

Blockchain & Money



Class 17

November 13, 2018

Class 17 Overview

- Readings and Study Questions
- Crypto Exchanges Review
- Public Policy Challenges
- The Path Forward
- Conclusions

Class 17 (11/13): Study Questions

- How have crypto-exchanges become a critical gateway for the vast majority of crypto secondary market trading?
- How does the business model of crypto-exchanges compare to traditional securities and derivatives exchanges? How do centralized crypto-exchanges compare to decentralized crypto-exchanges?
- What do all of the hacks, reports of manipulation and failures tell us about the current state of security and investor protection of crypto-exchanges?

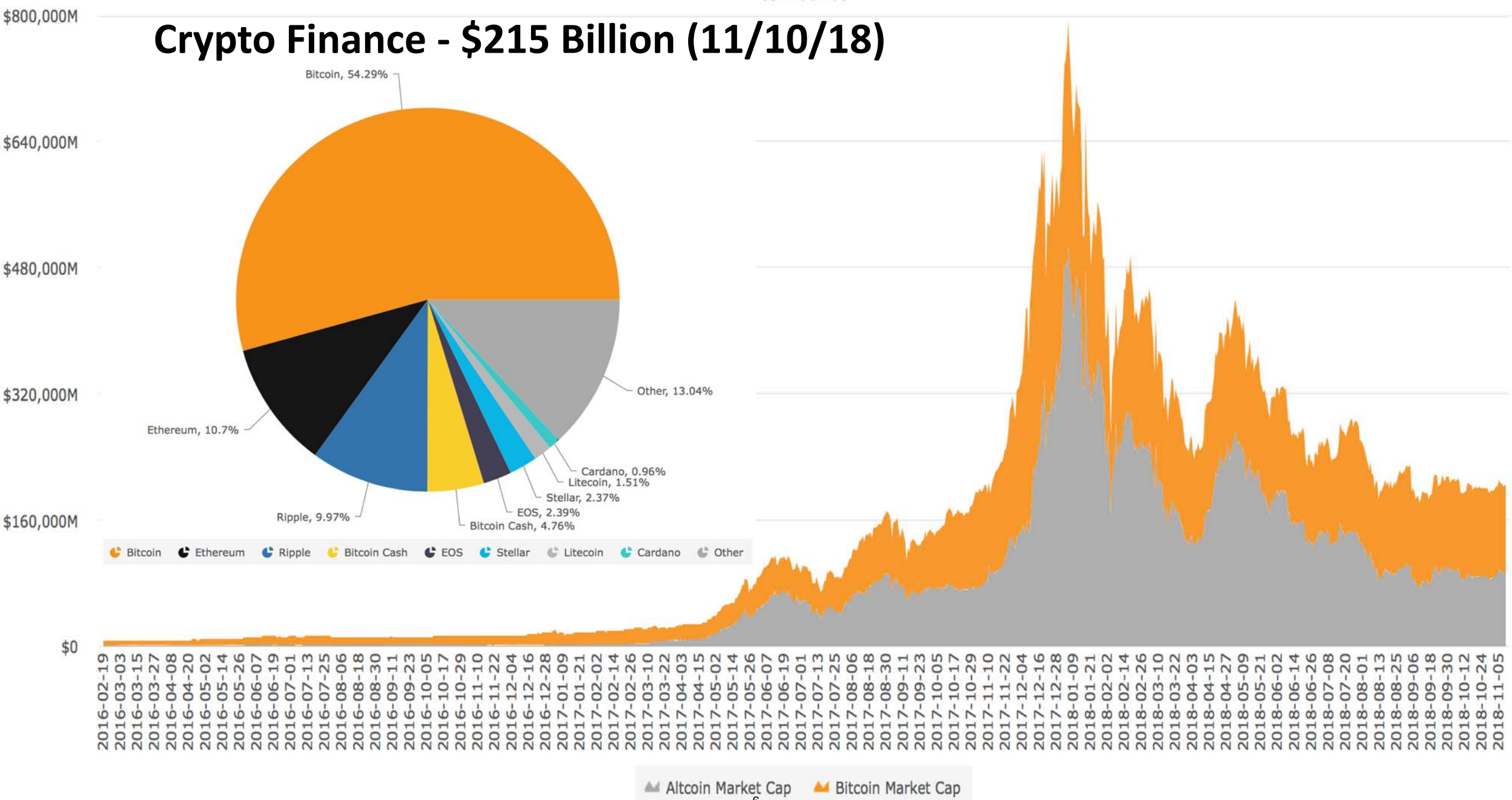
Class 17 (11/13): Readings

- *'Move deliberately, fix things: How Coinbase is building a cryptocurrency empire'* Washington Post
