DIGITAL ASSET INNOVATIONS AND REGULATORY FRAGMENTATION: THE SEC VERSUS THE CFTC

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Innovation Dilemma

- Two opposing trends:
  - Porter, etc.: effective regulation promotes innovation by firms
  - Romano, Awrey, etc.: innovations generate uncertainty and information asymmetry
- Crypto is an example of this conflict
- Additional U.S.-specific factor: regulatory fragmentation

Solutions and Problems

The **first-order question** in solving this "innovation dilemma" is to determine **which regulators** can regulate crypto **under conditions of regulatory fragmentation**

It is unclear which U.S. agencies are better positioned to solve the policy dilemma of crypto
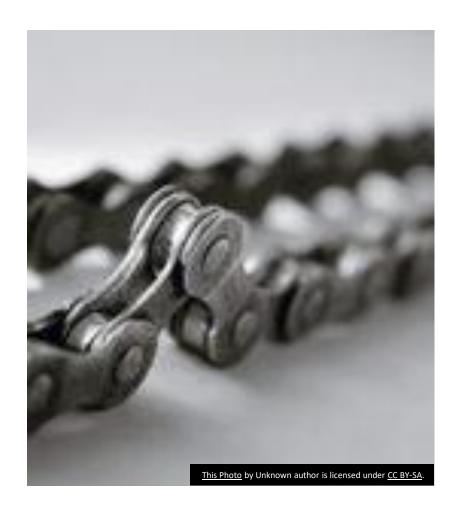
The CFTC

- **Authority**: derivatives markets + broader anti-fraud enforcement authority in both derivatives and spot markets

- **Examples**:
  - **Futures, options, swaps**

- Transactions in the actual commodity involving immediate delivery of the item occur in the "**spot**" or "physical" market are not subject to CFTC regulation except to the extent necessary to prevent **fraud or manipulation.**

- **Market participants and institutions**:
  - designated contract markets (including some crypto exchanges), swap execution facilities, derivatives clearing organizations, swap data repositories, swap dealers, futures commission merchants, commodity pool operators, and other intermediaries.

CFTC on Crypto (Cont'd)

December 17, 2020: the CFTC released Digital Assets Primer.

- The Primer defines **digital asset as "[a]nything that can be stored and transmitted electronically, and has associated ownership or use rights."**

- **Virtual currency is defined as "a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value."**

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Ramping Up Enforcement

- 18 enforcement actions involving major players and protecting retain investors (margined and leveraged retail transactions)

The SEC

1. Objectives: adequate information/market efficiency + Investor protection

2. Jurisdiction over securities and securities markets
   - What is a security?
   - Definitions are broad and functional

3. Compliance:
   1. Registration of securities (or exemptions)
   2. Periodic reporting obligations (among others)

4. Enforcement and private suits in cases of non-compliance and fraud

The SEC on Crypto

The **first action** on digital assets was the Section 21(a) investigation report issued in July 2017 in the matter of The DAO.

- The Report stated that "the U.S. federal securities law may apply to various activities, including [DLT,] . . . without regard to the form of the organization or technology used to effectuate a particular offer or sale."
- Securities were defined through the *Howey* investment contract test.

The **Framework** for "Investment Contract" Analysis of Digital Assets was released in April 2019.

- It presented a vast anthology of examples, some of which were clearer and more generalizable than others, but none of which was determinative.
- Commissioner Peirce eloquently descried as "Jackson Pollock approach."

The definition of security and the approach to its interpretation are inherently functional!

Key Players
(and turf wars):

- The SEC
  The CFTC

Fragmented Regulators, Similar Methods

- Different regulatory philosophies & different authority.
- The SEC and the CFTC regulate via enforcement of pre-crypto statutes.
  - No other country regulates crypto by enforcement of functional tests (such as *Howey*) *and* pre-crypto rules.

