and the Bank Secrecy Act, which will enter into force in 2018, will impose enhanced due diligence on beneficial owners and controlling entities of clients legal entities

Regulatory initiatives for Virtual Currency Exchanges and money transmitters



Virtual Currency Exchanges and E-Wallets Risks

- Virtual currencies are a value-transfer system that operates like a currency or commodity, decentralized, subject to minimal regulation (US/EU) or no regulation, susceptible to cyber-attacks
- Virtual currency clients' accounts are not insured by the Federal Deposit Insurance Corporation, and subject to non-recourse from fraud or theft
- Investments tied to virtual currencies are highly volatile
- A combination of trade-based money laundering with virtual currencies and mixers makes international transactions almost untraceable

Case studies: Yapizon and Bitfinex

- Some recent international examples are the Yapizon and Bitfinex hacks. In April 2017, South Korean bitcoin exchange Yapizon announced a USD 5 million hack or about 37% of user funds out of four wallets.
- Yapizon adopted a similar solution to compensate losses to the Hong-Kong based Bitfinex, which was hacked USD 72 millions in August 2016.
- This consists on issuing tokens equivalent to a percentage of profits. Therefore, users will recover loses in the long run by participating in company profits. However, the calculations on the token distribution are not clear.
- Bitfinex was able to compensate clients in only eight months by redeeming the tokens against profits or exchange them for shares in its holding company. The initial conversion rate proposed by Yapizon would likely imply two years for users to recover loses.
- More importantly, the decision by the Yapizon to spread losses among all customers on the same 37% amount is controversial from a legal standpoint.

Initial Currency Offerings (ICOs)

- In recent months, ICOs have become an investment opportunity fuelled by the growth of Bitcoin and Ethereum
- A mixture between crowdfunding and IPOs
- Their unregulated nature is rapidly changing
- Countries' approach are very different from banned (China) to unregulated (EU) to heavily regulated (US)
- The SEC has warned investors of potential "pump-and dump-schemes"

International regulation of ICOs

Country Name	Status	Notes
European Union	Allowed/Subject to future regulations	ICOs are allowed, given they are in adherence to Anti-Money Laundering/Know Your Customer (AML/KYC) policies and to required business regulations and licenses, per the ICO's business function. However, **potential new regulations being considered** might make altcoins a new class of assets where there is no consumer or seller engagement, and therefore no laws are needed to guide the behavior of parties involved. This may make Europe a hotspot for ICO development.
Canada	Allowed /See Notes	**The Canadian Securities Administrators have ruled** that ICOs and altcoins are securities, subject to regulations on a case-by-case basis.
China	Banned	ICOs are banned for all businesses and individuals by order of the People's Bank of China. Chinese ICOs that have completed their funding cycles have been requested to refund any altcoins raised. The PBoC has indicated it will investigate any company or individual found to be in violation of its ruling.
Estonia	Allowed	**Estonia is currently considering starting** its own ICO to raise funds.
Germany	Allowed	Germany has no specific regulations for ICOs, but expect ICOs to adhere to existing regulations, including those encapsulated in the Banking Act, Investment Act, Securities Trading Act, Payment Services Supervision Act, and Prospectus Acts.
Israel	Allowed, but subject to future regulations	**The Israeli Securities Authority is scheduled** to report on whether ICOs and altcoins should be regulated on December 31, 2017.
Japan	Allowed, but subject to future regulations	The Financial Services Agency is looking at regulations that may help to strengthen AML/KYC protections for altcoins.
Russia	Allowed, but unregulated/subject to future regulations	The Russian government is uneasy concerning altcoins and may recognize altcoins as derivatives or other financial instruments for the purpose of