- *'Robinhood rolls out zero-fee crypto trading as it hits 4M users'* TechCrunch
- *'After Nasdaq CEO Blesses Cryptocurrency, Investors See Bigger Future for Bitcoin, Others'* Forbes
- *'Bitcoin Sees Wall Street Warm to Trading Virtual Currency'* New York Times
- *'Cryptocurrency Exchanges Are Getting Hacked Because It's Easy'* Wall Street Journal
- *'The sad state of crypto custody'* TechCrunch

Crypto Exchanges

- Centralized - Matching Agents, Counterparties & Custodians
- Decentralized - Networks for Peer-to-peer Trading
- Responsible for over 95% of Crypto Secondary Market
- Greater than 30 Million direct Members
- Lack Intermediated Access or Meaningful Market Integrity Rules

Crypto Finance - \$215 Billion (11/10/18)

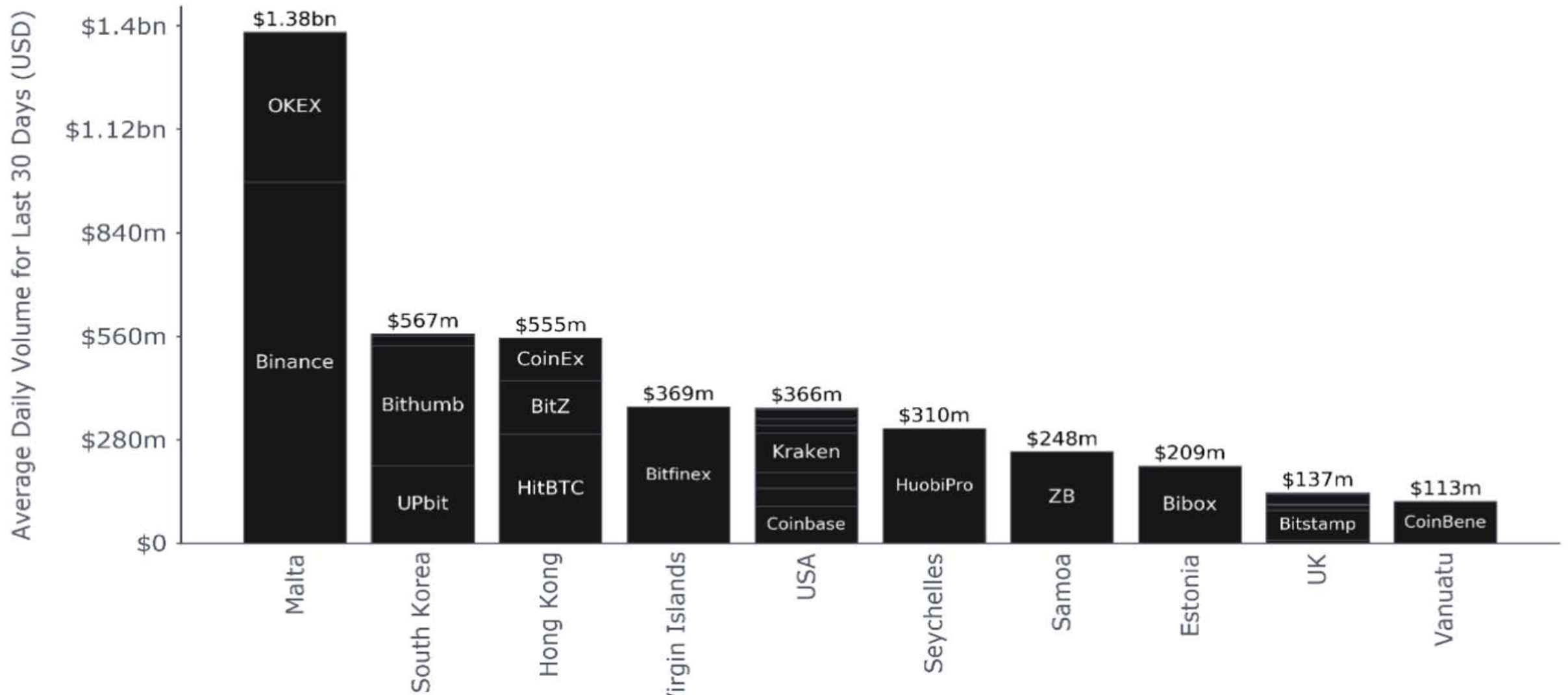


Courtesy of Coin Dance. Used with permission.

