



Revolutionize the global futures market

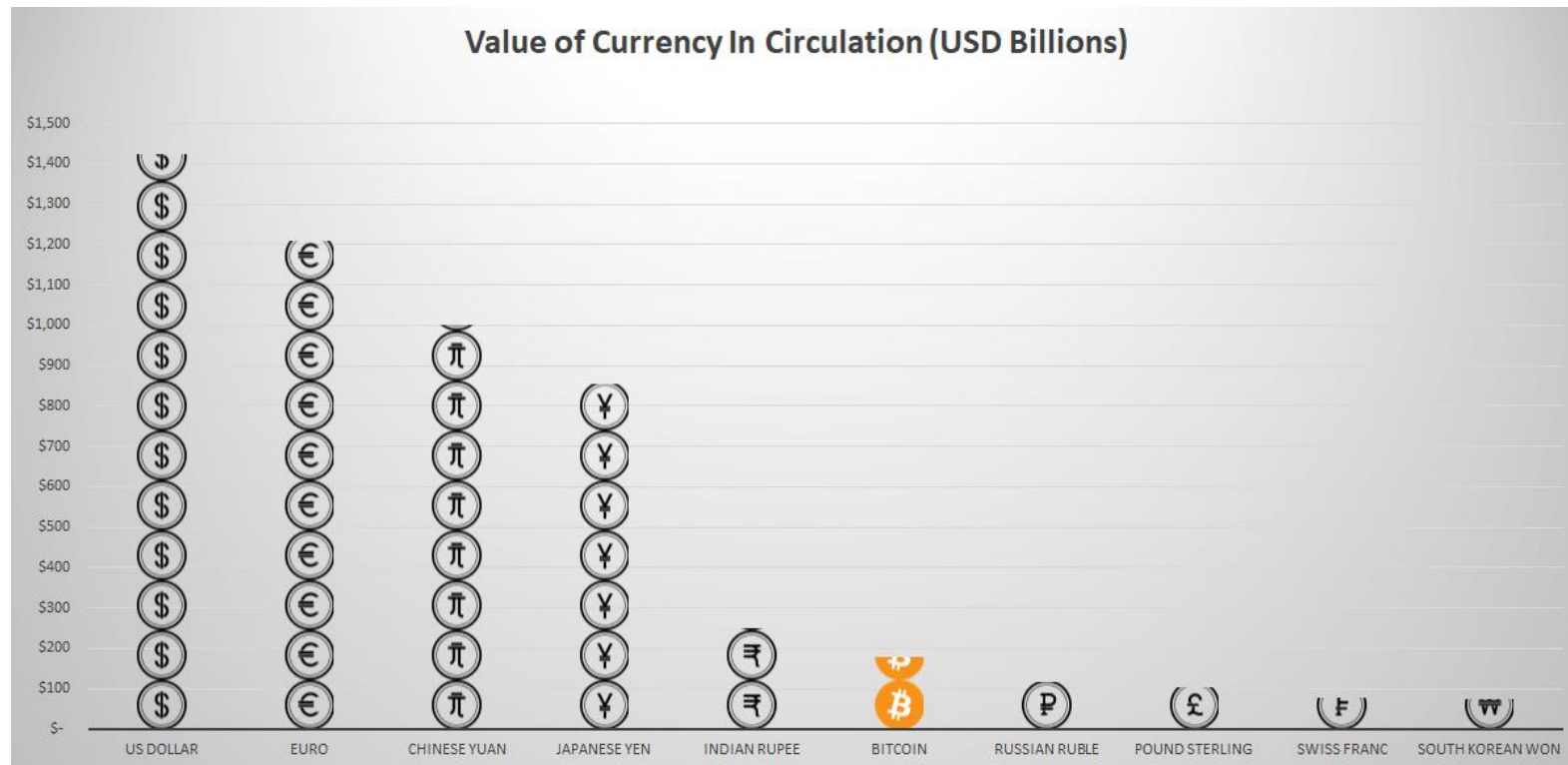
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Preliminary discussion materials
Subject to change.
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Confidential.

