



UNIVERSITY *of* NICOSIA

Session 4

Law and Technology

BLOC 513: Law and Regulation in Blockchain



Session Objectives

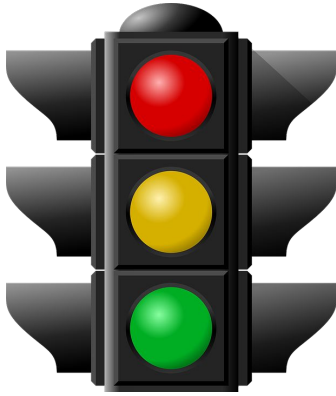
- Refer to historical regulatory concepts.
- Consider past debates about the emergence of new areas of law and the applicability of past lessons to the advancement of cryptocurrency and blockchain regulation.
- Assess some of the variability that can alter the impact and effect of regulations.
- Brief introduction to some tax concepts and whether we should develop new means of taxation in response to new technologies.
- Provide an overview of the main legal systems around the globe.
- An historical example of questionable monetary policy and law enforcement.

Session Outline

1. Regulatory Concepts
2. Evolving Law
3. The Inaccurate Art of Making Law
4. Taxation - Past and Future
5. Monetary Policy Changes
6. Required Reading
7. Further Reading

Regulatory Concepts

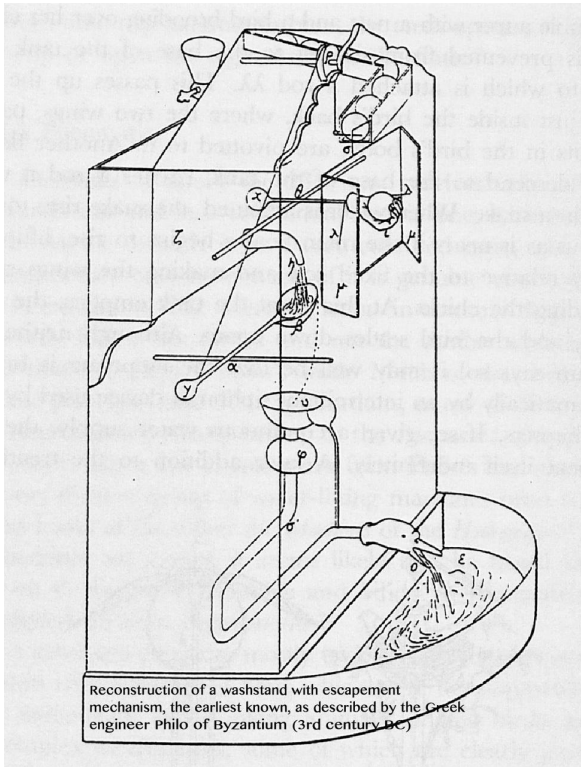
Regulatory concepts



Viewpoint:

- Public understanding and acceptance of the technology will change the laws.
- Those changes will alter case outcomes and legitimise new business models.
- Fortunes may be won or lost, due to legislative frameworks.
- Despite the law's imperfections and frailties, it is crucial that Bitcoin and Blockchain businesses resist the temptation to flout any applicable law.
- The power of a state is all encompassing. Transgressions can be (and often are) harshly punished.
- Commercially sensible to adapt to the legislation that prevails in the jurisdictions where you do business.
- If the local regulations are unacceptable or uncommercial, the wisest strategy is to simply move.

Certainty of Regulation



Viewpoint

Despite the vagaries of regulation, the enthusiasm of rulers to both tax and regulate their people has a long history. Regulation was, and for the foreseeable future will remain, a part of life.

Arguably, every government's fortune rests on the tax system they deploy. Death and taxes are so certain and so linked that death may be the only escape from taxes.

The inevitability of taxes, ensures that governments retain a particular interests in ways to tax their citizens.

It is arrogant and inaccurate to believe we are vastly superior to those who lived a couple of millennia ago.

The regulatory framework some of the ancients deployed was often surprisingly sophisticated.

Law Code of Hammurabi

Hammurabi's Code contained 282 laws that covered areas such as:

- Retribution (an eye for an eye)
- Theft (death penalty for theft)
- Slavery (death penalty for removing a slave outside the city gates)
- Food Transport (receipts of payment for transport were required)
- Slander (brow 'marked' if you 'pointed the finger' and could not prove it)
- Trade (herdsman to compensate ten-fold if guilty of fraud or false returns)
- Divorce (women had certain rights in breaking off a relationship - with just cause)
- Duties of workers (N.B. Not worker's rights. Instead, worker's duty to deliver grain to field's owner)
- Liability (could be held liable for dam breaks that cause damage to another person's crops)

https://en.wikipedia.org/wiki/Code_of_Hammurabi



circa 1754 BCE

Evolving Law

Law of the Horse

An Informative Debate

In the mid-90s, there was strident debate between Judge Easterbrook (U.S. Court of Appeals and Univ. of Chicago) and Lawrence Lessig (Harvard) on whether the development of Cyberlaw was valid.