	Types of Action per Jurisdictions (by count of action)								
Countries/Agency	Court	Enforcement Action	Warning / Blacklisted	ICO Halted	Pending	Investigation	Registration Cancelled	Registration Refused	Trading Suspension
SEC	25	25							16
CFTC	3	4			8				
Australia		5		7			4	3	
Canada	1	2	28		4				
Cayman Islands			2						
France			149						
HK / China			14	1					
Kenya						1			
Luxembourg			3						
Malta			12						
Singapore			2	9					
South Korea						7			
Switzerland		2	34			1			
UAE			3						
United Kingdom			40			1			
Grand Total	29	38	287	17	13	9	4	3	16

International Comparison: Heavy-handed Enforcement Methods

The U.S. Regulators Pursue Stronger Enforcement Avenues

#1 in the world in terms of enforcement intensity

The CFTC or the SEC?

- ***Which agency is better positioned to navigate the innovation dilemma?***

- ***Let's ask the market!***

Major Findings

- Focusing on the unique fragmentation within U.S. financial regulation, we evaluate how the major regulators with extensive extraterritorial enforcement powers (the SEC and the CFTC) approach crypto via enforcement.

- We demonstrate that crypto markets pay attention to their efforts and react particularly negatively to SEC enforcement.

Not Fraudsters and Libertarians (At Least Not All of Them)

- It is erroneous to presume, however, that the negative reaction is present because crypto markets reject all formal law.

  - Cryptoasset prices exhibit a more positive reaction to U.S.-led antifraud enforcement, indicating that market participants understand the value of integrity.

  - Quality improvements may offset negative effects of regulation.

Policy Relevance

- We provide evidence supporting the need for a systematic reassessment of the balkanized regulatory framework in the U.S.
  - Supporting President Biden's Executive Order and the September 2022 Digital Strategy through empirical data
- While regulation and enforcement are generally viewed as costly events and generate a negative crypto market reaction, some types of regulation may have the potential to improve market quality with positive valuation implications.

Previous Scholarship

Previous research does not focus on enforcement (which is the main regulatory mode of major U.S. regulators).
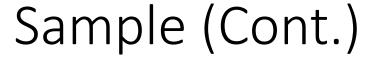
Nor does it cover such a large overlapping sample of cryptoassets that are qualified as commodities and securities.

Nor does it focus on the U.S.-specific fragmentation between two agencies with markedly different philosophies.

Feinstein and Werbach (2022), Chokor and Alfieri (2020), Koenraadt & Leung (2019); Auer & Claessens (2019)

Sample

- All actions initiated by the SEC and the CFTC between April 1, 2017, and November 1, 2021.

- We search SEC's Cyber Enforcement Actions database on the SEC's website, CFTC cases reported on its website, both commissions' enforcement releases and annual reports, Bloomberg Law, Westlaw, and LexisNexis. Each case is manually traced to dockets on Bloomberg Law, Westlaw, and LexisNexis.

- The comprehensive list of keywords for the search includes ICO, Initial Coin Offering, Blockchain, Bitcoin, Crypto, Cryptocurrency, SAFT, Agreement for Future Tokens, Smart Contract, STO, Security Token, Token, Digital Asset, Exchange Offering, Coin, Token Offering, and Virtual Currency.

- We collect characteristics of each action: announcement and conclusion dates, defendants/respondents, penalties, statutory provisions, etc.

Sample (Cont.)

- Crypto-asset data from Coingecko.com. Contains unit prices, volume and market cap.

- We retain assets with at least $1mln. in market capitalization at t=-5 relative to enforcement event and non-zero volume. Outliers removed.

- The sample contains 2397 crypto assets.