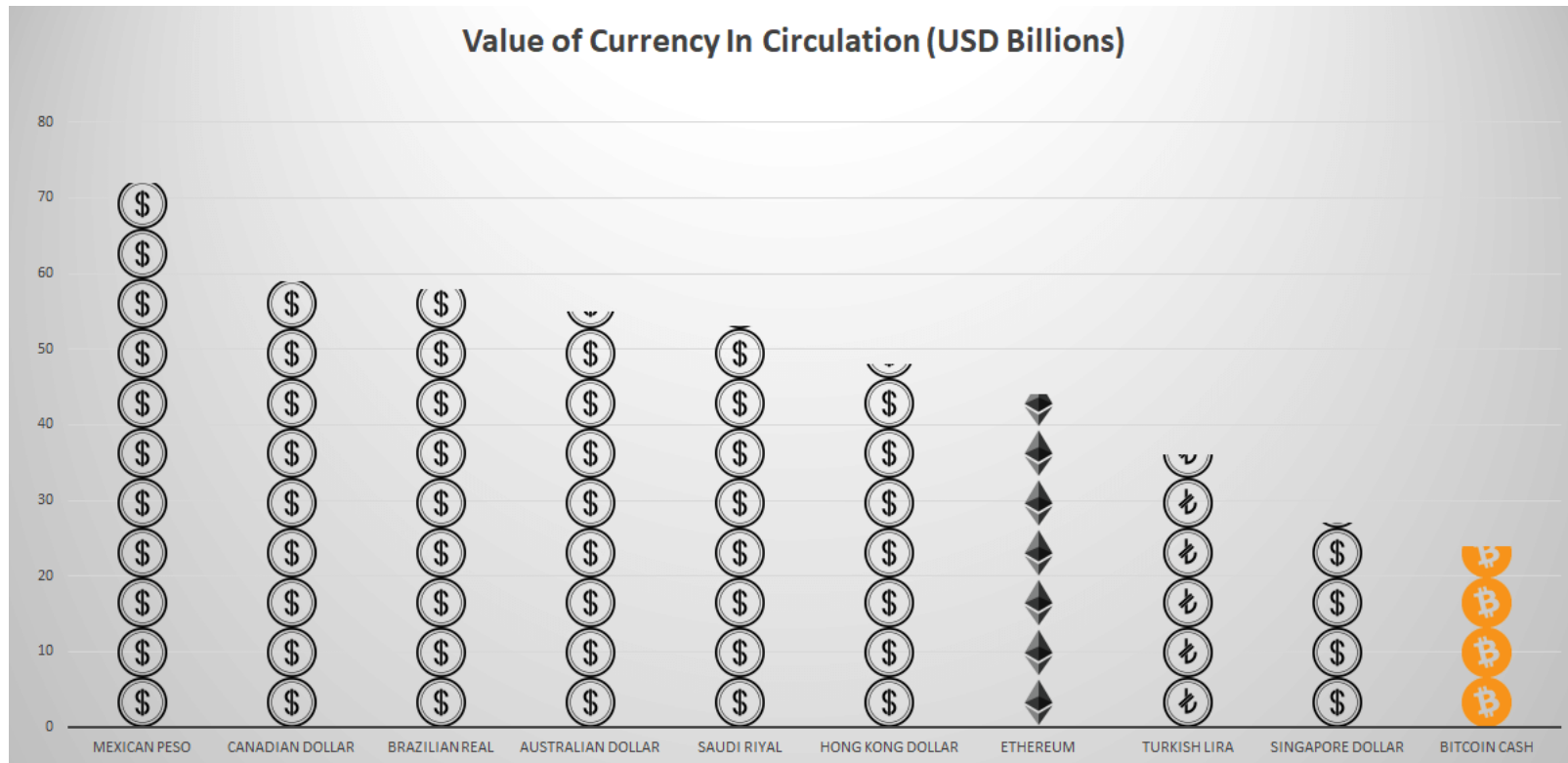
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Currency in Circulation: \$185bn BTC