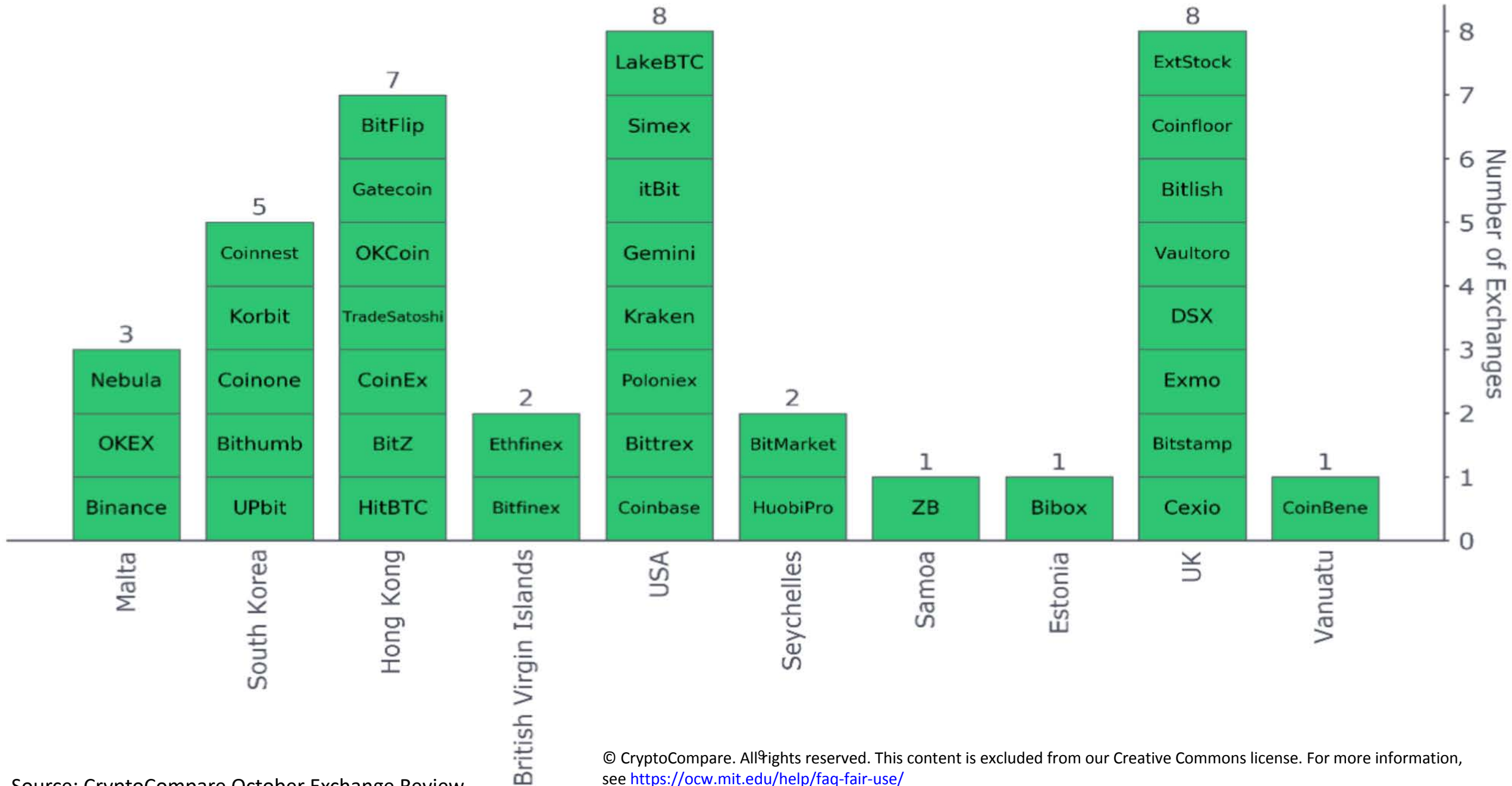
200+ Crypto Exchanges

	EXCHANGE	AVG 24H VOLUME (MILLIONS)	AVERAGE TRADE SIZE (USD)	TRADES IN 24H (THOUSANDS)
1	Binance	977.5	950	95.7
2	OKEX	405.0	701	48.5
3	Bitfinex	368.5	1,438	38.0
4	Bithumb	323.2	2,788	12.4
5	HuobiPro	310.2	1,483	18.7
6	HitBTC	295.2	2,873	12.1
7	ZB	247.6	702	29.0
8	UPbit	211.0	732	22.5
9	Bibox	208.9	1,253	16.4
10	EXX	159.9	1,134	24.1
11	BitZ	143.9	2,333	8.0
12	IDAX	131.5	520	37.4
13	CoinEx	113.6	125	175.6
14	CoinBene	113.2	298	35.2

Figure 12 – Top 10 Exchange Legal Jurisdictions - Constituent Exchanges by Impact on Volume

