

Cryptocurrencies, Blockchain Technologies & the Law FALL 2018

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Wednesdays, 3pm – 4:50pm
LC100

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F: 9:45am-10:45am (or by appt.)

I. Course Description

This course covers the legal and policy issues associated with cryptocurrencies and blockchain technologies.

The course will open with an introduction to cryptocurrencies (like Bitcoin) to provide a basic technical and social understanding of these systems and the people participating in them. We will then explore the emerging legal landscape around cryptocurrencies, looking at Bitcoin's use in crime (e.g., Silk Road and money laundering); the application of money transmission laws; the SEC's treatment of Bitcoin, the Initial Coin Offering phenomenon, and proposed Bitcoin-based investment products; the CFTC's classification of Bitcoin as a commodity, enforcement over fraud, and oversight over Bitcoin-based derivatives like futures contracts; taxation of cryptocurrencies; governance and accountability challenges for decentralized systems like cryptocurrencies; and other emerging legal issues, such as the treatment of cryptoassets in an estate.

The course will consider the regulatory challenges in dealing with cross-border, decentralized systems like cryptocurrencies, including the need for regulators to become educated about complex technological innovations, jurisdictional issues, regulatory competition and forum shopping, enforcement issues, balancing regulatory mandates with the desire to allow innovation, and the development of new regulatory approaches such as regulatory sandboxes, among others.

Finally, the course will explore blockchain technology, which has emerged as an outgrowth from cryptocurrencies, and has raised legal and policy issues of its own. After an overview of the technical and social phenomenon of blockchain technologies, we will explore the novel topics blockchain technologies raise for law and lawyers, including smart contracts, distributed autonomous organizations, automated dispute resolution, and other emerging questions.

The goal of this course is to give students a general understanding of cryptocurrencies and blockchain technology and the legal and policy issues they raise. Students should leave the course with a basic level of fluency with the vocabulary and concepts in this nascent field.

II. *Course Texts*

REQUIRED: Primavera De Filippi & Aaron Wright, *Blockchain and the Law* (2018).

Other assigned readings will generally be available without charge through the Internet, although there may be some relatively low-cost purchases of reading materials required.

III. *Attendance*

At the beginning of each class, I will circulate a sign in sheet to take attendance. It is your responsibility to make sure that you have signed in before the end of class. **Please note that being tardy counts as ½ absence, though you are welcome to join us for the class.** If you are tardy, please put a "T" in the sign-in sheet.

Your attendance and participation will enhance the quality of our course, so I will deduct one letter grade (e.g., from B+ to B) for 3 absences from required meetings of the course.

The school maintains a policy requiring every student to attend 2/3 of of the meetings of each course. If you miss more than 1/3 of the required class meetings, the school mandates that you will be administratively dropped from the course.

IV. *Technology Use*

Except as required by the University's disability policy and relevant law, you may not use laptops or other electronic devices in class unless I give explicit permission to do so, such as for a group activity. You may find it helpful to have your laptop with you, but you should not expect to use it in every class meeting.

If you use a laptop or an electronic device during class, and I have not granted explicit class-wide permission to do so, then you may be counted as absent for that day.

Audio and video recording of the class is not allowed unless required by the University's disability policy and relevant law.

V. *Course Requirements*

Reading assignments will be distributed weekly, based on our progress in class. This area is incredibly fast-moving, so the choice of subject matter in the syllabus is subject to change.

The course topic and small class size offer us the possibility of interesting discussions together. Achieving this will require your punctual attendance, thorough preparation, active class participation, and timely and high-quality completion of assignments.

I plan to call on students ("cold-calling") and to ask for volunteers, and you may be assigned specific questions or problems for class discussion.

You will be charged with an absence if you are unprepared. This policy applies whether 1) I call on you and your response indicates that you are unprepared; or 2) you advise me that you are unprepared for class (e.g., by emailing or telling me in advance that you failed to prepare for class). In either case, you will be charged with an absence.

Regardless of your preparation, I urge you to attend class so that you do not miss the coverage. I reserve the right to adjust student grades downward for being unprepared.

There may be occasional written homework assignments and individual presentations. These will not be individually graded, but your failure to complete them on time with a good faith effort may result in a grade deduction. Homework assignments should be uploaded through the Assignment Drop-Box on TWEN by the assigned time, and you should bring a hard copy of your assignment to class as well, as we will generally use your assignments to further class discussion. Unless I tell you otherwise for a particular assignment, you are encouraged to collaborate with other students in preparing for class and in completing your homework assignments.

The course is structured so that you should be spending, on average over the course of the semester, *at least 4 hours* per week on this course, *outside of time spent in class*. Depending on the week, this time could be spent reading and preparing for class, performing research for a presentation, preparing a written assignment, studying for the final, and various other activities.

VI. *Course Grade*

There will be a 2 hour final exam on Wednesday, December 5, 2018. This will determine 100% of your grade.

VII. *University Policies and Procedures*

St. Mary's University is committed to providing a safe, equitable, and fair environment where students can pursue academic excellence. Policies and procedures have been developed to foster and sustain such an environment and apply to all courses offered at

the^[SEP] university. Students need to be aware of these policies and procedures, which can be found in Gateway (<https://www.stmarytx.edu/policies/>).

Please become familiar with these important policies and procedures, which include:

- Nondiscrimination, Sexual and Other Forms of Harassment
<https://www.stmarytx.edu/about/title-ix/>
- Students with Disability
<https://www.stmarytx.edu/campuslife/student-services/disability/rights/>
- Human Subjects Research
<https://www.stmarytx.edu/wp-content/uploads/2013/09/Syllabus-insert-IRB-Class-Projects-Policy.pdf>

VIII. Course Assignments

Aug. 22: Introduction to Blockchain Technologies & Cryptocurrencies (Part I).

