

Treasury Committee

Oral evidence: Digital Currencies, HC 910

Wednesday 20 June 2018

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Members present: Nicky Morgan (Chair); Rushanara Ali; Mr Simon Clarke; Charlie Elphicke; Stewart Hosie; Alison McGovern; Catherine McKinnell.

Questions 94 — 165

Witnesses

I: Marco Santori, President and Chief Legal Officer, Blockchain; Obi Nwosu, CEO and Founder, Coinfloor; Iqbal Gandham, Chairman, CryptoUK and Managing Director, eToro; Izabella Kaminska, Editor, FT Alphaville.

Examination of Witnesses

Witnesses: Marco Santori, Obi Nwosu, Iqbal Gandham and Izabella Kaminska.

Q94 **Chair:** Good afternoon. Thank you very much for bearing with us in terms of the timing this afternoon. We are expecting a vote at 3.45, which means that the Committee will be suspended, but we will try to make sure that we get through that as quickly as possible and head back upstairs. Mr Santori, I know you have a flight this evening, so we understand the limitations on your time as well. I am going to get straight on with this. First of all, perhaps you could introduce yourselves for the benefit of the people watching online, but also so we make sure we pronounce your names correctly.

Iqbal Gandham: My name is Iqbal Gandham. I am the managing director of eToro UK. eToro is a platform that launched in 2007. We have over 10 million customers and we have offered cryptocurrency since 2014. I am also the chair of the CryptoUK self-regulatory trade association in the UK, our members ranging from companies that are selling to institutions to those selling to a wider audience, and from companies that are providing data to the industry to those that are looking a little more into the future in tokenising commodities, such as gold.

Izabella Kaminska: I am Izabella Kaminska. I am the editor of FT Alphaville, which is the blog of the *Financial Times*, focused on markets, commodities and all sorts of things. We have been following cryptocurrency since 2012 and we try to take a relatively critical take on things. We hope to scrutinise all these new innovations. I presume that is why I am here.

Obi Nwosu: My name is Obi Nwosu. I am the CEO and co-founder of Coinfloor. We were founded in 2013 right here in the UK and we are one of the longest established cryptocurrency groups of exchanges globally. We focus on institutional, sophisticated and professional investors, not retail investors. We believe that, with sufficient regulation, the UK can be a leading player in the nascent cryptocurrency space.

Marco Santori: My name is Marco Santori. I am the president and chief legal officer of a company called Blockchain. It is a UK-headquartered company. Blockchain is the world's largest software provider for blockchain assets. We have over 25 million wallets and we do it all from here in London, although I should note that we were actually founded in York.

Q95 **Chair:** Thank you very much indeed to the four of you. We will try to direct questions to specific individuals, but if there is anything you want to contribute to somebody else's answer please speak up or let me know. I will start with Mr Gandham and Mr Nwosu; I hope I have pronounced



that correctly. It would be very helpful if you could explain the role of cryptocurrency exchanges, particularly who uses them and the scale of your exchanges.

Obi Nwosu: Cryptocurrency exchanges and brokers allow people to buy cryptocurrencies, so bitcoin, Ethereum, et cetera, for fiat currency—pounds, dollars and euros—or vice versa. That is fundamentally what they do. In our case, we also believe they are at the heart of the cryptocurrency community; they are like a marketplace and, as such, we provide thought leadership in terms of class-leading security, regulation and input to regulatory processes. For example, we are a founding member of CryptoUK and a founding and advisory member of GDF, the Global Digital Finance initiative.

Iqbal Gandham: To follow on from Obi's point, cryptocurrency platforms such as eToro, Coinbase and others are the access point into this industry. They are where people can purchase cryptocurrencies, buy and sell cryptocurrencies. We also provide a lot of education and thought leadership, similar to what Obi has been saying, which is why we created the self-regulatory body. Moving forward, we will hope to give further access to the retail audience. We do not do institutions as yet, but we provide access to retail clients.

Q96 **Chair:** Mr Santori, perhaps you could just explain the difference between an exchange and Blockchain. Perhaps you can explain—because obviously we are learning all of this at the same time as taking evidence—the difference between custodial wallet providers and non-custodial wallet providers.