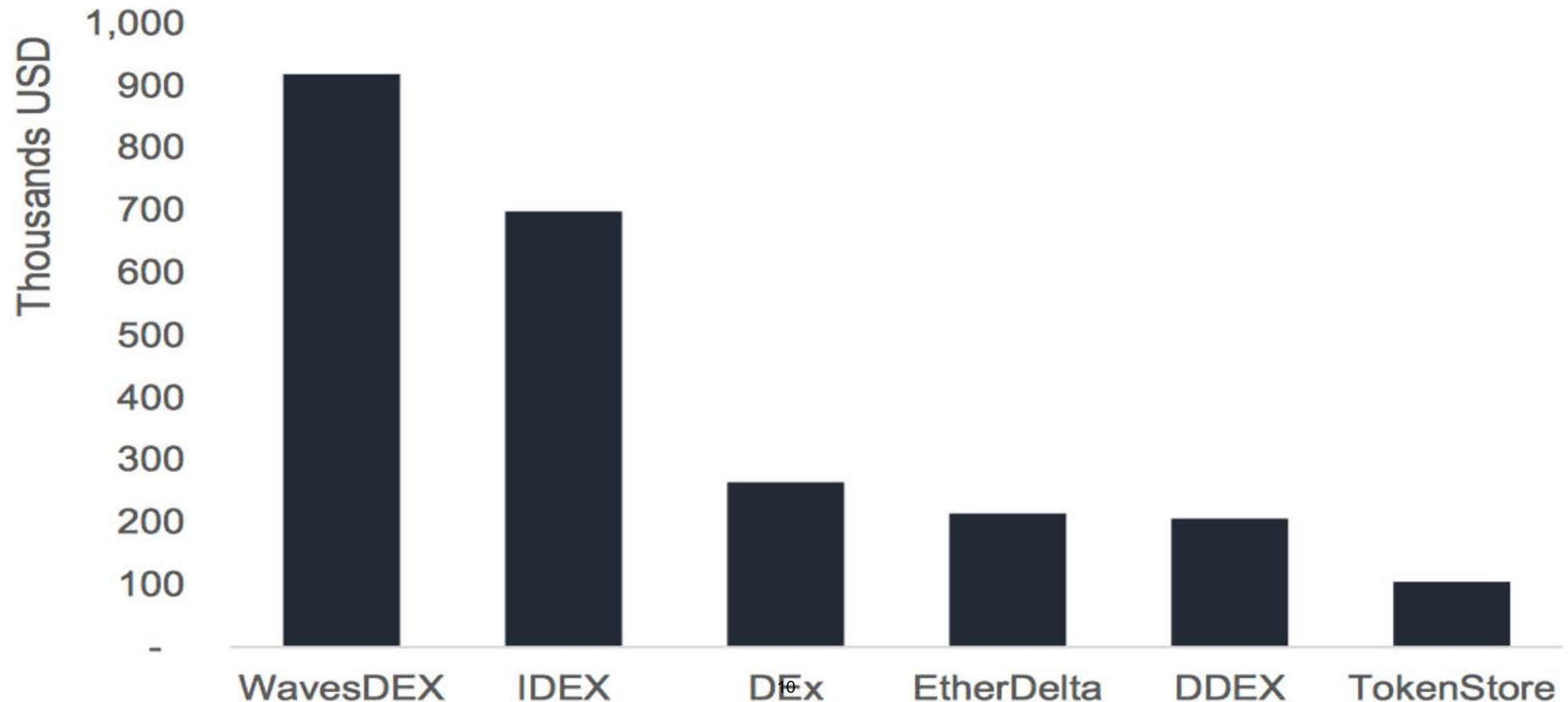


Top 10 Exchange Legal Jurisdictions – Constituent Exchanges and Count



Decentralized Crypto Exchanges

Average 24H DEX Volumes



Source: CryptoCompare October Exchange Review

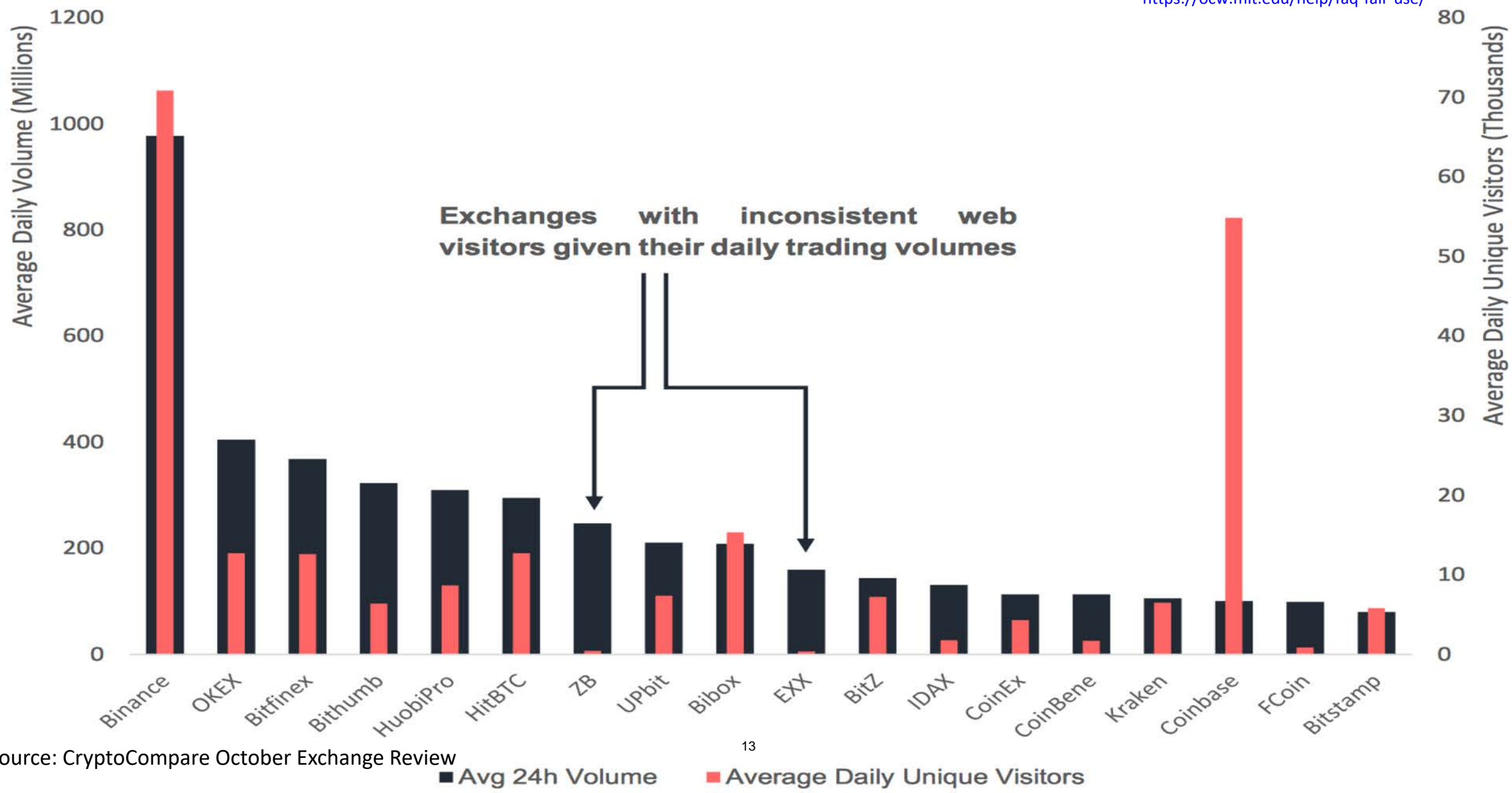
CryptoCompare Exchange Review

- Spot vs. Derivatives: 68% vs. 32% of Volume
- Crypto to Crypto vs. Fiat to Crypto: 70% vs. 30% of Spot Volume
- Decentralized Exchanges: Only 0.4% of Volume
- Bitcoin vs. Fiat: USD – 50%, JPY – 21%, KRW – 16%, EUR 9%
- Malta, South Korea and Hong Kong Registered Exchanges rank Highest
- KYC: 47% impose Strict KYC; 25% Partial; 28% No KYC

