URF - Tendencias y desafíos en la era digital

Fintech Regulation and Regtech:

Challenges and Opportunities

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Bogotá, 20 de Septiembre 2017

Fintech Regulation and Regtech:
Challenges & Opportunities

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

Fintech Regulation v. Technology Regulation?

- 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

March 2013	June 2015	December 2016	February 2017	March 2017	April – June 2017
• FinCEN guidelines VCEs must register as money services transmitters (MSB), subject to AML frameworks	• Bitlicense issued by the New York Department of Financial Services (DFS)	• OCC issues White Paper on Special Purpose National Bank Charters (SPNC) for FinTech companies	• Big three Chineese VCEs approached by government announce withdrawals pauses for a month to upgrade infrastructure and “self-regulate” AML frameworks	• OCC proposes Fintech Chart at a Federal level, requiring governance, AML risk assessments, OCC supervised	• EU Parliament Discussions on draft 5AMLD, to subject VCEs and E-W to AML frameworks

Virtual Currency Exchanges and E-Wallets (VC Es & E-W) 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

Virtual Currency Exchanges and E-Wallets 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.

Virtual Currency Exchanges and E-Wallets Some regulatory questions to consider:

- Legal: What is the legal status of a token? (asset/security/commodity/ other) 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 to conduct activities at a federal level
- 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.

Opportunities - 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

Global Fintech/Regtech initiatives



How to mitigate risk: Regtech and Data analytics tools

- Regtech: how technology can help enhance supervision
- Big data analytics, cloud computing, machine learning and data science can help banks and governments supervise trade-base money laundering. Ex: 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 or red flags and help compliance (human factor) analisis
- Regtech innovation has potential to enhance bank supervision, registration, and streamline compliance processes:
  - KYC utilities
  - Digital Identity

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

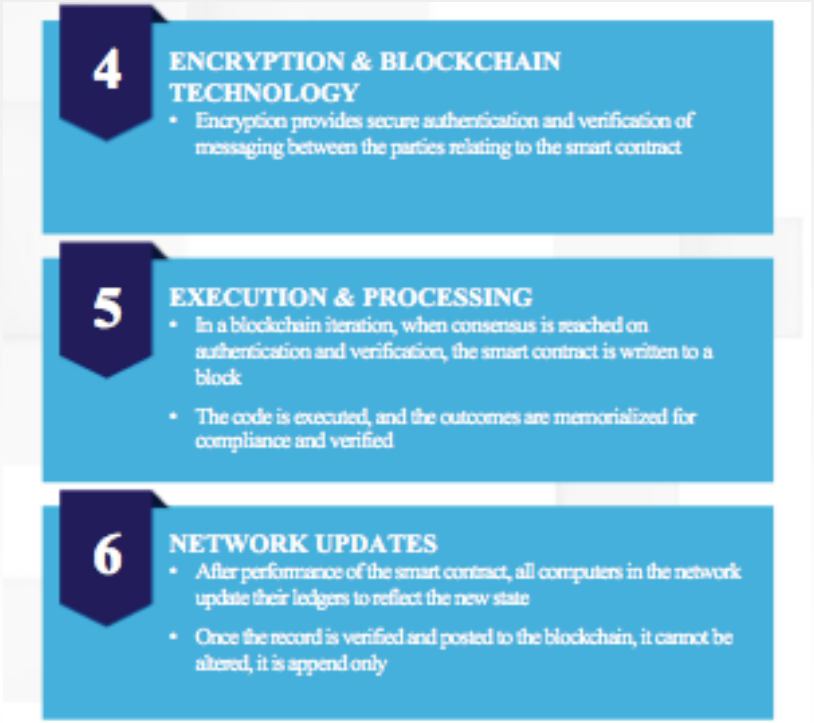
- Authorities are generally focused on how Fintech is affecting the domestic financial landscape; cross-border issues are generally not being discussed and are likely to grow in importance as Fintech develops – internet reach is global
- DLT can synchronize the record of ownership and provide a common 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)

Regtech: What are Smart Contracts?