The core question was whether we should change legal frameworks to adapt to technology.

Professor Lessig made a strong case for a new field of legal theory, Cyberlaw, in:

"The Law of the Horse: What Cyberlaw Might Teach"

Judge Easterbrook argued against specialised or niche legal studies such as Cyberlaw:

“...the best way to learn the law applicable to specialized endeavors is to study general rules. Lots of cases deal with sales of horses; others deal with people kicked by horses; still more deal with the licensing and racing of horses, or with the care veterinarians give to horses, or with prizes at horse shows. Any effort to collect these strands into a course on 'The Law of the Horse' is doomed to be shallow and to miss unifying principles.”

Judge Easterbrook



Viewpoint:

Preston: “ Judge Easterbrook suggested that as long as the consumer has an opportunity to return the product within a stated number of days after the terms are revealed to the purchaser, it is not inconsistent with notions of voluntary assent to find that the consumer has manifested assent by purchasing the product and later finding the terms inside the package, or even later finding the terms when the disk is inserted in the computer.

However, real world practice may show that returning a small product through a retailer is impossible and returning it through the product manufacturer is such a hassle that it may as well be impossible. “

Selecting the Correct End



Viewpoint:

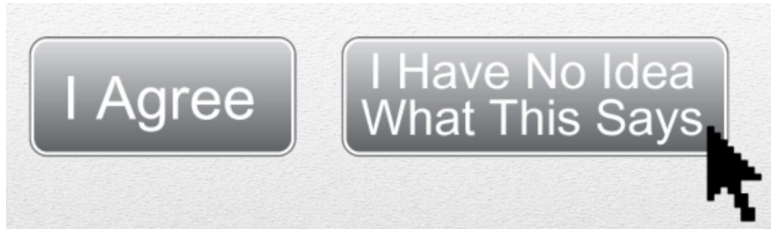
Preston: A consumer being deemed to accept such terms is a “faustian bargain” or a “fixed one-horse race”. There are “two salient principles”:

1. “statements of important people are given more credit than the same or better ideas from less important people.”
2. “years pass... precedents get muddled... nuances lost... later courts... pick up a partial idea... and forget its context [and] justification. [T]hey adopt half a horse... [T]he half that the modern courts have adopted regarding contracts of adhesion* is not the front half.”

* Contracts you have to adhere or stick to.

An Alternate Paradigm

“I negotiate”, instead of “I agree”



Joshua A.T. Fairfield, *Smart Contracts, Bitcoin Bots, and Consumer Protection*, 71 WASH. & LEE L. REV. ONLINE 36 (2014).

Are Trustless Public Ledgers and Smart Contracts - a solution?

“The current problem with consumer contracting online is that courts and companies have collaborated to create an online system in which consumers cannot bargain. Under the current regime, consumers have no choice but to click the “I Accept” button. Online, contract law is not the law of bargained-for exchange; it has become the law of company-dictated exchange. Smart contracts— automated computer programs able to execute trades through TPLs—may offer a solution. “

- Joshua Fairfield

Clickwrap - Scenario 1

Fairfield posits two clickwrap scenarios:

Scenario 1

A consumer logs onto a corporate web server, seeking to buy a widget.

She encounters the site's standard contractual terms and conditions, which she clicks through without reading (although she has a rough idea what is in them), and concludes a purchase.

The contract is enforceable according to its terms, but they remain terms she has not read. This flies in the face of contract law theory as it has developed over the centuries.



Clickwrap - Scenario 2

Scenario 2

A consumer's software agent logs into a corporate web server. The consumer's software agent offers specific contractual terms stating the terms on which the consumer is willing to deal.

For example, the consumer may have informed the web server that she is only willing to deal with that server if the server respects her desire not to sell her personal data, by setting a “do not track” flag.

The corporate web server detects the consumer's terms, but ignores the terms and concludes the purchase. The consumer's intended contract is not enforceable according to its terms.

Legal Positions

Lemley's view: when a contract features conflicting forms, the conflicting terms are read out of the contract unless one party has demonstrated a willingness to forego the deal over that term.

Rambarran & Hunt: implied consent to privacy terms can be created by browse-wrap agreements.