International regulation of ICOs

Singapore	Allowed. but subject to future regulations	**Singapore authorities have indicated** that they may be interested in considering regulations on ICOs. It is likely that ICOs with "independent utility" — that is, no involvement with fiat currencies or other securities or properties — will be exempt from regulations, however.
Switzerland	Allowed, but subject to future regulations	Recent attempts to regulate ICOs have failed, but the need to codify protections may reignite the regulation efforts. Regulations are not thought, however, to be able to stop the current momentum to incorporate ICOs into Swiss culture.
United Kingdom	Allowed, but subject to future regulations	The UK recognizes altcoins as "private currency," similar to "Disney Dollars" at Disney properties. Currently, ICO operators are free to interpret existing laws and regulations as they see fit for their own properties. However, the UK is testing out ICOs and altcoins in its "regulatory sandbox"; new regulations may be released soon.
United States	Allowed, but heavily regulated	ICO rules vary widely from state to state, from no regulations at all in some states to regulations requiring deposits in equal to or in excess of all local transactions to regulations requiring a license for businesses to engage in altcoin activities. On the federal level, there are no current regulations banning ICOs specifically, although ICOs are expected to be registered and licensed the same as if they were not ICOs. This includes registering with the SEC if the ICO is to sell or trade securities. The SEC has recently found that some altcoins may be a security, and as such, may be subject to SEC's ruling in the future. ICOs are expected to adhere to AML/KYC practices. Failure to adhere to these practices may leave an ICO open to legal action or possible seizure.
Gibraltar (UK)	Allowed, but subject to future regulations	Regulators are planning to offer regulations for ICOs by January 2018 in hopes of permanently codifying legal protections for the altcoins.
Isle of Man(UK)	Allowed, but subject to future regulations	**The Isle of Man has indicated** that it is seeking to forge regulations in the future that will establish and protect ICOs' legal status.
South Korea	Banned	South Korea has banned all ICOs in the country on September 29. The

International regulation of ICOs

South Korea	Banned	South Korea has banned all ICOs in the country on September 29. The Financial Services Commission cited the growing risk of scams for being the reason behind the crackdown.
Thailand	Allowed, but subject to future regulations	The Securities and Exchange Commission has released a statement paper, welcoming the use of altcoins, but leaving open the possibility of regulating altcoins thought to be securities.
Hong Kong (China)	Allowed, but subject to future regulations	**Regulators have indicated** that certain altcoins might be securities and should be treated as such.
Philippines	Allowed, but subject to future regulations	Regulators have recognized Bitcoin as a valid form of remittance payment. However, the country also feels that regulations addressing AML/KYC protections may also be needed. Additional, **companies offering exchange services are now required** to register.
Australia	Allowed/Regulated	One of the first countries to formally launch ICO regulations, **Australia requires ICOs** that involve combined investment to adhere to the Corporations Act, to keep track of those shares — if the ICO issues shares — and to issue a disclosure document and acquire a financial services license if the ICO offers financial advice to customers.

Some regulatory questions to consider:

- Legal: What is the legal status of a token? (asset/security/commodity/ utility) What is the effect or enforceability of a (cross-border) token transfer?
- Transparency/ Consumer protection: Was the loss-sharing approach disclosed in the terms of service and accepted by all users?
- Cybersecurity: Was the level of security adopted by the exchange appropriate and did the exchange operated with due diligence?
- Liability: Were the users of the hacked e-wallets accounts negligent in storing the keys?
- Suitability: Were the users aware of the risks regarding the unsecured deposits and volatility of the investments in virtual currencies?

Crowdfunding and lending platform risks

- Online lending platforms, P2P and equity crowdfunding are rapidly growing in the US, UK and China, according to a MS report (2015)
- S&P has raised concerns about lending platforms' capacity to comply with financial regulatory principles and the quality of data they use to base their underwriting decisions
- The US has regulated crowdfunding (SEC, FINRA) platforms, which must also comply with FinCEN anti-money laundering prevention frameworks
- Some EU countries (UK, Spain) have regulated crowdfunding but there is no harmonized legislation across EU. The "5AMLD" will impose AML regimes

Crowdfunding: some governing principles

- Platforms should be registered or licensed and use available technology in place to perform sanction screenings and sufficient KYC background checks/ identity due diligence on Issuers and its directors and beneficial owners, to avoid that Project owners could secretly use crowdfunding platforms to raise funds for illicit purposes (San Bernardino)
- Conflicts of Interests: Platforms, their shareholders, managers or key employees could be prohibited from having or acquiring financial interests in an issuer/ borrower's business and in any event to disclose such financial interests.
  - This would address the risk of fake platforms which are set up to launder money where the investors, borrowers or the platform have controlling interests (i.e., a drug dealer ((issuer) in collusion with the platform could sell drugs to customers by issuing worthless securities and introducing the illicit funds in the system with an appearance of legitimacy)
  - Or where the investments are made in projects which do not successfully meet their fundraising target and the illicit funds are being returned to the investor with a licit appearance.