READINGS: Wright & De Filippi, pp. 1-32.

Aug. 28: Introduction to Blockchain Technologies & Cryptocurrencies (Part II).

READINGS: Please review pp. 1-32 of *Blockchain & the Law* for this week, as we will delve in more depth into the history that led to the development of cryptocurrencies, and how Bitcoin actually works.

Please also read Chapter 2, pp. 33-57.

REFLECTION QUESTIONS:

- What were some of the concerns that motivated the creation of Bitcoin and other cryptocurrencies?
- What are some of the defining characteristics of cryptocurrencies/blockchains?
- Why do some people believe that cryptocurrencies may have significant impacts on our societies?
- Who are the groups that play a role in operating a cryptocurrency? What do each of them do?

For class, please pick 3 words or concepts that you did not know about before, and be ready to explain them in your own language. You may use *Blockchain & the Law* or other materials to inform your definition/explanation.

Some examples of words/concepts you might choose are:

| | | | |
|--------------|--------------|---------------|---------------------|
| Peer to Peer | Blockchain | Miner | Consensus Mechanism |
| Bitcoin | Cryptography | Validator | Token / Coin |
| Ethereum | Hash | Proof of Work | Pseudonymous |
| Private Key | Public Key | Decentralized | Distributed |
| Wallet | Exchange | Permissioned | Permissionless |

September 5 and 12: Language/Conceptual Issues in Blockchain Technologies

We will continue our efforts to become familiar with the terminology and concepts of cryptocurrencies and blockchain technologies, and get a sense of the challenges an unclear, disputed terminology raises for those trying to make decisions about the technology.

For this unit, which will comprise the weeks of September 5th and 12th, you will prepare a presentation and a written deliverable in groups.

READINGS:

Angela Walch, *The Path of the Blockchain Lexicon (and the Law)*, 36 Review of Banking & Financial Law 713 (2017). (posted on TWEN).

Adrienne Jeffries, *'Blockchain' is Meaningless*, The Verge, March 7, 2018. (<https://www.theverge.com/2018/3/7/17091766/blockchain-bitcoin-ethereum-cryptocurrency-meaning>)

Michel Rauchs and others, *Distributed Ledger Technology Systems: A Conceptual Framework*, Report by the Cambridge Centre for Alternative Finance, August 2018. (available for download at <https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/distributed-ledger-technology-systems/#.W4YYOhKjD5>).

Recommended (not required):

Nailing Jelly to the Wall: The Challenges of Blockchain Language, Webinar for the Finance, Law, & Economics Working Group of the INET Young Scholars' Initiative, March 26, 2018 (available at <https://ysd.ineteconomics.org/event/5aa040a661b3d739d5b4d49e>).

REFLECTION QUESTIONS:

- How does confusion about language/terminology arise with blockchain technologies? What are some of the ways that meanings become confused?

- What are some potential consequences of a contested terminology around blockchain technologies? For whom could a hazy terminology be a problem?
- How are regulators and policy makers impacted by language issues around blockchain technologies?
- What are some ways to prevent language problems from impacting regulatory/policy/adoption decisions?
- What are some common myths that people have about blockchain technologies, and how are these myths reflected in the language used in the space?

Group Presentations: On September 12, we will devote class time to group presentations. Each presentation should be 7-10 minutes long. Slide presentations are optional. The number of presenters you have is your choice, but everyone in the group needs to participate actively in shaping the presentation.

Written Work: On September 12, you will distribute an explanation of your research, and conclusions you have drawn, to everyone in the class. Please be sure you have 20 hard copies of this document. It should be between 500-1000 words. This should not just be a copy of any slides you use for the presentation.

Tip: You may find my analysis of the term 'immutable' in *The Path of the Blockchain Lexicon* paper helpful in approaching your analysis of the assigned terms below.

Topics:

Group 1 – Efforts to Develop Terminology and Technology Standards. What initiatives are active to try to standardize the terminology and technology of blockchain technologies (e.g., ISO 307, others?)? What is at stake when developing international standards of this type? Why might this be a political activity subject to disputes? Have there been any reported disputes regarding blockchain standards? Why is the timing of setting standards important (the too early / too late dilemma)? When might we expect a standard terminology/technology to emerge? How might standards efforts be relevant to regulators/policy makers who are making decisions about blockchain technology?

Group 2 – “Trustless” – What do people mean when they describe cryptocurrencies or blockchain technologies as 'trustless'? What are the possible meanings, and what are the critiques of this term? Why would this be a desirable feature for the technology to have? What are the implications if we view the technology to have this feature and it does not? Are there any legal implications

to using this term to describe the technology? What is your group's view on how this term applies to the technology?

Group 3 – “Decentralized” -- What do people mean when they describe cryptocurrencies or blockchain technologies as 'decentralized'? What are the possible meanings, and what are the critiques of this term? Why would this be a desirable feature for the technology to have? What are the implications if we view the technology to have this feature and it does not? Are there any legal implications to using this term to describe the technology? What is your group's view on how this term applies to the technology?

Group 4 – “Secure” -- What do people mean when they describe cryptocurrencies or blockchain technologies as 'secure'? What are the possible meanings, and what are the critiques of this term? Why would this be a desirable feature for the technology to have? What are the implications if we view the technology to have this feature and it does not? Are there any legal implications to using this term to describe the technology? What is your group's view on how this term applies to the technology?