The Inaccurate Art of Making Laws

Disruptive Legal Paradigms



Technology continues to threaten the accepted legal paradigms. In the 90s, the emergence of the Internet, the widespread use of software and technology derailed the existing law and forced new paradigms to be developed. 'Shrink-wrap' (discussed later in the course) is an example where new concepts crashed through existing contract law barriers.

Some other areas of change:

- cyberlaw;
- privacy;
- right to be 'left alone'; and
- the right to be forgotten.

Technology Reality Checks



A frank assessment of cold hard reality is warranted.

Simple smart contracts may be easily conducted by a machine agent. We may only need to set: price; quantity; and warranties.

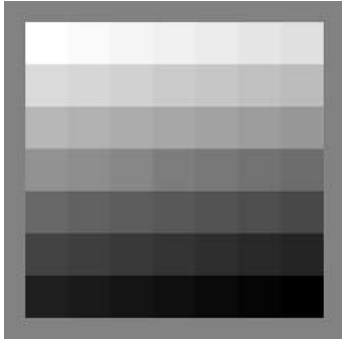
However, advanced smart contracts must also:

- be user-friendly;
- have adequate contractual safeguards,
- have adequate technical safeguards;
- have an appropriate body of laws developed;
- adequately address the real world issues of technical failures, system attacks, crime, taxes, changing legislation, and even natural disasters and war.

Much work is required on the theory, the rules, and (perhaps most of all) on the technology.

It took a long time to build a decision engine that could play chess.

Regulatory Variability



Regulation has been around for a very long time.

There is no sign it is going away or will ever leave us be.

So, let's build a foundation for understanding regulation, the forces that create it, as well as how it can be administered and how it is enforced.

We will explore some historical examples of regulation.

What may seem black and white, may prove to have many shades of grey.

It is important that we shatter any illusion regarding the sanctity of regulation or legislation. So, Let's ponder some legal concepts.

Laws are social, economic and financial constructs made for their time and the prevailing circumstances.

Murder

Regardless of nationality, we may all agree that certain acts (such as murder) are bad.

But... do we even agree on what constitutes murder?

Divisive Regulations



There are many areas of law that vary greatly between jurisdiction regarding:

- sexuality (nudity, age of consent, freedom for men and women to associate, homosexuality etc);
- religion (e.g. blasphemy);
- family planning and contraception;
- abortion;
- divorce.

Even within nations these topics can be volatile and divisive.

Unpredictability



Consider the tendency to make new laws with enthusiastic certainty about the need for these changes and clarity about the intended effect.

How often do unusual or unanticipated circumstances arise and find those hastily-framed laws to be contradictory, unfair, onerous, or oppressive?

Attempted Murder of a Dead Body

Over the centuries there have been many thousands of murder cases dealt with by the courts. Yet, an unexpected and unique set of facts can still arise.

In a recent Australian murder case, a man was charged with the attempted murder of a dead body.

During a fight the deceased was killed.

Not realising the other man was already dead, the defendant shot the dead man with, it is alleged, a clear intention to kill him.

The defendant was not charged with murder as there was evidence of self defence. Instead, he was charged with attempted murder of the dead man.

Disintermediated Systems



The courts and lawyers could do with some updating through technology and disintermediation.

The financial system is also ripe for change.

David Morris in his article [*Bitcoin Is Not Just Digital Currency. It is Napster For Finance*](#), imagined a future of:

“Loans without banks, contracts without lawyers, and stocks without brokers, executed and recorded across hundreds of servers at all corners of the earth.”

- David Morris

Smart Contract Advantages



If well designed and executed, smart contracts have the potential to:

- remove gatekeepers and intermediaries;
- facilitate trustless and predictable transactions;
- enhance governance due to transparency and auditability;
- remove paper shuffling and time-consuming tasks such as updating registers;
- reduce the possibility of human error;
- trigger autonomous actions that accord with set criteria, thus reducing the risk of emotional decision making;
- flatten hierarchical structures ;
- eliminate pyramidal systems where information and actions filter up and down the structure.

Smart Contract Challenges

Smart Contract Strengths and Dangers

Problem: Existing systems are arguably subject to infinite complexity due to the paucity of available information.

Strengths: The potential to overcome the opaque nature of existing systems.

Design: A well-designed infrastructure could have built in fail-safes that are auditable - a preferable mechanism to the anarchic chaos of the paper world.

Caution: Must not be designed so carelessly that they introduce new complexity.

Dangers: It could prove very awkward, if not impossible, to unwind a feral smart contract given the technology challenge for judges and arbitrators and any jurisdictional maze.