Money Services Business risks

- After September 2001, FATF recommendations provided that money transfers and remittance houses should be licensed and comply with AML frameworks to avoid terrorism financing (due diligence on customers)
- In the US, money services business are regulated by the States. The OCC chart recently provide a voluntary alternative for Fintech to apply for a limited banking license
- Since the 2008 financial crisis, remittance start ups have emerged globally using new technologies (blockchain) in direct payments to mobile phones to provide services across borders

Coins.Ph case analysis

- Coins.ph is a mobile blockchain-based platform connecting over three hundred million unbanked people in Southeast Asia.
- Blockchain helps Coins.ph facilitate remittances from any country as long as the sender is able to purchase digital currency. Coins.ph is regulated by the central bank of the Philippines (BSP) as a remittance and foreign exchange company.
- Since the amounts are small, KYC requirements for opening a Coins.ph account are less demanding than opening a bank account.
- For low-risk individuals' identification, a risk-based approach perm its users to take a selfie on their phone while holding a government identity document. Strategic partnerships with banks also allow Coins.ph customers to use automated teller machines (ATMs) by sending a code to their phone without the need to have a bank account or an ATM card.

Regtech solutions for:

GOVERNANCE

- Culture and ethics monitoring
- Training

RISK

- Enterprise risk management
- KYC / AML / Due Diligence
- Intelligence

COMPLIANCE

- Transaction surveillance & reporting
- Audit and case management tools

ROI

✓ ***Greater Insight***

- Data mining using ML
- Extract insights via advanced analytics

✓ ***Greater Efficiency***

- Reduce data silos
- Improve workflow through automation and collaboration

✓ ***Greater Agility***

- Real- time capabilities
- Flexible deployment options and configurations via cloud and API

How to mitigate risk: Regtech and Data analytics tools

- Regtech: how technology can help enhance supervision
- Big data analytics and data science can also help banks and governments supervise trade-base money laundering. Web crawlers which scan the internet are able to deliver their data to big data infrastructures in real time. Machine learning has potential to identify AML suspicious transactions
- Regtech innovation has potential to enhance supervision, registration, and streamline compliance processes, some examples:
  - KYC utilities
  - Digital Identity

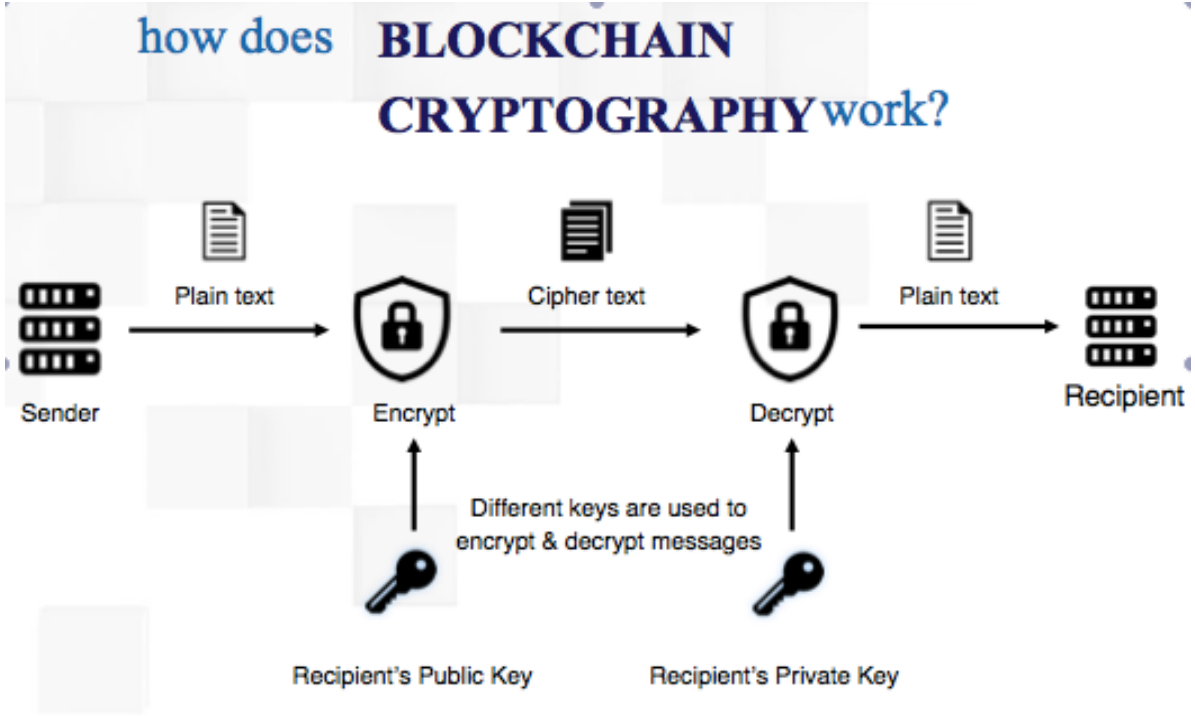
Global Fintech/Regtech initiatives

Regtech: What are Smart Contracts?