ETH: \$45bn

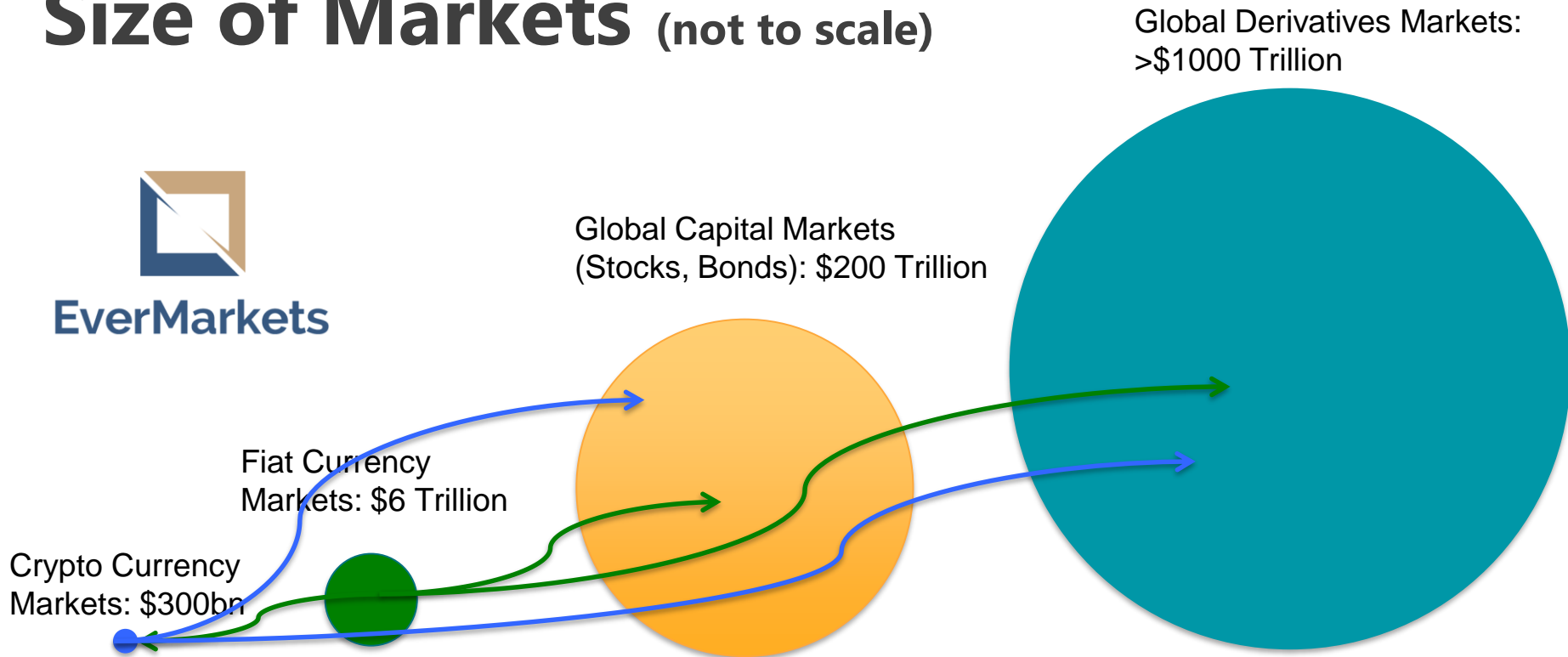
Value of Currency In Circulation (USD Billions)



Size of Markets (not to scale)



EverMarkets



Why EverMarkets?

- Peer to peer, trustless, decentralized futures trading and clearing platform
- Democratize access to global markets
- Institutional level liquidity
- Spur innovation – i.e. Ethereum Gas future, mall foot traffic future, etc

Founders from Carnegie Mellon



Jim Bai
CEO

9 years at **Citigroup & Graham Capital**
Managed a \$1Bn+ futures/options book, team of 2
B.S. Computer Science, **Carnegie Mellon University**
B.S. Computational Finance, **Carnegie Mellon University**



Craig Austin
CTO

12 years at **Microsoft & AQR Capital Management**
Led asset allocation research engineering at **AQR**
Managed team of 18 developers who built core research platform
B.S. Computer Science, **Carnegie Mellon University**



Mark Pimentel
Head of Market Making

11 years at **Citadel Investment Group, Knight Capital Group, and Radix Trading**
Built price prediction signals, execution strategies, and dark pools
Led equities & futures HFT teams
B.S. Electrical & Computer Engineering, **Carnegie Mellon University**