Crypto Exchange Public Policy Challenges

- Markets Readily subject to Fraud, Scams, and Manipulation
- Custodial Arrangements - Exchanges and Wallets
- Complying with AML/KYC and implementing Tax Reporting
- Definitions – Securities, Commodities or Derivatives?
- Tracking Beneficial Ownership
- Remediation of Non compliant Exchanges

Figure 17 – Average Daily Visitors versus 24H Volume - All Alexa Rankings © CryptoCompare. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>



Source: CryptoCompare October Exchange Review

Investor Protection

- Investor Protection goes beyond Consumer Protection:
 - Investors get Full & Fair Disclosure from Insurers
 - Fraud & Deceptive Sales Practices Prohibited
 - Market Integrity Promoted w/ Transparency & Anti-Manipulation
 - Advisors' Conflicts of Interest Disclosed and Minimized
- Investor Protection Bolsters Confidence in Capital Markets
- Economic Growth, Issuers and Investors all Benefit

U.S. Securities Law

- The Howey Test (1946):

- Is it an investment of money or assets?
- Is the investment in a common enterprise?
- Is there a reasonable expectation of profits?
- Is it reliant on the efforts of a promoter or others?



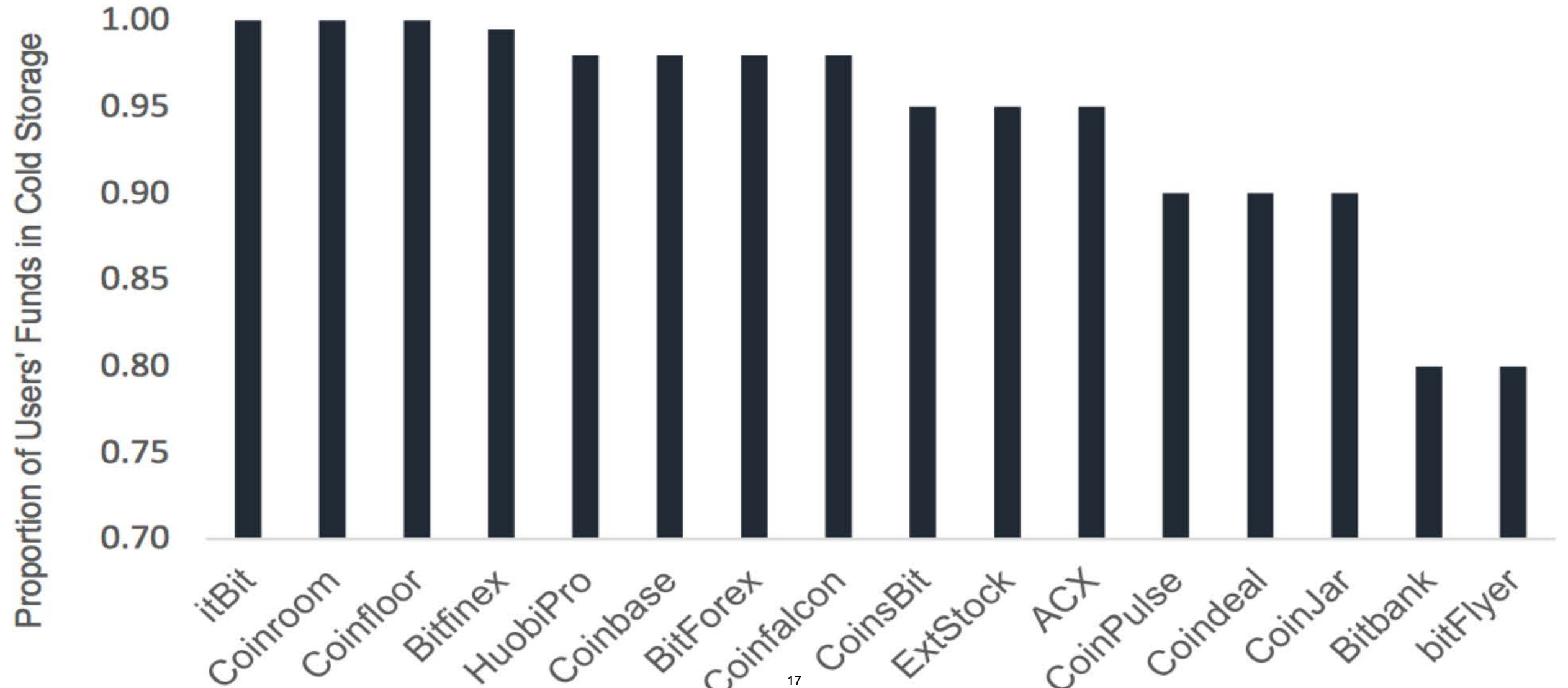
Courtesy of [Florida State Archives](#). Image is in the public domain.