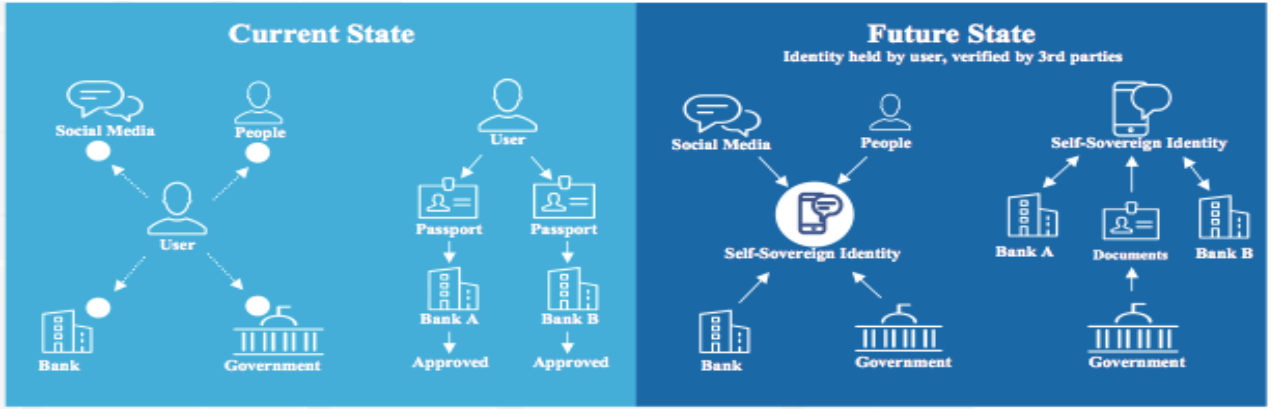
It is a common misconception that there is only one type of smart contract. In fact, there is a spectrum of possibilities.

Smart Contracts Lie on a Spectrum			
Contract entirely in code	Contract in code with separate natural language version	"Split" natural language contract with encoded performance	Natural language contract with encoded payment mechanism

Blockchain/DLT applications for Smart Contracts



Use Cases examples:
Smart Contracts for Digital Identity



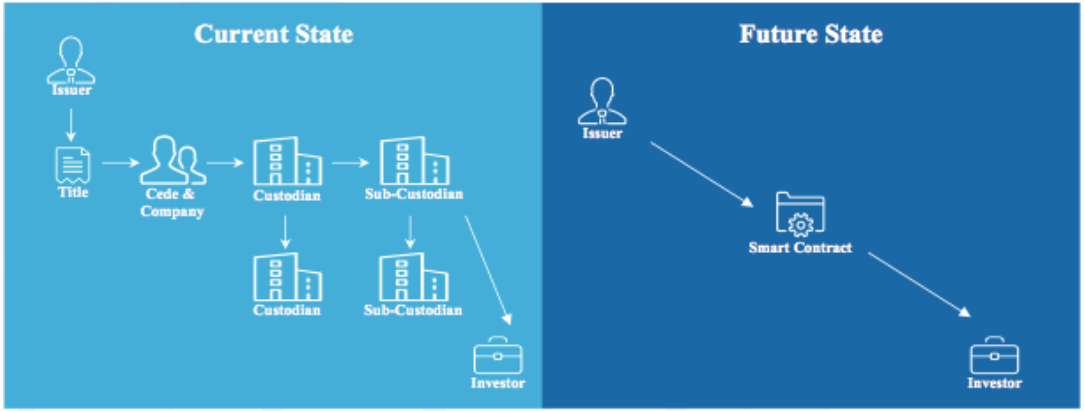
Current Challenges

- Expensive and time consuming Know Your Customer (KYC) processes that lack completeness
- Limited control over potential data leakage due to an individual's reliance on trusted third-parties
- High liability to safeguard user data presents a single point-of-failure and a target for hackers

Smart Contract Benefits

- Individuals own and control personal data (e.g. able to securely disclose personal data to various counterparties)
- Counterparties will not need to hold sensitive data to verify transactions, reducing liability while facilitating frictionless KYC
- Increased compliance, resiliency and interoperability