Team



Eric Rogstad

Blockchain Development

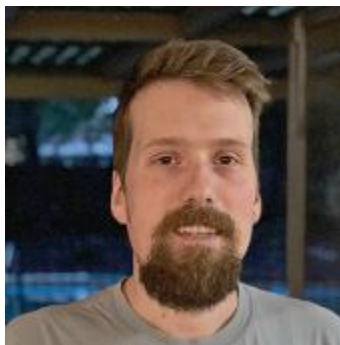
7 years at **Microsoft** &
Amazon

Social startup founder

Crypto trader and early investor

Bought BTC at \$0.25

B.S. Computer Science, **Duke University**



Evan Rothmayer

Product Development

13 years at **Microsoft**,
Amazon, & other startups
Architect on DevOps and Cloud
Engineering team of 130
engineers

Lead Amazon developer on
multiple "from scratch" product

B.S. Computer Science, **Iowa State University**



Jack Tan

Managing Partner

10 years at **Deutsche Bank, Citi, BNP**
Emerging Markets debt trading
Credit Structuring and Fixed Income Strategist
Proprietary futures trader
B.S. Business Administration, **Carnegie Mellon University**

Background: Derivatives and futures

- **Derivatives are contracts based on the price of something else**
 - Barrel of oil, bushel of wheat, equity stock index, bitcoin
 - Futures, options, swaps, etc
- **Futures are transactions today for an exchange of goods/money at a specified price and date in the future**
 - Prices move intraday
- **How futures trade**
 - Regulated exchanges
 - Intermediated by clearing house
 - Brokers take in collateral and route orders
- **Built in Leverage (20x)**

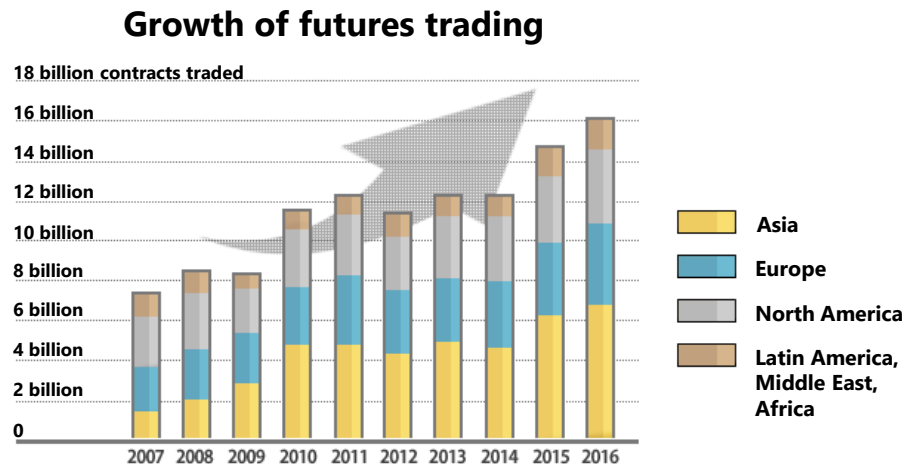
Background: Futures Exchanges

- **Monopolized by exchanges**

- \$20B+ global revenues
- Majority of 16B contracts/yr traded on <10 futures exchanges worldwide
- CME had 43% profit margin in 2016
- ICE profit margin of 35%

- **Uncorrelated to market return**

- Volumes are growing
- Rising interest in China and India



Status Quo: Expensive and difficult

- **Participants pay wildly different fees**
 - HFT pays \$0.15 / contract for E-Mini
 - Retail pays upwards of \$3.40 / contract
- **Global access difficult**
 - Contracts only trade on one exchange
 - Brokers do not have access to all markets
 - Some contracts forbidden to non-residents (i.e. China)
- **Centralized: co-location and speed paramount, not price**
 - Toxicity of trading on lit exchanges

Why EverMarkets?

- Peer to peer, trustless, decentralized futures trading and clearing platform
- Democratize access to global markets
- Institutional level liquidity
- Spur innovation – i.e. Ethereum Gas future, mall foot traffic future, etc

How does EverMarkets do this?