Group 5 – “Reflects Truth” -- What do people mean when they describe cryptocurrencies or blockchain technologies as creating a record that 'reflects truth'? What are the possible meanings, and what are the critiques of this term? Why would this be a desirable feature for the technology to have? What are the implications if we view the technology to have this feature and it does not? Are there any legal implications to using this term to describe the technology? What is your group's view on how this term applies to the technology?

September 19: Cryptocurrencies & Crime

Since its introduction in 2009, Bitcoin has been associated with the criminal underworld on the Dark Web. Whether for money laundering, terrorist financing, or for purchasing illegal goods, virtual currencies have been celebrated for enabling anonymous digital transactions, making it difficult for law enforcement to fight this type of crime.

However, recently the conversation has shifted, as law enforcement has become more educated about Bitcoin and other virtual currencies. Many now believe that criminals would be ill-advised to transact in Bitcoin because it is much more traceable than originally thought – and is now generally referred to as 'pseudonymous' rather than anonymous. However, new virtual currencies like Z-Cash and Monero promise true anonymity, challenging law enforcement once again.

In this unit, we will examine whether and how cryptocurrencies can enable online crime. We will focus on money laundering and terrorist financing, gaining an understanding of

how anonymous online currencies could facilitate these activities, and how US regulators attempt to combat them.

READINGS:

News Articles:

Sen. Joe Manchin's Letter Urging Regulators to Ban Bitcoin, Feb. 26, 2014.

<https://www.manchin.senate.gov/newsroom/press-releases/manchin-demands-federal-regulators-ban-bitcoin>

The Illicit World of Bitcoin and the Dark Web, The Balance, July 1, 2018.

<https://www.thebalance.com/what-is-a-dark-market-391289>

Why Bitcoin is Losing its Luster Among Criminals, Fortune, Jan. 2, 2018.

<http://fortune.com/2018/01/02/bitcoin-criminals-monero/>

Why Bitcoin is Better for Crime Fighters than Criminals, CoinDesk, April 4, 2016.

<https://www.coindesk.com/bitcoin-cops-criminals/>

Dark web finds bitcoin increasingly more of a problem than a help, tries other digital currencies, CNBC, August 29, 2017.

<https://www.cnbc.com/2017/08/29/dark-web-finds-bitcoin-increasingly-more-of-a-problem-than-a-help-tries-other-digital-currencies.html>

Explore the website for Chainalysis, so you can explain what they do.

<https://www.chainalysis.com/>

Regulatory/Legal Readings:

Background on FinCen:

<https://www.fincen.gov/what-we-do>

<https://www.fincen.gov/history-anti-money-laundering-laws>

<https://www.fincen.gov/frequently-asked-questions> (Review all FAQs)

Prepared Remarks of FinCEN Director Kenneth A. Blanco, delivered at the 2018 Chicago-Kent Block (Legal) Tech Conference, August 9, 2018.

<https://www.fincen.gov/news/speeches/prepared-remarks-fincen-director-kenneth-blanco-delivered-2018-chicago-kent-block>

Department of the Treasury, Financial Crimes Enforcement Network, Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies, March 18, 2013,

<https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf>

Department of the Treasury, Financial Crimes Enforcement Network, Application of FinCEN's Regulations to Virtual Currency Mining Operations, Jan 30, 2014, <https://www.fincen.gov/sites/default/files/shared/FIN-2014-R001.pdf>

Department of the Treasury, Financial Crimes Enforcement Network, Application of FinCEN's Regulations to Virtual Currency Software Development and Certain Investment Activity, <https://www.fincen.gov/sites/default/files/shared/FIN-2014-R002.pdf>

REFLECTION QUESTIONS:

1. What is money laundering? What is terrorist financing?
2. How does the US government try to combat money laundering and terrorist financing through the Bank Secrecy Act?
3. What is FINCen?
4. What kinds of actions are banks required to take to help combat money laundering and terrorist financing?
5. What is "AML"? What is "KYC"?
6. Why are virtual currencies potentially useful for money laundering and terrorist financing?
7. How has the US government treated virtual currencies such as Bitcoin under the Bank Secrecy Act?
8. What are some critiques of how FINCen has treated virtual currencies?
9. What are the benefits of having an anonymous currency? Why would people want to transact with it versus using a credit card?
10. Are banks made part of law enforcement activities through the Bank Secrecy Act? Is this appropriate? Necessary? Are there alternatives?
11. Do the laws around money laundering and terrorist financing properly balance people's desire to have privacy with the need to fight crime? What are the tradeoffs? Are the tradeoffs acceptable?

September 26: Cryptoassets and the Regulation of Money Transmission

This week will be a continuation of our look at FinCEN, and will expand to look at state money transmission laws and how they apply to cryptocurrencies.

READINGS:

Overview of Federal and State Money Transmitter Laws:

Excerpt from Kevin Tu, *Perfecting Bitcoin*, 52 Ga. L. Rev. 505 (2018). (see page 3 of this assignment for the excerpt).

Are cryptocurrencies 'money'?

U.S. v. Faiella, 39 F. Supp.3d 544 (S.D. New York) 2014 (link available in TWEN Course Materials).

SEC v. Shavers, No. 4:13-CV-415, 2013 WL 4028182 (E.D. Tex Aug. 6, 2013). (link available in TWEN Course Materials).