Smart Contracts for Securities registration and settlement



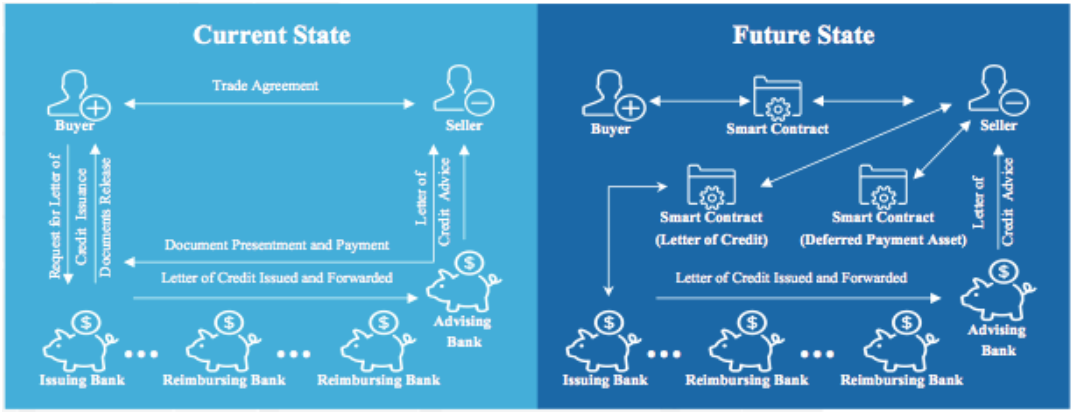
Current Challenges

- Paper-based, manual corporate registration processes
- Companies that fail to keep their corporate registrations up-to-date require clean-up and certificate of good standing before issuing securities
- Intermediaries increase cost, counterparty risk and latency

Smart Contract Benefits

- Digitized end-to-end workflows due to securities existing on a distributed ledger
- Trade date plus zero days (T+0) securities settlement cycles
- Facilitates automatic payment of dividends and stock splits, while enabling more accurate proxy voting
- Removes counterparty and operational risks created by intermediaries

Smart Contracts for Trade Finance



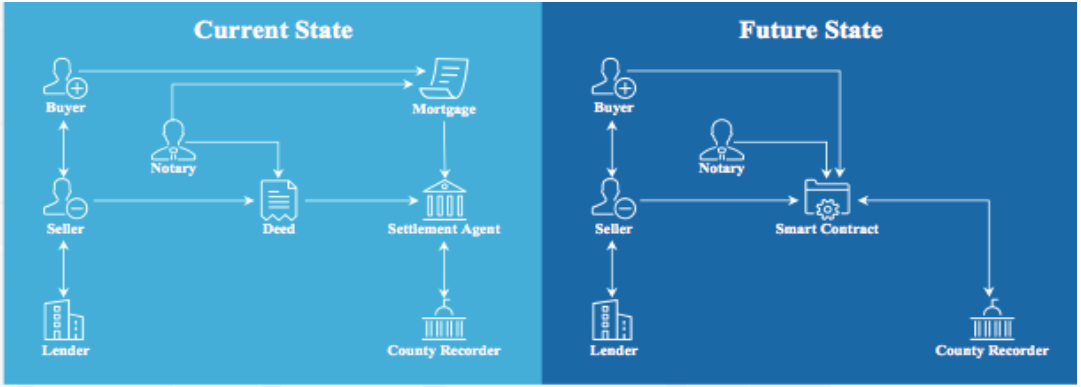
Current Challenges

- Time-consuming and costly Letter of Credit issuance process due to required coordination and paperwork
- Physical document management can delay shipment receipt until title document is released
- High document fraud/duplicate financing due to de-linked processes

Smart Contract Benefits

- Faster approval and payment initiation through automated compliance and monitoring of Letter of Credit conditions
- Improved efficiency in creating, modifying and validating trade, title and transport-related contract agreements
- Increased liquidity of financial assets due to ease of transfer and fraud reduction

Smart Contracts for Land Title Recording (State of Illinois)



Current Challenges

- Capital intensity due to incompatible infrastructure
- Unreliable identity verification and signing process for notarized documents
- Manual processes delay steps and create potential for document alteration
- Multiple parties can be shown the same property without detection

Smart Contract Benefits

- Changes in insurance and risk due to delivery assurance (from visibility)
- Higher confidence in identity of parties, streamlined processes and reduction in auditing/assurance costs
- Automated process notifications and incorporation of integrity protections
- Eliminate shotgunning mortgage fraud

Status quo @ DC Blockchain Summit, Georgetown U., 15-16 March 2017

When will we see a mass adoption of blockchain in financial services?