Cash settled future =

Token settled future =

Smart Contract + Oracle

Decentralized Clearinghouse

Centralized Clearing

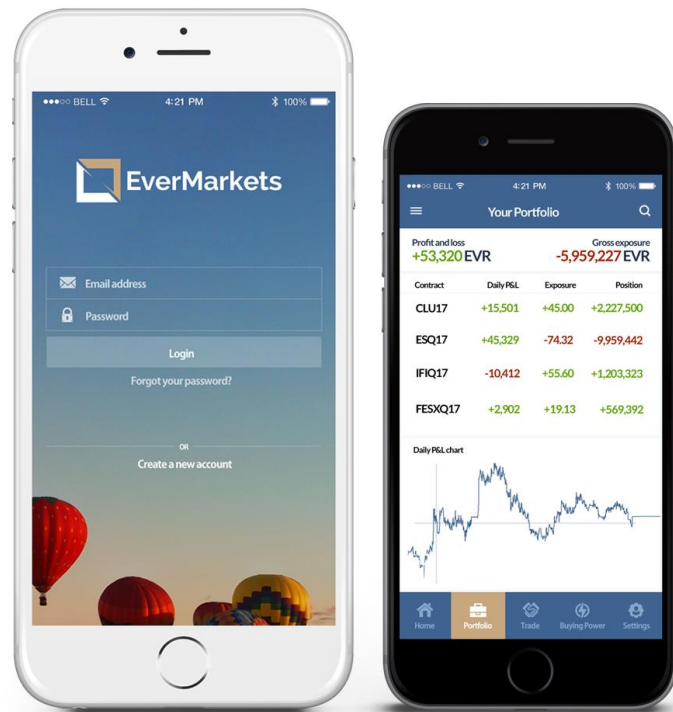
- Traders face the clearinghouse
- Clearinghouse guarantees trades
- Trust is based on reputation and billions of dollars of the clearinghouse's capital



Decentralized Clearing

- Traders post collateral onto smart contracts
- Blockchain guarantee trades
- Trust is based on transparency and security of the network

**Trade any futures contract
from around the world
on one platform
at a fraction of today's cost
with minimal market impact**



Main advertised features



Fair market access



Real world fungibility



Vastly lower fees



Minimal market impact



Global participation



Trade fractional units



Secured by Ethereum

Roles: Decentralized

- **Trader**

- Deposits collateral directly onto smart contracts

- **Lender (Margin syndicate)**

- Lends out tokens, onto smart contracts, to provide leverage
- Automatically hedges EVR exposure to each trader
- Receives fees for providing margin

- **Creator**

- Creates contracts for different assets
- Charges per-contract transaction fee to traders



Introducing the EVR token

- **EVR tokens are used as collateral to make trades**
- **Margin syndicates stake EVR to provide leverage**
 - Primary backer of counterparty risk
- **Matching engines vote using EVR stakes**
 - Fees paid conditional on successful expiry
 - Final backer of counterparty risk
- **Why own token?**
 - Market making on EverMarkets
 - Collateral needed for CME, ICE, EUREX, NASDAQ, NYSE, etc.



Crossing algorithm

- **Periodic pro-rata call auctions**

- Price-volume priority rather than price-time
- Random crossing times
- Well tested crossing algorithm
- Perfect for decentralized network

BUYS

| Imbalance | 14595 |
|------------|--------|
| Market Buy | 498501 |
| 45.61 | 12870 |
| 45.60 | 69432 |
| 45.59 | 104284 |
| 45.58 | 290238 |
| 45.57 | 311095 |
| 45.56 | 432404 |
| 45.55 | 573265 |
| 45.54 | 674223 |
| 45.53 | 700129 |
| 45.52 | 738227 |
| 45.51 | 788390 |

Indicative
Volume
685,087

| | |
|--------|-------------|
| 757487 | 45.63 |
| 538291 | 45.62 |
| 325830 | 45.61 |
| 198128 | 45.60 |
| 138218 | 45.59 |
| 78284 | 45.58 |
| 24023 | 45.57 |
| 12667 | 45.56 |
| 9740 | 45.55 |
| 4376 | 45.54 |
| 432404 | Market Sell |