FinCEN Guidance (from last week, but not covered in class yet):

Department of the Treasury, Financial Crimes Enforcement Network, Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies, March 18, 2013,
<https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf>

Department of the Treasury, Financial Crimes Enforcement Network, Application of FinCEN's Regulations to Virtual Currency Mining Operations, Jan 30, 2014,
<https://www.fincen.gov/sites/default/files/shared/FIN-2014-R001.pdf>

Department of the Treasury, Financial Crimes Enforcement Network, Application of FinCEN's Regulations to Virtual Currency Software Development and Certain Investment Activity, <https://www.fincen.gov/sites/default/files/shared/FIN-2014-R002.pdf>

Overview of state money transmission laws and arguments for a federal replacement:

Peter Van Valkenburgh, *The Need for a Federal Alternative to State Money Transmission Licensing*, Coin Center Report, January 2018.
<https://coincenter.org/files/2018-01/federalalternativev1-1.pdf>

The New York BitLicense:

Jen Wieczner, Inside New York's BitLicense Bottleneck: An 'Absolute Failure?', Fortune, May 25, 2018.
<http://fortune.com/2018/05/25/bitcoin-cryptocurrency-new-york-bitlicense/>

Enforcement Actions by states / FinCEN:

FinCEN enforcement action against Ripple Labs, May 5, 2015.
<https://www.fincen.gov/news/news-releases/fincen-fines-ripple-labs-inc-first-civil-enforcement-action-against-virtual>

FinCEN enforcement action against BTC-e, July 27, 2017.

<https://www.fincen.gov/news/news-releases/fincen-fines-btc-e-virtual-currency-exchange-110-million-facilitating-ransomware>

Inside an Undercover Bitcoin Sting, Time, March 1, 2018.

<http://time.com/5161663/bitcoin-sting-jason-klein-crypto-irs-money-transmitter/>

Virtual Ticket to Prison, FBI News, May 3, 2017.

<https://www.fbi.gov/news/stories/fraud-scheme-leads-to-illegal-bitcoin-exchange>

Uniform Law Commission actions around Virtual Currency:

Jeremy M. McLaughlin and Eric A. Love, *K&L Gates Discusses the Virtual-Currency Business Act and Coming Cryptocurrency Regulation*, Columbia Law School Blue Sky Blog, November 17, 2017.

<http://clsbluesky.law.columbia.edu/2017/11/17/kl-gates-discusses-the-virtual-currency-businesses-act-and-coming-cryptocurrency-regulation/>

REFLECTION QUESTIONS:

- What is money transmission?
- What are the justifications for regulating it?
- How is it regulated in the US today?
- How do cryptocurrencies interact with regulation around money transmission?
- Which parties in the cryptocurrency ecosystem fall under money transmission regulation?
 - Owners of the cryptocurrency? Exchanges? Wallet services? Miners/validators? Software developers?
- What has been the cryptocurrency industry's response to money transmission laws?
- What are the arguments that cryptocurrencies should be governed by existing money transmission laws? What are the arguments that they should not be?
- What has the Uniform Law Commission done related to this?
- What was the rationale behind New York's 'Bitlicense'? How has it been perceived? Has it been successful?

October 3: Cryptoassets as Property

One of the claims about cryptoassets (like bitcoin or ether) is that they are the first instance of a truly unique digital 'thing' – one that can be provably transferred to

someone else, leaving the original owner of the 'thing' no longer holding it. This is also referred to as having solved the 'double spending problem.'

Our legal conclusion on whether a cryptoasset is property underlies other legal decisions about whether and how a cryptoasset should be taxed, whether it should be treated as a commodity or a security, and how it should be treated in a trust or estate. At the moment, the view of a cryptoasset as a digital 'thing' is influencing the creation of financial products (like exchange traded funds or futures contracts) based on one more more cryptoassets (such as the Bitconi futures traded on CME and CBOE). We are also seeing creative uses of cryptoassets' feature of digital uniqueness such as Cryptokitties, viewed as an example of "non-fungible tokens," which you will read about this week.

READINGS

Joshua Fairfield, *BitProperty*, 88 S. Cal. L. Rev. 805 (2015). (Skip reading Section I.C).

Alex Tapscott, *Cryptocurrency is just one of seven types of cryptoassets you should know*, Quartz, July 25, 2018.

<https://qz.com/1335481/cryptocurrency-is-just-one-of-seven-types-of-cryptoassets-you-should-know/>

Olga Kharif, *CryptoKitties Mania Overwhelms Ethereum Network's Processing*, Bloomberg, December 4, 2017.

<https://www.bloomberg.com/news/articles/2017-12-04/cryptokitties-quickly-becomes-most-widely-used-ethereum-app>

Evelyn Cheng, *Meet CryptoKitties, the \$100,000 digital beanie babies epitomizing the cryptocurrency mania*, CNBC, December 6, 2017.

<https://www.cnbc.com/2017/12/06/meet-cryptokitties-the-new-digital-beanie-babies-selling-for-100k.html>

Bennett Garner, *What Are NFTs? Non-Fungible Tokens, Explained*, Coin Central, August 27, 2018.

<https://coincentral.com/nfts-non-fungible-tokens/>

Kyle Wood & Taylor Lindman, *Why the next CryptoKitties mania won't be about collectables*, TechCrunch, August 21, 2018.

<https://techcrunch.com/2018/08/21/why-the-next-cryptokitties-mania-wont-be-about-collectables/>

Ashley Lannquist, *Today's Crypto Asset Valuation Frameworks*, Blockchain@Berkeley, March 6, 2018.

<https://blockchainatberkeley.blog/todays-crypto-asset-valuation-frameworks-573a38eda27e>

REFLECTION QUESTIONS

- 1) What are crypto-assets? Are there different types of cryptoassets? How are different types of crypto-assets distinguished from one another?
- 2) How are crypto-assets like real-world property? How are they different from it? Is the 'thing-ness' of a crypto-asset like the 'thing-ness' of a physical asset? How do they compare to other assets created through legal fictions, such as stocks or bonds?
- 3) What are the arguments for treating crypto-assets like real-world property under existing property law? What are the arguments against this?
- 4) Should crypto-assets have a special new form of property law applied to them? What should that look like?
- 5) How do we determine the value of a crypto-asset? What factors are part of the valuation exercise?
- 6) What are non-fungible tokens? Why are people excited about them?
- 7) Are there any take-aways from what we observed with the Cryptokitties phenomenon?

