Ausgabe HSG Focus 4/2018: «Kunst» - Forschung

Understanding Cryptocurrencies

There are over 1600 different types of Cryptocurrencies globally… and the number of them is constantly increasing. What are these digital assets and how can we understand them? An interview with Professor Dr. Lukas Müller.

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Prof. Dr. Lukas Müller

Today terms such as cryptocurrencies and Blockchain have become part of our vernacular. Even though prices of Bitcoin and the over 1600 other alternative electronic currencies have calmed since their peak in late 2017, there is still a lack of understanding by most people, governments and banks about these digital assets. First what are Cryptocurrencies?

Lukas Müller: You have to distinguish Cryptocurrencies from money. Money is primarily the generally accepted means of exchange. You trade fiat money (like Swiss Francs) for a specific good. Money is widely regarded as a medium of exchange, a measure of value for goods, a store of value, and an official way of

settling debts. To many people, Cryptocurrencies such as Bitcoin, Ether and Ripple are also a medium of exchange as an alternative to money or legal tender. Cryptocurrencies are implemented on a computer system and use cryptographic functions in the process of authorizing and verifying transactions. Typically, cryptocurrencies don't need a central counterpart. So, you can easily pay via peer to peer transactions, just like with a Swiss Franc coin or bank note. In the case of Bitcoin, these transactions are verified by many network nodes through cryptography and recorded in a public distributed ledger which we call the blockchain. Now what does that mean? First off, cryptocurrencies exist in the digital realm, which means that there are no physical coins or paper notes, per se. They are more like a computer file with a complex code… compare it to a very long and unique UPC bar code at the grocery store.

What does this mean in the everyday world?
Müller: For example, when you buy a pizza in exchange for Bitcoin, you are trading data on the blockchain against food. From a legal point of view, this is a barter transaction: You are promising to deliver the control of some specific data, the cryptocurrency unit, in exchange for pizza.
Due to high price volatility, cryptocurrencies are not widely accepted as a means of payment. A contract party only has to accept cryptocurrencies as means of your payment if you mutually agree on it.

Where do they get their value? Who decides what they are worth?
Müller: This is a complex question. First, cryptocurrencies are digital currencies that are not issued by a central bank or a governments. So, from a legal point of view, they are not valid means of payment. Nobody is obliged to accept cryptocurrencies as a legal means of payment. Currencies that exist today are what's known as fiat currencies, which means we derive their value by the government that backs it… The Swiss Franc, the Euro and the U.S. dollar are fiat currencies. If people don't trust the issuer of a fiat currency, the relative value of a fiat currency in comparison to other fiat currencies or goods will be lower. For example, you don't want to accept money from a failing state.
The value of a cryptocurrency might be derived from the expectations on how much it is worth. If you expect to trade a cryptocurrency unit against a specific unit of fiat currency or goods, you will probably be willingly to pay or trade the equivalent of its value. So the value of cryptocurrencies is really hard to factor. One of the most important aspects of any currency is its stability. A currency which has massive swings in value is not reliable. Keeping a currency stable is a

major factor in monetary policy and a government and their central banks are consistently implementing measures to keep their currency stable. There is not an answer for this yet with cryptocurrencies.

What is an example of how cryptocurrencies can be valuable?
Müller: There are some advantages with cryptocurrencies. Blockchain technology makes it easier and, in some cases, less costly to transfer money globally. This is a good thing for consumers. In addition, some investors are using cryptocurrencies as an additional asset class for investment purposes. From a theoretical point of view, in some cases, a basket of cryptocurrencies can be a useful mean of portfolio diversification because it seems to be weakly related to the prices of other traditional assets like real estate, debts or shares of publicly traded companies.

Are there any legal issues with cryptocurrencies?
Müller: There are many legal issues. For example, it is unclear when you buy a cryptocurrency what you own. Do you own the data? Do you have a contractual right? Or do you own a thing? If you want to buy or to control cryptocurrencies, it is important to know in what situations you are actually in control of what you want to possess. In the case of a pizza place, the vendor wants to know when the customer has paid for the pizza with the cryptocurrency.
Another everyday life example is a case like this: What happens if a person has cryptocurrencies and he dies. Can the heirs claim the cryptocurrency tokens? How do the heirs find out whether the testator had cryptocurrency assets? How would the handling of the succession work from a legal point and from a technological point of view?
Lawyers and legal scholars are trying to answer questions like these in order to anticipate future disputes regarding cryptocurrencies. To me, these many issues make it a great field for scholars to discover new technologies and to figure out ways on how to apply existing law to these technological phenomena. In addiction, we can think about future legislation if we find that the existing law should be amended to deal with the new technologies in a more appropriate way.

There has been a rise in start-up companies turning to ICO's – initial coin offerings – instead of the more traditional IPO's or initial public offerings. Why is this?
Müller: IPO's are a way for a company to raise capital, by offering the public shares in their company. ICO's can do the same thing but with some major

differences. When you buy stocks in a company, you actually own a share of that company. As long as the company has value so does your stock. Unlike stock market IPO's, ICO's take money and in return give a cryptocurrency. This transaction does not confer any ownership rights in the company or entitle the owner to any sort of dividends when the company based on profit earnings.
ICOs are a sort of crowdfunding fundraising process. For example, a company wants to create a new coin, computer app, or a service can start an ICO. Investors can buy into the ICO, either with fiat currency or with pre-existing digital tokens like Ether. In exchange for their support, investors receive a new (cryptocurrency) token specific to the ICO. Investors hope that the token will provide them with a good return on investment. The company using the ICO accepts the investor funds as a means of launching its product or starting a digital currency. ICOs are commonly used by start-ups to bypass complex financial market laws regulating capital-raising process. Some of the major key differences here are that, at least for now, ICO's are designed in a way that they have very little regulatory oversight. This makes it easier for new firms to offer an ICO, but it is also riskier for the investor.
IPO's are usually underwritten by an investment bank or a broker dealer. This can be a time intensive and a financially expensive process. An ICO can have lower set-up and transaction fees, which benefit especially smaller, newer firms. The downside of this process is that you don't have the gatekeepers like investment banks who can screen which company might have a good product or not. In the case of an ICO, investors have to do the screening process by themselves.

Interview: Gordon Langlois

Prof. Dr. Lukas Müller is Attorney-at-Law and Assistant Professor for Business Law with a specialization in Corporate Law at the Institut für Finanzwissenschaft, Finanzrecht und Law and Economics. One of his focus areas is been Crypocurrencies, Bitcoin and Blockchain.