SELLS

Benefits of periodic call auctions

- **Eliminate speed advantages of liquidity takers**
 - Cost of liquidity provision to fall: lower spreads, more liquidity
 - Perfect for blockchain
- **Easier exchange implementation**
 - Queueing matters less
- **Better surveying for regulators**
- **Fairer data dissemination**
- **Improved market stability**
 - Reduce likelihood of “flash crash” scenarios

Building liquidity

- **Liquidity provision team: Key Differentiating Factor**
 - Proficiency in market making
 - Deep experience from largest U.S. equity flow market makers: Citadel & KCG
 - Reduce supply-demand imbalance
 - Compensated first on unmatched volume, second profitability
- **Sales and marketing personnel**
 - Dedicated to bringing in institutional investors
 - External liquidity provider program (lend out tokens to third party market makers)

Demo

Every 20 or 30 years, a new technology revolutionizes the trading of and the access to global financial markets.

It's been 25 years since the first futures contract was electronically traded.

EverMarkets is shaping the next generation of financial markets. Will you join us?

Thank you for your time. Questions?

Appendix

Satisfy diverse customer base

- **Traditional futures traders & institutions**

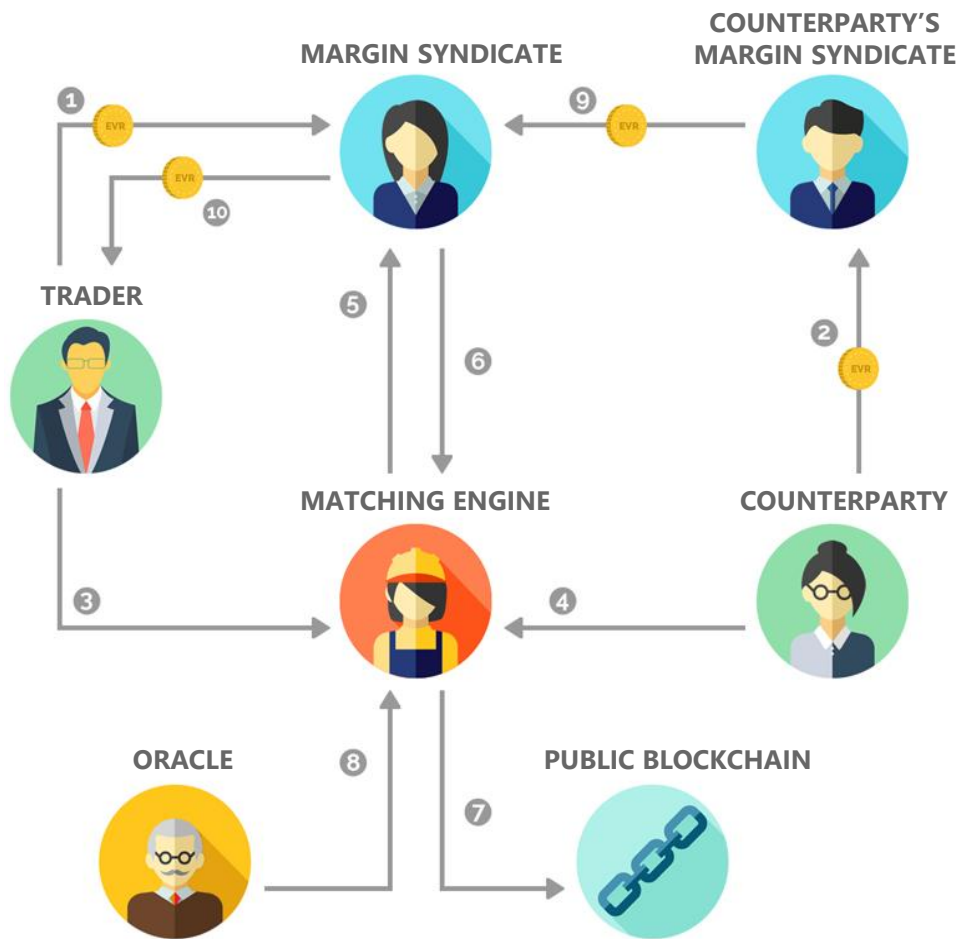
- Price improvement and lower fees
- Less toxicity and smaller market impact
- Alternate liquidity sources