October 10: Cryptocurrencies and Tax

One of the core motivations for creating Bitcoin was to create an alternative monetary system outside the province of existing governments and financial institutions. Yet, each person who uses Bitcoin or any other cryptocurrency physically lives in a sovereign nation, and is subject to that nation's laws. The power to tax is amongst the most fundamental sovereign powers, and governments have been working over the past decade to determine how to treat cryptocurrencies from a tax perspective. This week, we will examine the still unsettled U.S. landscape around tax and cryptocurrencies.

READINGS:

Kathleen R. Semanski, *Income, From Whatever Exchange, Mine, or Fork Derived: The Basics of U.S. Cryptocurrency Taxation*, 37 No. 6 Banking & Fin. Services Pol'y Rep. 8 (2018). (available on Westlaw).

IRS Guidance 2014-21 on the taxation of virtual currencies.

<https://www.irs.gov/pub/irs-drop/n-14-21.pdf>

Letter to IRS Commissioner Koskinen from Senator Hatch, Congressman Brady and Congressman Buchanan, May 17, 2017.

https://waysandmeansforms.house.gov/uploadedfiles/coinbase_letter_hatch_brad_y_buchanan.pdf

Jerry Brito, *IRS inaction on cryptocurrency can hurt taxpayers, but Congress can help*, CoinCenter Blog, August 21, 2018.

<https://coincenter.org/entry/irs-inaction-on-cryptocurrency-can-hurt-taxpayers-but-congress-can-help>

Letter to the IRS from Congressmen Brady, Schweikert, Wenstrup, Jenkins, and LaHood, September 19, 2018.

<https://coincenter.org/files/brady-letter-9-19-18.pdf>

Jeff John Roberts, *Why Bitcoin Splits Are Both a Cash Windfall and a Tax Nightmare*, Nov. 16, 2017.

<http://fortune.com/2017/11/16/bitcoin-cash-irs/>

Letter to IRS from American Institute of CPAs (AICPA), May 30, 2018.

<https://www.aicpa.org/content/dam/aicpa/advocacy/tax/downloadabledocuments/20180530-aicpa-comment-letter-on-notice-2014-21-virtual-currency.pdf>

Comments to IRS Commissioner from American Bar Association, March 19, 2018.

<https://www.americanbar.org/content/dam/aba/administrative/taxation/policy/031918comments2.authcheckdam.pdf>

Jeff John Roberts, *IRS Wins Bitcoin Fight, Gets Access to 14,000 Coinbase Accounts*, Fortune, November 30, 2017.

<http://fortune.com/2017/11/29/irs-coinbase/>

United States v. Coinbase, Inc., 2017 WL 5890052, U.S. District Court, N.D. California (2017). (available on Westlaw).

REFLECTION QUESTIONS

- 1) How does the IRS treat cryptocurrencies under its 2014 guidance? What are the consequences of treating cryptocurrencies as property rather than currency? What are the practical realities involved in complying with this tax categorization?
- 2) What is the argument that gains from cryptocurrencies are taxable?

- 3) Why is there so much confusion about how taxpayers should treat cryptocurrencies in their tax filings? What are some of the big open questions?
- 4) What have been some of the proposed ways of resolving big open questions, such as the treatment of hard forks?
- 5) How common is it for cryptocurrency owners to pay taxes in accordance with IRS requirements? What factors are behind the low rate of compliance? What are the implications for governments of tax avoidance in this area?
- 6) What is the core issue in *U.S. v. Coinbase*? What was the outcome? What reasoning supported the outcome? What are the larger implications of this case? What open questions remain?

October 17: Cryptoassets as Commodities

Following up on our unit on cryptocurrencies as property, the question arises as to whether they are commodities as defined under the Commodity Exchange Act of 1936 (as amended). This would mean that the trading of futures or options based on a cryptocurrency (e.g., Bitcoin futures as now traded on the Chicago Mercantile Exchange (CME) and the Chicago Board Options Exchange (CBOE)) are regulated by the Commodity Futures Trading Commission (the CFTC), a federal regulator. If cryptocurrencies are treated as commodities, fraud that occurs in direct trades of a cryptocurrency (so-called 'spot trades') would also fall into the CFTC's jurisdiction. The CFTC has been active in monitoring developments in the cryptocurrency world, and has issued consumer guidance as well as pursuing enforcement actions within its authority. Along with FinCEN, the SEC, and the IRS, the CFTC is one of the primary US regulatory agencies relevant to those in the cryptocurrency ecosystem.

READINGS:

Mathew Kluchenek, *Bitcoin and Virtual Currencies: Welcome to Your Regulator*, Harvard Business Law Review (2016).
<http://www.hblr.org/2016/12/bitcoin-and-virtual-currencies-welcome-to-your-regulator/>

A CFTC Primer on Virtual Currencies, Lab CFTC, October 17, 2017.
https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/labcftc_primercryptocurrencies100417.pdf

In Re Coinflip, Inc. (2015).
<https://www.cftc.gov/sites/default/files/idc/groups/public/@lrenforcementactions/documents/legalpleading/enfcoinfliporder09172015.pdf>

Commodity Futures Trading Commission v. My Big Coin Pay, Inc. et al, Sept. 26, 2018, U.S. District Court, Massachusetts.