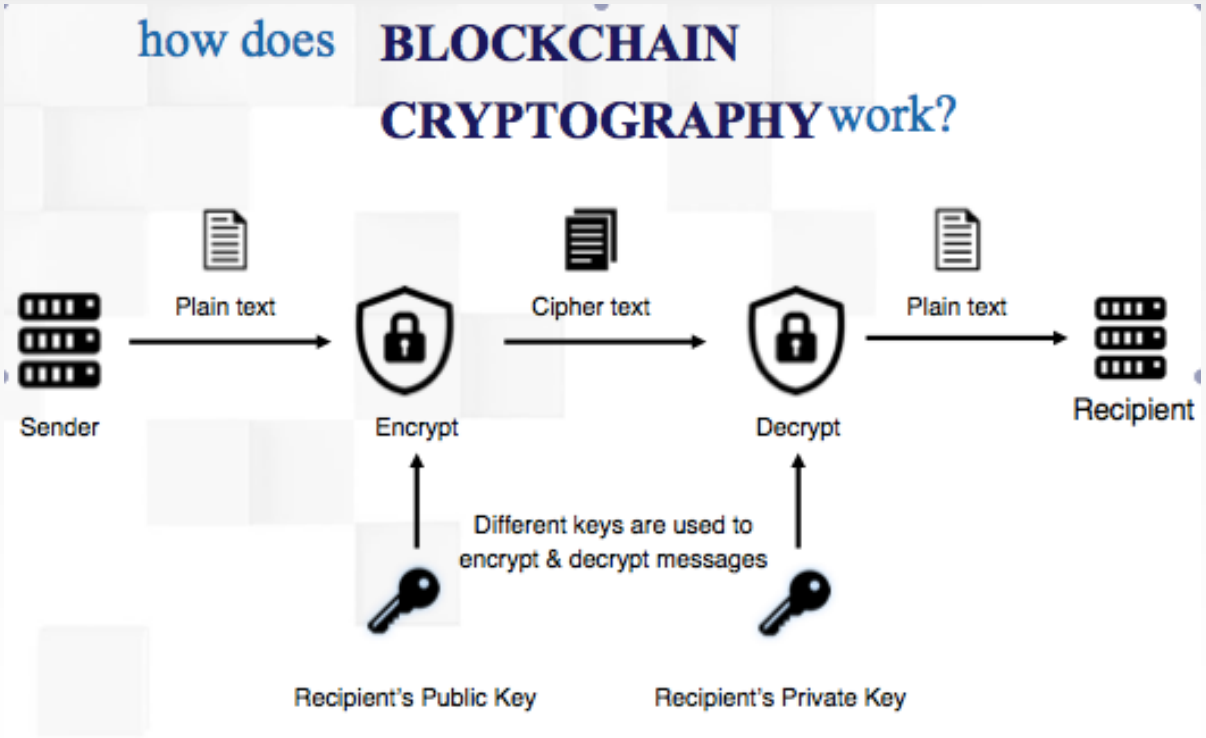
It is a common misconception that there is only one type of smart contract. In fact, there is a spectrum of possibilities.