- **Crypto holders**

- Allow hedging through traditional assets without fiat conversion
- Ability to profit by lending assets

- **Crypto traders**

- Support for crypto futures without entrusting assets



1. The trader chooses a margin syndicate and deposits collateral. Margin syndicates collectively operate a market for leverage, and the trader is free to choose which syndicate best fits his style of trading.
2. A counterparty chooses a margin syndicate of her own, and also deposits collateral with it. This syndicate can be the same or different from the original trader's.
3. The trader chooses a matching engine for a specific contract, and sends an order to it.
4. The counterparty sends an order as well.
5. The matching engine asks the trader's margin syndicate for information that the order is adequately capitalized (this is done for the counterparty's order as well, but is not shown).
6. The margin syndicate replies with the information needed. Afterwards, the matching engine completes the cross, and matches up the order of the trader and that of the counterparty.
7. The trade is recorded on the public blockchain.
8. At expiry an oracle is used to report the expiration price.
9. In this scenario, the trader is on the profitable side of the trade, and the counterparty is on the losing one. The margin syndicates for both parties settle payments using our token. In this case, the counterparty's margin syndicate sends tokens to the trader's.

Oracle / Arbitration

- **Will utilize third party services to incorporate external data for expiry prices**
 - For example, Cornell's "Town Crier" service can fetch prices while inside secure enclave
- **Arbitration process is used to challenge incorrect data**
 - All contracts are required to add a set number of *arbitrators* before trading commences
 - **Arbitrators** are publicly known entities who can decide on prices
 - Volunteer EVR holders
 - Technology companies
 - Financial companies
 - EverMarkets company
 - Multi-step procedure: complainants will stake tokens in exchange for arbitrator intervention
 - Arbitrators will form consensus for correct price
 - Matching engines incentivized to choose willing and able arbitrators

Revenue estimation

- **Global derivative exchanges: +\$20B revenue (2016)**
- **CME (2016): \$3B revenue, 43% profit margin**
 - Average exchange/clearing fee \$0.75/contract
 - Broker fees: \$0.85 Interactive Brokers, \$2.25 TD Ameritrade
- **Revenue model assumptions (subject to change)**
 - Targeting most liquid contracts: 11bn traded in 2016
 - 2% YoY trading growth
 - \$0.50 total cost per contract, including margin costs (determined by the market)
 - 80% of fees retained by token holders

Revenue estimation

| (numbers in millions) | 2018 | 2019 | 2020 |
|---|-------------|-------------|--------------|
| Futures contracts traded in addressable markets | 11,000 | 11,220 | 11,444 |
| Target market share | 0.25% | 1% | 2% |
| Target futures contracts traded on EverMarkets | 27.5 | 112.2 | 228.9 |
| | | | |
| Fees (USD millions) | 13.8 | 56.1 | 114.4 |
| Distributed to staked token holders (USD millions) | 11.0 | 44.9 | 91.6 |
| | | | |
| Cumulative distributed to staked token holders (USD millions) | 11.0 | 55.9 | 147.4 |

Projected expenses at 40mm raise

- **Develop platform for global futures (25%)**
 - Key targets: CME, Chinese Exchanges, Eurex, ICE
- **Internal liquidity provision (40%)**
- **International sales & marketing (15%)**
- **Legal (10%); operations (10%)**
- **Headcount: 20+**
- Internal market making and supported exchanges will scale against raise

Worldwide futures market

Number of liquid futures traded on each exchange in 2016

| | |
|-----------------------------------|---------------|
| CME | 2,852,482,353 |
| Shanghai Futures Exchange | 1,672,979,310 |
| Moscow Exchange | 1,581,321,452 |
| Dalian Commodity Exchange | 1,301,526,594 |
| Eurex | 765,531,641 |
| ICE | 699,091,540 |
| Bolsa de Mercadorias & Futuros | 675,295,209 |
| Zhengzhou Commodity Exchange | 521,703,885 |
| National Stock Exchange of India | 370,972,912 |
| BSE | 319,413,292 |
| Japan Exchange | 233,940,373 |
| Multi Commodity Exchange of India | 150,896,520 |
| London Metal Exchange | 136,911,443 |