<https://www.cftc.gov/sites/default/files/2018-10/enfmybigcoinpayincmemorandum092618.pdf>

Jeff Brown, *For brave investors there's two ways to bet on bitcoin*, June 11, 2018.

<https://www.cnbc.com/2018/06/11/the-big-bitcoin-investing-decision-coin-or-futures-contract.html>

CFTC Backgrounder on Oversight of and Approach to Virtual Currency Futures Markets, January 4, 2018.

https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/backgrounder_virtualcurrency01.pdf

Lee Reiner, *Bitcoin Futures are a Bad Idea*, The FinReg Blog, December 13, 2017.

<https://sites.duke.edu/thefinregblog/2017/12/13/bitcoin-futures-are-a-bad-idea/>

REFLECTION QUESTIONS:

- What is a commodity?
- What is a futures contract? What is an option contract? What are derivatives?
- Why do people want to trade in futures or options or derivatives? What purpose do they serve? How do people expect derivatives based on cryptocurrencies to affect demand for and prices of Bitcoin and other cryptocurrencies?
- How is the trading of commodities regulated?
- Who has oversight over the trading of commodities?
- Why does the CFTC consider Bitcoin to be a commodity? What are the implications of that designation?
- Are all virtual currencies or cryptoassets commodities? Why or why not?
- What have we learned from recent court decisions about virtual currencies and commodities law?
- Why has there been controversy over the creation of Bitcoin futures products at the CME and the CBOE? Why have some been critical of the CFTC's actions related to them? What has been the CFTC's response?

October 24: The DAO

In the summer of 2016, the crypto world experienced an important event – the introduction of an entity called 'The DAO.' What seemed like a great success quickly turned into a debacle, with a hacker exploiting bugs in the software code to steal millions of dollars worth of Ether from the other investors in the DAO. The Ethereum community struggled with how and whether to remedy the theft, given that investments in The DAO had stated that the contract amongst the parties was reflected in the

software code alone. Ultimately, the Ethereum community decided to steal the funds back from the hacker by revising the blockchain record.

The experience of The DAO raises numerous legal questions. We will gain familiarity with The DAO story and begin to consider some of the legal questions this week. Future classes will draw from our learnings about The DAO.

READINGS:

Morgen Peck, *Ethereum's \$150-Million Blockchain-Powered Fund Opens Just as Researchers Call For a Halt*, IEEE Spectrum, May 28, 2016.

<https://spectrum.ieee.org/tech-talk/computing/networks/ethereums-150-million-dollar-dao-opens-for-business-just-as-researchers-call-for-a-moratorium>

Cade Metz, *The Biggest Crowdfunding Project Ever – the DAO – Is Kind of a Mess*, Wired, June 6, 2016.

<https://www.wired.com/2016/06/biggest-crowdfunding-project-ever-dao-mess/>

The DAO White Paper: Christoph Jentzsch, DECENTRALIZED AUTONOMOUS ORGANIZATION TO AUTOMATE GOVERNANCE FINAL DRAFT - UNDER REVIEW

<https://download.slock.it/public/DAO/WhitePaper.pdf> (skim)

Matthew Leising, *The Ether Thief*, Bloomberg, June 13, 2017.

<https://www.bloomberg.com/features/2017-the-ether-thief/>

SEC 21(a) Report on The DAO, July 25, 2017.

<https://www.sec.gov/litigation/investreport/34-81207.pdf>

Angela Walch, *Call Blockchain Developers What They Are: Fiduciaries*, American Banker, August 9, 2016.

<https://www.americanbanker.com/opinion/call-blockchain-developers-what-they-are-fiduciaries>

REFLECTION QUESTIONS:

- What were the goals of the creators of the DAO? What was the DAO supposed to do and be?
- Why was the DAO successful in raising funds? What was the plan for what to do with the funds?

- How did the creators of the DAO envision it transforming legal and financial structures more generally?
- How was the decision made to seek to recover funds from the DAO hacker? How was it decided whether the hacker's actions were acceptable or unacceptable? Were there any explicit rules that governed this decision-making process?
- Who is accountable for the bug in the code? How would we decide this? Under a negligence standard? What functions as the contract about the code in this instance?
- Why did the Securities & Exchange Commission issue a report about the DAO? Why was this event relevant to the SEC?
- What did the SEC conclude in its report?
- Any other big questions that you see raised by this dramatic event?

ACTIVITY:

Treat the events around The DAO as an exam issue spotter. Identify and explain the potential legal claims that various parties in the events may have. Who are all the potential parties who may have a claim? How likely is the claim to be successful? What will be the issues in establishing the claim?

October 31: Crypto-Tokens and the Securities Laws – the ICO Phenomenon

Crypto-tokens like Bitcoin and Ethereum are often treated as investments by those who purchase them, who hold or trade them with the hope of these assets increasing in value. The securities laws govern certain types of investments, requiring those who issue or sell securities to provide certain types of disclosures to their investors or to the public at large. The question has arisen as to whether crypto-tokens like Bitcoin or Ethereum are securities, such that their issuance or sale would be covered by the securities laws, and would impose legal requirements and accountability on certain people involved in these systems.

During 2017, people began to create 'tokens' on blockchains and to use them to raise money for various business needs. Tokens did not represent an equity (ownership) interest in a business, but instead, a participation right in a future blockchain system that developers would create. Billions of dollars in cryptocurrencies were raised in 'initial coin offerings' or ICOs, often from retail investors who were provided little disclosure about the investments.