	Obs.	Mean	St.Dev	P25	P50	P75	Min.	Max.
Market.Cap.(Mil)	82340	812.185	16589.230	3.456	10.912	48.231	1.000	1,145,912.000
Volume (Mil)	82340	85.985	1257.159	0.066	0.447	2.996	0.000	67,726.711
Total Ret.(-45,-5)	82340	0.195	0.839	-0.291	-0.011	0.388	-0.997	6.383
Volatility	82340	0.097	0.059	0.057	0.082	0.120	0.001	0.574

DESCRIPTIVE DATA: SEC AND CFTC ENFORCEMENT IN 2017-2020

ALL Actions: 116
SEC Actions: 89
CFTC Actions: 27

Cumulative Abnormal Returns

- Standard event-study methodology. The expected return is average daily returns over pre-event window (-45,-5). Standard errors are clustered at crypto-asset and event level.

$$CAR = \sum_{t \in \tau} \left(R_t - \bar{R}_T \right) = \sum_{t \in \tau} \left(R_t - \frac{1}{\#(T)} \sum_{t' \in T} R_{t'} \right)$$

	Obs.	Mean	t-stat.
AR(0)	82340	-0.004	-0.880
CAR(-1,0)	82340	-0.016**	-2.260
CAR(0,1)	82340	-0.003	-0.430
CAR(-1,1)	82340	-0.015*	-1.870
CAR(-3,3)	82168	-0.014	-1.310
Ave. Daily Ret.(-45,-5)	82340	0.006***	5.770

Cross-Sectional Variation: SEC vs CFTC, Fraud vs. Non-fraud

	SEC	t-stat	CFTC	t-stat	Fraud	t-stat	Non-fraud	t-stat
AR(0)	-0.008	-1.310	0.007	1.050	0.005	1.080	-0.015*	1.670
CAR(-1,0)	-0.018**	-2.060	-0.010	-0.960	-0.006	-0.610	-0.029***	-2.870
CAR(0,1)	-0.008	1.000	0.012	0.900	0.007	0.930	-0.014	-1.420
CAR(-1,1)	-0.018*	-1.970	-0.005	-0.310	-0.003	-0.320	-0.029**	-2.570
CAR(-3,3)	-0.015	-1.10	-0.010	-0.036	-0.005	-0.320	-0.025	-1.310

Cross-Sectional Variation with Controls for Asset Characteristics

	AR(0)			CAR(-1.0)			CAR(0.1)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
SEC	-0.017*			-0.014			-0.024*		
	(-1.90)			(-1.13)			(-1.67)		
Fraud		0.018*			0.022			0.020	
		(1.93)			(1.63)			(1.55)	
Registration			-0.006			-0.019			0.001
			(-0.60)			(-1.46)			(0.10)
Log Mkt.Cap	0.000	0.000	0.000	0.000	0.000	-0.000	0.000	0.001	0.000
	(0.09)	(0.38)	(0.09)	(0.00)	(0.22)	(-0.08)	(0.13)	(0.36)	(0.19)
Log Volume	-0.001**	-0.001**	-0.001**	-0.002**	-0.002***	-0.002**	-0.001**	-0.002**	-0.001**
	(-2.10)	(-2.30)	(-2.01)	(-2.42)	(-2.74)	(-2.36)	(-2.02)	(-2.12)	(-1.98)
Pre-filing Ret.	-0.013*	-0.011	-0.013*	-0.031**	-0.029**	-0.032**	-0.028***	-0.026***	-0.027***
	(-1.74)	(-1.51)	(-1.75)	(-2.35)	(-2.21)	(-2.46)	(-2.95)	(-2.72)	(-2.82)
Volatility	-0.117***	-0.117***	-0.111***	-0.260***	-0.262***	-0.254***	-0.219***	-0.217***	-0.211***
	(-2.80)	(-2.76)	(-2.64)	(-3.33)	(-3.39)	(-3.35)	(-3.82)	(-3.73)	(-3.59)
Obs.	82340	82340	82340	82340	82340	82340	82340	82340	82340
R2	0.016	0.019	0.011	0.037	0.041	0.039	0.034	0.034	0.028

Effects of Action Visibility

	AR(0)		CAR(-1,0)		CAR(0,1)	
	(1)	(2)	(3)	(4)	(5)	(6)
SEC	-0.014*	-0.015*	-0.010	-0.005	-0.020	-0.028*
	(-1.69)	(-1.96)	(-0.85)	(-0.45)	(-1.46)	(-1.83)
Fraud	0.016*	0.016*	0.020	0.021	0.016	0.017
	(1.75)	(1.75)	(1.48)	(1.45)	(1.34)	(1.54)
Twitter		-0.003		0.004		0.016
		(-0.38)		(0.28)		(1.34)
Multiple Actions		-0.006		0.015		-0.024*
		(-0.66)		(1.02)		(-1.82)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	82340	82340	82340	82340	82340	82340
R2	0.022	0.022	0.042	0.044	0.038	0.041