Challenge: Getting the technology right and making it very very easy to use is the challenge.

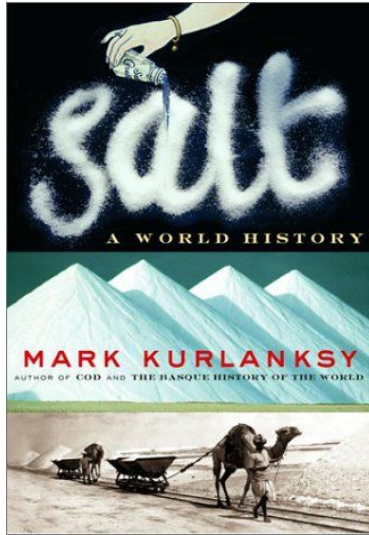
Simplicity: As Clay Shirky so brilliantly put it:

“[Online] tools don’t get socially interesting until they get technologically boring.”

- Clay Shirky

Taxation - Past and Future

Salt Tax



Salt Tax was a tax levied directly on salt, usually proportional to the amount of salt purchased.

In ancient times, salt was extremely valuable as a preservative.

Words such as *salary* are derived from the same root as salt and indicate its vitality to civilizations.

As an example, ancient "salaries" could literally be quantities of salt.

Notable historical salt taxes:

- The French Gabelle was a contributing factor to the French Revolution;
- The salt tax in China at various times including that under the Salt Commission of Tang and Yuan China.
- Salt tax in India including that under the British. Mahatma Gandhi protested in a Salt March, and it was a contributing factor to the Indian independence movement.
- A Russian salt tax led to an uprising known as the Moscow uprising of 1648.

Source: Wikipedia

Window Tax



Window Tax

A property tax based on the number of windows in a house.

It was a significant social, cultural, and architectural force in England, France, Ireland and Scotland during the 18th and 19th centuries.

To avoid the tax some houses from the period can be seen to have bricked-up window-spaces (ready to be glazed or reglazed at a later date).

- England and Wales for 156 years (1696 – 1851)
- France (1798 - 1926)

Income Tax - a Short History

104 YEARS OF THE INCOME TAX

	1913	2017
Top Tax Bracket	7%	39.6%
Tax Bracket Range	1% - 7%	10% - 39.6%
Top Tax Bracket Threshold (Today's Dollars)	\$11.8 Million	\$466,950
Total Tax Revenues (Today's Dollars)	\$17.1 Billion	\$3,364 Trillion
Family Standard Deduction (Today's Dollars)	\$98,425.45	\$12,600
Total Number of 1040's Filed	358,000	148,606,578
Total Pages in Tax Code	400	74,608

AMERICANS
for TAX REFORM

ATR.ORG

United States: Federal government first imposed personal income tax, in **1861**, to pay for American Civil War - (3% of all incomes over US\$800) (around \$21,800 in 2017).

The origin of the income tax on individuals is generally cited as the passage of the 16th Amendment, passed by Congress on **July 2, 1909**, and ratified **February 3, 1913**; however, its history actually goes back even further.

United Kingdom: In **1799**, income tax was introduced into by Prime Minister William Pitt the Younger to pay for French Revolutionary War. Graduated (progressive) income tax began at 2 old pence in the pound (1/120) on incomes over £60 (equivalent to £5,800 in 2016), and up to max. of 2 shillings in the pound (10%) on incomes of over £200. Pitt hoped to raise £10 m a year (actual receipts £6 m).

Robot Tax

The Telegraph

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South Korea introduces world's first 'robot tax'



4



The Starship delivery robot is an example of a machine that could replace a human worker. CREDIT: GETTY

South Korea Aug 2017

"South Korea has introduced what is being called the world's first tax on robots amid fears that machines will replace human workers, leading to mass unemployment. The country will limit tax incentives for investments in automated machines as part of a newly proposed revision of its tax laws."

Monetary Policy Changes

Devaluation



Governments have broad flexibility to change tax laws and to alter monetary policy.

“In 1601, Elizabeth I and her government devalued the Irish coin from nine ounces fine to three ounces fine of silver in order to finance the high cost of the Nine Years War in Ireland. This unilateral move by the English government, combined with the failure to remove the old sterling from circulation, caused catastrophic problems throughout Ireland. In addition to rapid inflation in common foodstuffs, the people in Ireland would only accept the new coin at its reduced intrinsic value rather than face value. Further, merchants refused to accept the devalued coin in commercial transactions leading to a shortage of vital goods from England.”