Source: http://marketvoicemag.org/sites/default/files/MARCH_2017_VOLUME_SURVEY.pdf

Target Market

There are more than 100 cryptocurrency exchanges worldwide with roughly 500,000 active traders

Chinese Traders

- **Retail trading in CME Group markets increased more than 40 percent in Asia in 2016, with the top three products traded being Crude Oil futures, E-Mini S&P500 futures and Gold futures**
- **18 of the top 25 most actively traded commodity futures contracts are now on Chinese exchanges.**
- **Regulation on CSI 300 (main equity index) reduced liquidity from over 200mm in 2015 to less than 4mm in 2016**

Institutional Investors

- **Dark pool demand has shown institutional interest in transacting away from lit exchanges**

Regulatory

- **Commodities Exchange Act**

- Mandates futures trade on regulated exchange and subject to CFTC

- **However, there is a path for legal decentralized futures trading**

- Exemption 2(a)(1)(F)(ii) for institutional traders
 - Eligible Contract Participants in the US are permitted to trade on non-US exchanges
- Exemption 2(c)(2)(D)(ii)(III)(aa) for retail traders
 - Restriction does not apply if “actual delivery” of commodity is made within 28 days

- **CFTC has ruled that Bitcoin is a commodity**

- **Requirement of actual delivery can only be done in decentralized manner**

- Centralized exchange BitFinex could not use exemption
(<http://www.cftc.gov/PressRoom/PressReleases/pr7380-16>)

Regulatory

The current administration has been in favor of working with advancements in blockchain technology to update their regulatory framework:

“Distributed ledger technology is on the verge of creating a sea change in contract design, reporting and settlement,” stated Quintenz. “Soon, so-called ‘smart contracts’ may be able to both value themselves and self-report their data fields to required repositories. How would these technological transformations fit within or fall outside of our existing rules? How can the agency participate constructively in shaping these innovations’ development to benefit markets and transparency?”

-CFTC Commissioner Brian Quintenz

US Federal Reserve comments

The Federal Reserve has stated that distributed ledger technology (blockchain):

“has the potential to provide new ways to transfer and record the ownership of digital assets; immutably store information”

“has the potential to also drive change to the financial market structure in ways that take advantage of the new technology.”

“could address operational and financial frictions around existing services.”

Mills, David, Kathy Wang, Brendan Malone, Anjana Ravi, Jeff Marquardt, Clinton Chen, Anton Badev, Timothy Brezinski, Linda Fahy, Kimberley Liao, Vanessa Kargenian, Max Ellithorpe, Wendy Ng, and Maria Baird (2016). “Distributed ledger technology in payments, clearing, and settlement,” Finance and Economics Discussion Series 2016-095. Washington: Board of Governors of the Federal Reserve System, <https://doi.org/10.17016/FEDS.2016.095>

Goldman Sachs comments

We believe blockchain could drive greater efficiencies in the US cash equities market, primarily through streamlining the post-trade settlement and clearing processes. By reducing the duplicative, often manual affirmation and reconciliation of trades across buy-side clients, broker-dealers, trust/custody banks, and the Depository Trust & Clearing Corporation (DTCC), we believe blockchain could result in an estimated ~\$2 bn in annual cost savings in the US (both explicit and economic costs). On a global basis, the benefits would likely exceed \$6bn in annual savings assuming costs are proportionate to market cap.

Goldman Sachs letter to clients “Emerging Theme Radar”, quoted on <http://www.businessinsider.com/goldman-sachs-blockchain-cash-equities-trading-2016-5>

Know your counterparty

- **When trading was done on the floor, you knew who you were trading with**
 - If Alice is a very toxic counterparty, you'd avoid trading with her, even if her prices were fair
- **When trading went electronic, this was lost**
- **In equities, this has resulted in flow moving to OTC and dark pools**
 - These venues offer customer segregation which filter out the best informed traders
 - Consequently, lit equity exchanges became the most competitive and most toxic
- **We want to offer an equivalent with the futures markets**
 - Aside from regulatory mandates, market pressures should be identical to equities
 - Blockchain preserves history, so there is the option of using it to self-select



EverMarkets

The first decentralized platform to trade traditional equity, bond, and commodity futures with blockchain technology