READINGS:

Floyd Mayweather Just Joined the ICO 'Coin' Craze, Fortune, July 27, 2017.
<http://fortune.com/2017/07/27/mayweather-ico/>

Michael Pisa, *Initial Coin Offering (ICO) Mania and Its Implications for Technology-Led Social Enterprise*, Center for Global Development, Jan. 25, 2018.
<https://www.cgdev.org/blog/initial-coin-offering-ico-mania-and-its-implications-technology-led-social-enterprise>

Jonathan Rohr and Aaron Wright, *Blockchain-Based Token Sales, Initial Coin Offerings, and the Democratization of Public Capital Markets*, available at SSRN:
<https://ssrn.com/abstract=3048104>

Helen Gugel & Christopher Koniff, *In the Wake of the DAO Report: A Year in Review*, Big Law Business, July 30, 2018.
<https://biglawbusiness.com/in-the-wake-of-the-dao-report-a-year-in-review/>

Review the SEC's DAO Report from last week's class:
<https://www.sec.gov/litigation/investreport/34-81207.pdf>

REFLECTION QUESTIONS:

- What are securities under the US securities laws? Why do we have securities laws? What is the function they are supposed to perform?
- Who is tasked with implementing and enforcing the securities laws in the US?
- How do cryptocurrencies / crypto-assets / crypto-tokens implicate the securities laws? Why do some people argue that they may be securities? What are the implications if cryptocurrencies like Bitcoin or Ethereum are considered to be securities?
- What is a ICO? What happened in 2017 with ICOs?
- Who were investors in ICOs? Why was this fundraising method described as 'democratizing investment opportunities'?
- How has the SEC recently treated token sales? Is the SEC's stance on them clear or unclear? Why have some in the crypto sector criticized the SEC's actions related to cryptocurrencies and token sales?
- What, if anything, does the ICO phenomenon tell us about our existing securities laws? Are our laws about the protections investors need well structured / up to date, or do they need rethinking in light of technological advances?
- Any other big questions you see raised by these materials?

November 7: Governance of Public Blockchain Networks (Guest Speaker: Vlad Zamfir, Ethereum Researcher)

This week, we will talk about the governance of public blockchain networks, like those of Bitcoin or Ethereum. As these systems originally emerged from the open source software development world, governance practices were borrowed from that world, at least for the software development and maintenance processes. There have been debates about whether these systems have governance at all, or whether they are fully

'trustless.' There have been debates about which actors in these systems are making decisions that could be considered governance. Questions of accountability, responsibility, and power are all part of the governance discussion.

We will be joined by Vlad Zamfir, a researcher for the Ethereum network. Vlad was involved in resolving the DAO hack that we previously discussed, and has been one of the leading voices exploring governance.

Please come prepared with at least 2 questions for Vlad.

READINGS:

Angela Walch, *In Code(rs) We Trust: Software Developers as Fiduciaries in Public Blockchains*.

<https://ssrn.com/abstract=3203198>

And available on TWEN

Carla Reyes, *If Rockefeller Were a Coder*

<https://ssrn.com/abstract=3082915>

Fred Ehrsam, *Blockchain Governance: Programming Our Future*.

<https://medium.com/@FEhsam/blockchain-governance-programming-our-future-c3bfe30f2d74>

Vlad Zamfir, *Against On-Chain Governance*

https://medium.com/@Vlad_Zamfir/against-on-chain-governance-a4ceacd040ca

Vlad Zamfir, *Blockchain Governance 101*

<https://blog.goodaudience.com/blockchain-governance-101-eea5201d7992>

Vlad Zamfir, *My Intentions for Blockchain Governance*

https://medium.com/@Vlad_Zamfir/my-intentions-for-blockchain-governance-801d19d378e5

REFLECTION QUESTIONS:

- What does it mean to govern a blockchain?
- Who are the actors who play a role in blockchain governance? Does it differ from blockchain to blockchain?
- Why is blockchain governance important? What kinds of decisions are made by people involved in these systems?
- How do questions around blockchain governance connect to law?
- What is 'on-chain' governance? What is 'off-chain' governance? What are the pros and cons of each, according to commentators?

November 14: Smart Contracts and Smart Legal Contracts

The Ethereum platform is said to enable 'smart contracts' to run without human interference on a global computer. This week, we will explore what smart contracts and smart legal contracts are, as they are different beasts, though people don't always distinguish between them in common discourse. Will contracts become fully automated? Will lawyers need to learn to code, and will judges need to read software code to interpret contracts? How do smart contracts and smart legal contracts fit into our existing legal framework? We will explore the brave new world of contracts and blockchain technology.

READINGS:

Kevin Werbach and Nicolas Cornell, *Contracts Ex Machina*, 67 Duke L.J. 313 (2017)
Available on Westlaw, Lexis, etc.

Jeremy Sklaroff, *Smart Contracts and the Cost of Inflexibility*, 166 U. Pa. L. Rev. 263 (2017)
Available on Westlaw, Lexis, etc.

Christopher Clack, Vikram A. Bakshi, Lee Braine, *Smart Contract Templates: foundations, design landscapes, and research directions*, arXiv: 1608.00771, 2016.
<https://arxiv.org/abs/1608.00771> (there is a link to download a PDF of the article on the right of the website.)_

Dan Selman, *REALLY Smart (and Legal!) Contracts*, Medium, March 27, 2018.
<https://medium.com/@Clause/really-smart-and-legal-contracts-a77fcd1d0d10>

REFLECTION QUESTIONS:

- What are 'smart contracts'? What are they supposed to do?
- What are smart 'legal' contracts? How do they differ from smart contracts?
- Who creates smart contracts? Lawyers? Coders? Both?
- Who creates smart legal contracts? Lawyers? Coders? Both?
- How do smart contracts fit into contract law? How do they envision enforcement of contracts happening? What is the role of judges, lawyers, or the legal system generally in a world of smart contracts?
- Why do some say 'smart contracts' is a misnomer?
- How might smart contracts or smart legal contracts transform the practice of law? What skills do lawyers need in a world of smart contracts or smart legal contracts?