Effects of Respondent/Defendant Type

	All Actions			SEC Actions		
	AR(0)	CAR(-1,0)	CAR(0,1)	AR(0)	CAR(-1,0)	CAR(0,1)
	(1)	(2)	(3)	(4)	(5)	(6)
Broker	-0.019	-0.028*	-0.009	-0.044**	-0.046*	-0.040
	(-1.50)	(-1.73)	(-0.48)	(-2.18)	(-1.83)	(-1.25)
ICO Issuer	-0.019**	-0.029	-0.007	-0.023***	-0.033	-0.007
	(-2.45)	(-1.63)	(-0.63)	(-2.74)	(-1.61)	(-0.54)
Exchange	-0.044**	-0.050**	-0.033	-0.055**	-0.060**	-0.042
	(-2.09)	(-2.22)	(-1.45)	(-2.05)	(-2.09)	(-1.45)
Fund	0.001	-0.009	0.018	-0.015	-0.022	0.012
	(0.10)	(-0.46)	(0.69)	(-1.50)	(-0.91)	(0.46)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	82340	82340	82340	63201	63201	63201
R2	0.027	0.047	0.038	0.038	0.043	0.045

Bitcoin and Ether

Panel A. Filing Date Cumulative Abnormal Returns by Action Type for Bitcoin and Ethereum

	SEC	t-stat	CFTC	t-stat	Fraud	t-stat	Non-fraud	t-stat
AR(0)	0.001	0.310	0.004	0.800	0.004	0.890	0.001	0.160
CAR(-1,0)	-0.000	-0.060	-0.004	-0.520	-0.001	-0.140	-0.003	-0.390
CAR(0,1)	0.004	0.620	0.008	1.100	0.006	1.020	0.004	0.610
CAR(-1,1)	0.002	0.250	-0.000	-0.050	0.002	0.180	0.000	0.040
CAR(-3,3)	-0.001	-0.050	-0.004	-0.300	-0.002	-0.140	-0.002	-0.180

Effects of Anticipated or Realized Penalties

	AR(0)	CAR(-1,0)	CAR(0,1)
	(1)	(2)	(3)
Num.Resp./Def.	0.001	0.002	0.004**
	(0.59)	(0.66)	(2.16)
Officers Charged	0.002	0.003	0.008
	(0.17)	(0.17)	(0.65)
Court	0.002	-0.030	0.020*
	(0.20)	(-1.07)	(1.71)
Trade. Suspension	0.024	0.041	0.033
	(1.59)	(1.36)	(1.63)
Cease and Desist	-0.010	-0.022	0.010
	(-1.02)	(-0.96)	(1.06)
Injunction	-0.014	0.000	-0.042***
	(-1.16)	(0.01)	(-2.69)
Log Disgorgement	-0.000	0.000	-0.000
	(-0.39)	(0.44)	(-0.49)
Log Fine	0.000	-0.000	-0.001
	(0.05)	(-0.17)	(-0.51)
Log Settlement	-0.001*	0.000	-0.002**
	(-1.78)	(0.45)	(-2.28)
Controls	Yes	Yes	Yes
Observations	56878	56878	56878
R2	0.031	0.055	0.073

Conclusion

- **We use a rich cross-section of hand-collected enforcement actions to evaluate market reaction to enforcement actions.**

- **Market reaction can motivate the need for formal rule-making or a statutory reform.**

- **The market reacts negatively to enforcement of pre-crypto rules. SEC actions are viewed as particularly costly.**

- **Enforcement actions focused on fraud mitigate the negative reaction to enforcement actions, which is consistent with the view of regulation as improving disclosure and market quality.**