Some examples:

- State of Delaware - Passed legislation in July 2017 allowing the registration of companies in blockchain and issuance of shares (Symbiont)
- State of Illinois (Chicago) – Land title registration in blockchain
- Australian Stock Exchange/ DTCC/ Swiss Fixed Income Exchange – Clearing and settlement of securities (Digital Asset)
- Digital Identity
- Trade Finance (IBM/ MAERSK) – Tracking containers worldwide in blockchain
- KYC Utilities (SWIFT, Thomson Reuters in South Africa)

FINRA's Report Jan. 2017- DLT Governance

- Would the governance structure for the DLT network be determined by a single entity or a group of firms? What role, if any, would participants in the DLT network play in shaping its governance? How would the interests of end-users, which are not participants on the network, be represented?
- Who would be responsible for ensuring adherence by participants to the requirements established for the DLT network, and how would this be conducted?
- Who would be responsible for the day-to-day operation of the network and resolving any technical issues on the network?
- Who would be responsible for establishing and maintaining a reasonable business continuity plan (BCP) for the network, to address any unexpected emergencies or significant business disruptions?
- How would any conflicts of interest in the operation of or participation on the network be addressed?
- How would errors or omissions on the blockchain be reflected or rectified

FSB´s Report (June 2017): Financial Stability Implications from FinTech

- Authorities are generally focused on how Fintech is affecting the domestic financial landscape; cross-border issues are generally not being discussed and are likely to grow in importance as Fintech develops – internet reach is global
- DLT can synchronize the record of ownership and provide a common workflow for processing that data, ensuring that the results of agreements are processed in the same, mutually agreed manner
- DLT may have the potential to change the way recordkeeping, accounting, payment, settlement, and key aspects of financial markets are carried out
- Technology has expanded beyond mere transaction registries to include smart contracts (i.e. other forms of data and encoded business logic)

FSB´s Report (November 2017): Artificial Intelligence and Machine learning in financial services

- The use of artificial intelligence (AI) and machine learning is currently more extended in financial services than other technologies such as DLT
- The use of machine learning and AI may bring benefits to financial stability and systemic risk surveillance, more efficient processing of credit risk
- Network effect and scalability may increase new risks in future, such as third party (vendors) dependency:
  - Many providers of artificial intelligence and machine learning tools fall out of the scope of regulation and may not understand legislation
  - The lack of interpretability or auditability of machine learning or the bias in algorithms can give rise to new risks and shift focus on appropriate risk management

Conclusions & Recommendations:

- Fintech business that operate in financial services should apply similar principles (consumer protection, AML, market conduct) with a risk-based approach
- FINRA/BCBS recommend online banks use automated data analytic tools to prevent risk and do not rely on manual controls;
- Fintech business should use them too!
- Regtech innovation (KYC utilities, digital identity, data analytics) will facilitate banks to streamline compliance processes; and supervision by governments
- Data analytics, machine learning, AI, DLT and Smart Contracts may have the potential to change the way recordkeeping, accounting, payment, settlement, and key aspects of financial markets operations and supervision are carried out
- Cross border dialogue between authorities and between the industry and regulators (Sandboxes, Innovation labs) should be extended
- Risk management will need to adapt to tackle new technologies' risks

Acknowledgment & Sources

- Financial Stability Board Report “Artificial Intelligence and Machine learning in financial services”, November 2017
- Frederick Reese “ICO Regulations by Country”, Bitcoin Market Journal, November 14, 2017
- Financial Stability Board “Financial Stability Implications from FinTech”, June 2017
- Miren Aparicio, Chapter 5 “Big Data: Mitigating Financial Crime Risk” published by the Atlantic Council “Big Data: A Twenty Century Arms Race”, June 2017
- Chamber of Digital Commerce, “*Smart Contracts, 12 Use Cases for Business & Beyond*”, December 2016
- Chamber of Digital Commerce, Structured Finance Industry Group, “*Applying blockchain in securitization: opportunities for reinvention*”, March 2017
- FiNRA “DLT for the Securities Industry”, January 2017
- Henry Engler, Joyce Shen, “Taking Stock of the RegTech Landscape”, Thomson Reuters, 24 March 2017
- Kevin Petrasic, Benjamin Saul and Helen Lee, White & Case, “Regtech rising: automating regulation for financial institutions”, 2016,
- Citi GDS “Digital Disruption Revisited”, January 2017

Preguntas? Gracias!

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