Early arguments in the debate against regulating cryptocurrency

[Nikolai M Kaplanov Nerdly Money: Bitcoin, the Private Digital Currency, and the Case Against Its Regulation at 1.](#)

Justification



When deciding a later contract dispute regarding a merchant who refused to accept the debased Irish coins, the judge declared:

The Crown, by its prerogative, has the power to:

make;

change;

enhance;

debase; or

entirely annul its money.

The Case of Mixed Money in Ireland, Trin. 2 Jac. A.D. 1605
(Davies's Report)

Required Reading

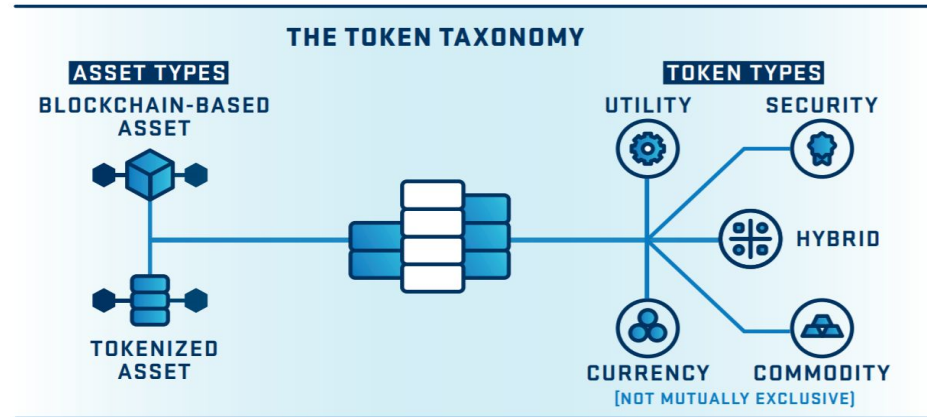
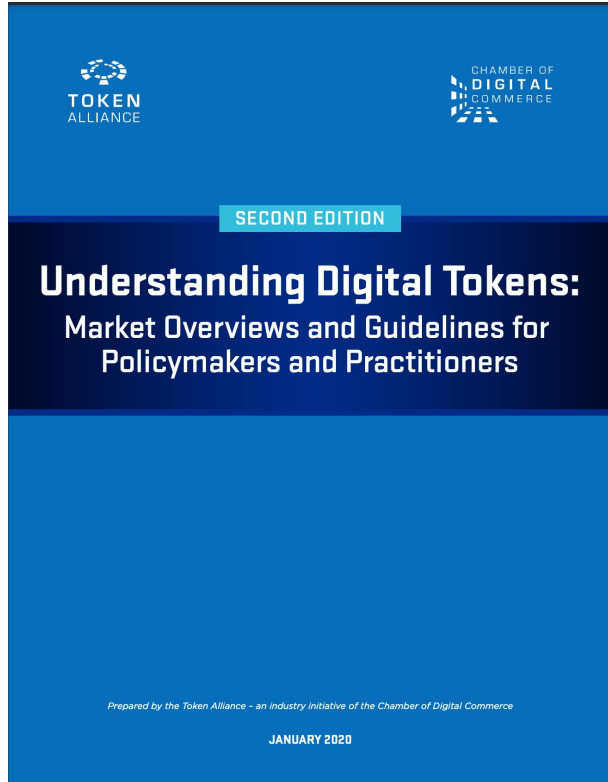
Required Reading

[Cheryl B. Preston & Eli W. McCann, Unwrapping Shrinkwraps, Clickwraps, and Browsewraps: How the Law Went Wrong from Horse Traders to the Law of the Horse, 26 BYU J. PUB. L. 1, 23 \(2011\)](#)

How online service providers often do “not allow the consumer the same luxury of changing the contract at will, but instead retains the unilateral modification power exclusively for itself”); *id.* at 23–28 (exploring the legal sacrifices that consumers make when contracting with online service providers—a completely asymmetric contract relationship).

Further Reading

Further Reading



[Download Report](#)

Further Reading

Please Note: You will not be examined on these articles. They are included in case they are relevant to your areas of interest or areas of business.

1. [Tomaskova, Eva and Sehnalek, David: The Hierarchy of Legal Sources](#)
2. [Hatzimihail, Nikitas E: Cyprus as a Mixed Legal System, Journal of Civil Law Studies](#)

Assessment Task

Assessment Task



Report Link:

[Davis Polk Financial Services Regulatory Reform Tool – Summer Spotlight Edition](#)

This assessment task is a multiple choice quiz (consisting of 15 questions).

The questions are based on some of the content in this report.

This task is worth 15 marks.

So, please give it appropriate attention.

Marks will be deducted for late submissions



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Questions?

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