November 21: Estate Planning for Cryptoassets

As we have discussed this semester, tokens like Bitcoin or Ether or even cryptokitties have attributes of property, which is why they are often referred to as cryptoassets or digital assets. Digital assets can complicate the administration of an estate after their owner dies. Many times, owners of cryptoassets do not reveal their holdings to anyone, as holding wealth privately may be a reason for owning the assets in the first place. Owners of cryptoassets may also be resistant to disclosing their ownership due to security worries, as any holder of a private key may move its corresponding cryptoasset. Both legal and practical questions arise from this new form of wealth. As more and more people become owners of cryptoassets, estate attorneys must become familiar with these issues to competently advise their clients.

WRITTEN ASSIGNMENT:

Please write a 500-word response paper to the video and readings. You may comment on issues of particular interest to you, critique arguments or observations of the authors or podcast participants, compare or analogize this unit/issues to others from the course, examine issues that you think were missed or remain open in this area, etc.

You must submit the response paper to the TWEN dropbox by **9am on Monday, Nov. 26th**. You will not be graded on your response, but the submission must be of reasonable quality in order to receive a 'complete' on the assignment.

READINGS AND VIDEOS:

Cryptoasset Inheritance Planning with Pamela Morgan, *Epicenter Blockchain Podcast*, Episode 240 (June 21, 2018).

<https://epicenter.tv/episode/240/>

Michael D. Walker, *The New Uniform Digital Assets Law: Estate Planning and Administration in the Information Age*, 52 Real Property, Trust, & Estate Law Journal 52 (2017).

https://www.americanbar.org/content/dam/aba/publications/real_property_trust_and_estate_law_journal/v52/01/rpte-journal-2017-52-1-article-new-uniform-digital-assets-law-estate-planning-and-administration-in-information-age%20.authcheckdam.pdf

Michael Allen Goldberg, *Estate Planning for Cryptocurrency*, 106 Ill. B.J. 38 (2018). Available on Westlaw.

REFLECTION QUESTIONS:

- What are some examples of digital assets (other than cryptoassets)? How do cryptoassets compare to other digital assets? What are the similarities and differences?

- How have laws around wills and trusts changed to address digital assets generally? Have there been changes in law to address cryptoassets specifically? Are changes needed, and if so, what kind?
- Are cryptoassets owned by a decedent part of an estate?
- How would an estate executor know or find out about their existence?
- How would the executor exert control over them?
- How should a lawyer draft a will when cryptoassets are expected to be part of the estate?
- What actions should a lawyer advise the client to take to ensure the heirs can benefit from the client's cryptoassets?

November 28: Cryptoassets and the Regulation of Innovation

Over the semester, we have examined how cryptoassets and blockchain technologies are treated under a variety of legal doctrines, from tax law to securities law. A prevalent theme in each of our units has been the legal and regulatory uncertainty faced by those seeking to use these new technologies. In our final unit, we will zoom out from particular fields of law to take a high-level view of the challenges of regulating a fast-moving, new technology.

READINGS:

Michèle Finck, *Blockchains: Regulating the Unknown*, 19 German Law Journal No. 4 (2018).

<https://static1.squarespace.com/static/56330ad3e4b0733dcc0c8495/t/5b5c857b758d46f72cc9d37a/1532790140829/01+Vol+19+No+4+Finck.pdf>

Nathaniel Popper, *Have a Cryptocurrency Company? Bermuda, Malta or Gibraltar Wants You*, The New York Times, July 29, 2018.

<https://www.nytimes.com/2018/07/29/technology/cryptocurrency-bermuda-malta-gibraltar.html>

Kate Rooney, *Crypto industry leaders warn Congress: Figure out regulation, or watch innovation leave the US*, Yahoo Finance, Sept. 25, 2018.

<https://finance.yahoo.com/news/crypto-industry-leaders-warn-congress-023600101.html>

Korey Clark, *The Coming Era of State Blockchain Regulation*, State Net Capitol Journal, Feb. 9, 2018.

<https://www.lexisnexis.com/communities/state-net/b/capitol-journal/archive/2018/02/09/the-coming-era-of-state-blockchain-regulation.aspx>

The small economies blazing the trail on cryptocurrencies, RN Drive with Patricia Karvelas, Australian Broadcasting Corporation, Oct. 4, 2018.

<https://www.abc.net.au/radionational/programs/drive/small-economies-blazing-the-trail-on-cryptocurrencies/10339576> [Download the audio interview]

REFLECTION QUESTIONS:

- Why is there so much uncertainty about answers to legal and regulatory questions related to cryptoassets and/or blockchain technologies?
- Is legal/regulatory uncertainty here a problem? Why or why not? What kinds of problems arise from legal uncertainty about blockchain technologies / crypto?
- What challenges are there in reducing legal or regulatory uncertainty around these technologies?
- What are Finck's suggestions for how to approach regulation of blockchain technologies or cryptoassets? What is good and bad about her recommendations?
- Why are countries like Bermuda, Malta, or Gibraltar passing laws related to blockchain tech or cryptoassets? What do they have to gain? What do they have to lose?
- What are the risks of regulating a new tech too early? What are the risks of regulating too late?
- What is a regulatory sandbox? Why might it be useful? What are its flaws?