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

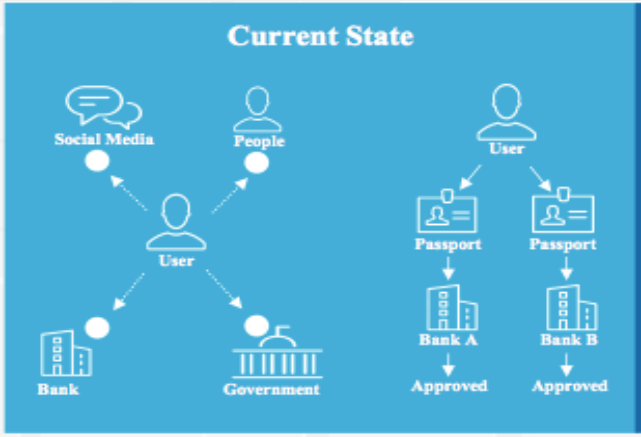
The anatomy of a Smart Contract

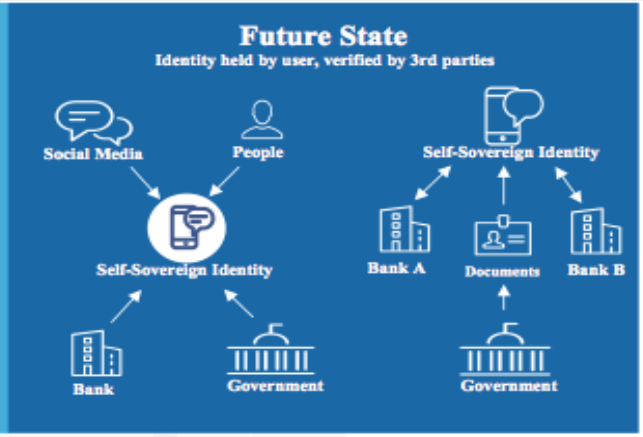


Blockchain/DLT applications for Smart Contracts



Use Cases examples:
Smart Contracts for Digital Identity/ Estonia





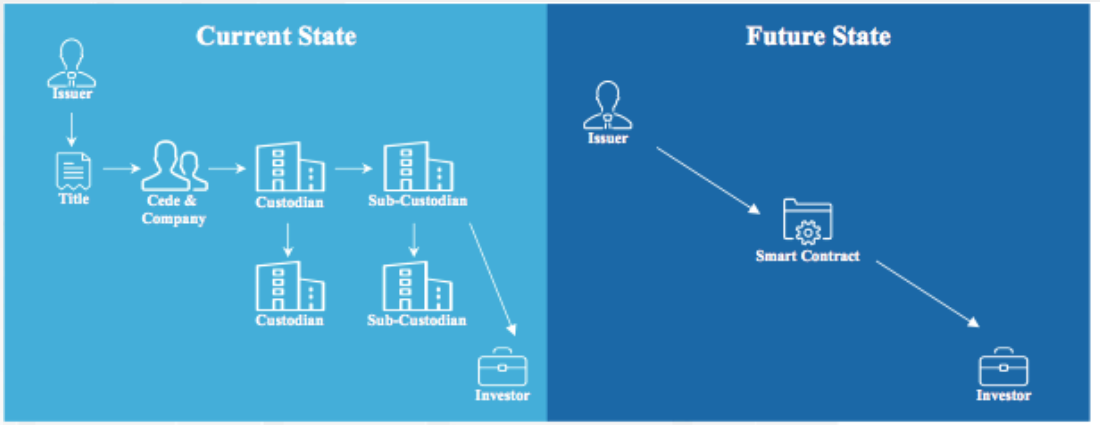
Current Challenges

- 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 (DTCC)



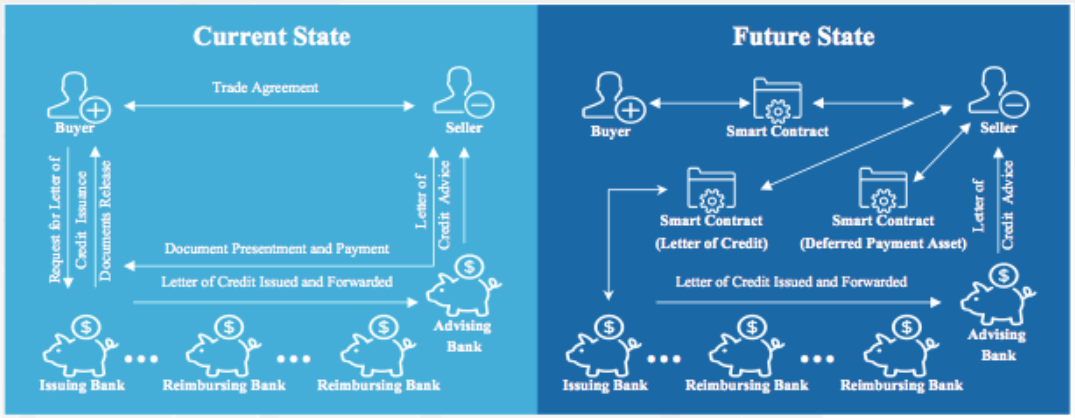
Current Challenges

- 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 (R3)



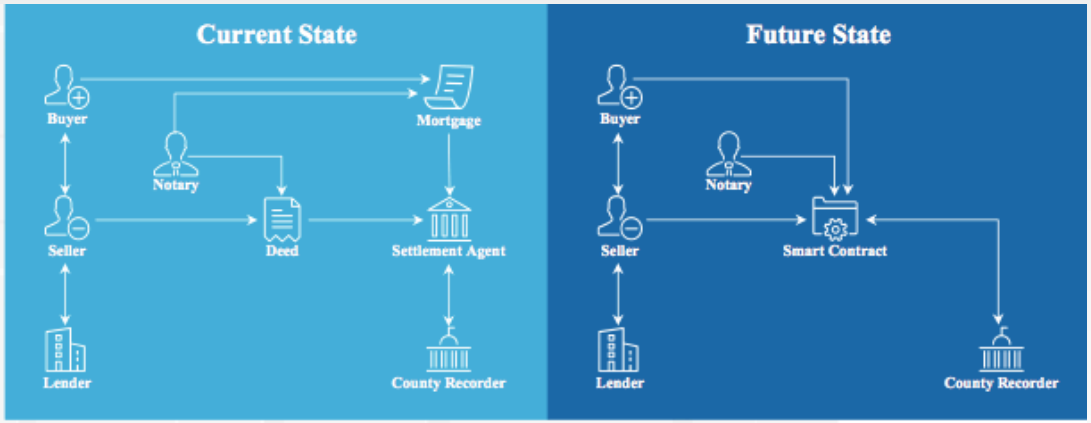
Current Challenges

- 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 (Republic of Estonia/ Nasdaq & Ripple technology)
- Trade Finance (IBM/ MAERSK) – Tracking containers worldwide in blockchain
- KYC Utilities (SWIFT, Thomson Reuters in South Africa)

FINRA's Report (Jan. 2017) DLT for the Securities Industry – 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?

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
- 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

Acknowledgment & Sources

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Preguntas? Gracias!

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