Crypto Exchanges' Reported Hacks

- CoinCheck: 2018; 523,000,000 NEM; \$535 million
- Mt Gox: 2014; 850,000 BTC; \$473 million
- BitGrail: 2018; 17,000,000 Nano; \$195 million
- Bitfinex: 2016; 120,000 BTC; \$72 million
- Zaif: 2018; 6,000 BTC & BTH & MonaCoin; \$60 million
- Coinrail: 2018; various ICO tokens; \$40 million
- Cryptsy: 2014; 13,000 BTC & 300,000 LTC; \$10 million

- Mt. Gox (2011 - \$9m); MapleChange (2018 - \$6m); Bitstamp (2015 - \$5m); YouBit (2017 - \$5m) CoinSecure (2018 - \$3m); Mintpal (2014 - \$3m); PicoStocks (2013- \$3m); Bter (2014 & 2015 - \$2m each); Gatecoin (2016 - \$2m) BitPay (2014 - \$2m)

Figure 24 - Proportion of Users' Funds in Cold Storage by Exchange



Crypto Exchanges – Path Forward

- Custodial Duties - Fix or Spin-Off
- Illicit Activity – Comply with AML and Tax Laws
- Promote Market Integrity – Individually, SRO or Regulatorily
- Registration and Remediation – Determine and Comply
- Margin and Fee Compression
- Consolidation
- Decentralized Exchanges – Enhanced Customer UI & Adoption

Class 18 (11/15): Study Questions

- What are the opportunities that the Intercontinental Exchange is trying to tap with its recent announcement of Bakkt? Is it more about payment solutions or exchange trading?
- What do Microsoft and Starbucks hope to gain for their business models?
- Who is Jeff Sprecher? Who is Kelly Loeffler? How did these two - once a power plant entrepreneur and equity research analyst - successfully found a leading trading company, take over the New York Stock Exchange and now challenge conventions with bitcoin and blockchain technology?

Class 18 (11/15): Readings

- *'ICE Announces Bakkt, a Global Platform and Ecosystem for Digital Assets'* ICE
- *'The NYSE's Owner Wants to Bring Bitcoin to Your 401(k). Are Crypto Credit Cards Next?'*
Forbes
- *'Starbucks App Leads Mobile Payment Competitors'* eMarketer
- *'Kelly Loeffler – Medium'* Kelly Loeffler – 3 posts
- Additional Readings as Posted on Canvas

Class 18 (11/15): Guest Questions

General:

- Where are you from minimalist to maximalist for cryptocurrencies and ICOs?
- For Blockchain Technology to change the financial sector?
- Other than Bakkt, what are the most interesting Blockchain and Crypto initiatives you see? What do you think of recent Fidelity announcement?

Specific on Bakkt:

- After more than a year of researching crypto opportunities, why did this approach?
- What is the value proposition for ICE with its recent announcement of Bakkt?
- Do you see the value creation more about payment solutions or exchange trading?
- What do Microsoft and Starbucks hope to gain for their business models?
- What is potential of blockchain technology to change how ICE provides clearing and trading services?

Conclusions

- Crypto Exchanges, play a Central Role in Crypto Finance
 - Though they do not use Blockchain Technology
 - Ironically They are highly Centralized in a Field Inspired by Decentralization
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- Investor Protection and Hacks present Major Challenges
 - Broader Adoption Depends upon meeting these Challenges
 - Investors and use of Permissionless Blockchain Technology all will Benefit

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