Marco Santori: Yes, certainly. As you stated, Blockchain is not itself an exchange. People come to Blockchain not to speculate on the price of currencies or to invest in currencies or digital assets of any kind; they come to us to store, use and transact with their digital currencies. We have a markedly different business model and frankly a markedly different mission. We do not ourselves exchange one currency for another. Instead, we provide software to individuals and businesses around the world so they can hold on to cryptocurrencies and digital assets themselves.

That is what it means to be non-custodial. We do not control private keys, unlike the exchanges. Unlike a bank or vaulting service, our users do not give us their currency. We write software. We publish it and we make it open source, so that professionals in the industry and the community can see what our software does, how it does it, and if there are any flaws. We have been alerted to flaws in the past and fixed them. They can hold on to their digital assets themselves instead of giving them to us to hold on to.

Q97 **Chair:** The title of the inquiry is based on what these things are called, cryptocurrencies. It has been suggested to us that they would perhaps be best described as crypto assets, or there might be another better phrase.



HOUSE OF COMMONS

I will ask Ms Kaminska but others will have views on this. Are they really currencies? What are these things used for?

Izabella Kaminska: Your comment alludes to the recent remarks by Mark Carney, who made this argument. We are still at an early point, but it looks very much like they are not succeeding at all as currencies, inasmuch as they are not used as a medium of exchange, they are a poor store of value and they are certainly not being used as a unit of account. As a result, one has to question what they are being used for. In the current environment, it looks like they are mostly being used for speculation and as vehicles for potentially relatively quick gains or losses. They are definitely in the asset side.

Where they are being used as currencies, it tends to be in the illicit market space. Even there, there has been a lot of fragmentation in recent years because, as bitcoin becomes more established, and a lot of the wallet providers and exchanges look to becoming regulated, this creates an opportunity for new cryptocurrencies that are less regulated to come into the space. You see that fragmentation with illicit trade going wherever the privacy can be maintained.

Obi Nwosu: Cryptocurrencies are a new form of digital asset. They have the potential to have multiple properties. They can behave like assets, as you mentioned, for speculators, but they can also behave like currencies and everything in between. They are at a very early stage. They are in their infancy and, as such, we need to consider them as any other living growing thing in its infancy. You would not expect a three-year-old child to perform open heart surgery. It needs time to grow up and mature. We are going through this stage of growth at the moment, but the potential is there.

Technologists and entrepreneurs understand that potential and they are working hard to get there. In the fullness of time, with things like appropriate regulation, infrastructure put in place to attract institutional levels of liquidity to stabilise the price, and technology solutions to solve the scaling and so on, they will be able to act as currencies. Then we will see the full potential that they were originally designed to achieve.

Izabella Kaminska: While I did mention that they were still in their infancy, it is important to put them into the context of other entrepreneurial initiatives. We see things like Airbnb and Uber. Bitcoin outdates a lot of these more disruptive technologies and businesses, which have managed to completely dominate the public space. There is potential but, at the moment, in terms of currency use, it does not look like they are growing anywhere as quickly as, say, Uber or Airbnb.

Marco Santori: We would disagree at Blockchain. As I said, people do not come to Blockchain just to speculate, or to try to buy something for a dollar and sell it for two. They come to Blockchain so they can live and so they can escape Governments that have been irresponsible with their currencies. They can prevent their hard-earned savings from being



nationalised. They do it so they can transact in a way that does not rely on an intermediary that charges them a hefty fee. The statement that digital assets are bad currencies or have failed at being a currency is demonstrably false. It is unsupported by the evidence.

Iqbal Gandham: The French and German ministries have said that we need to look at the entire gamut of cryptocurrencies as crypto assets. Definitions change as technology evolves. It is easy to compare this to the dawn of the internet. If we look at the internet, the internet was all about decentralising communication, one-to-one communication: we can send an email from one person to another. The blockchain is all about decentralising value. The first email or the first use case when it came to communication was sent in the late 1960s or early 1970s. Mass adoption occurred in 1995 and 1996 when Hotmail created a really user-friendly interface.

If you compare that to the blockchain, the first use case when it came to value exchange was bitcoin in 2009 and 2010. We are seven or eight years away from that. We have created user-friendly interfaces so the exchanges are starting to happen. The use cases are there now with bitcoin. In Japan, there are stores using bitcoin. In Amsterdam, you can buy pizza with bitcoin. Magento, the world's biggest software for ecommerce platforms, now supports bitcoin, so if you want to launch an ecommerce store tomorrow you can accept bitcoin if you wish. Innovation takes a long time, to address Izabella's point.

In terms of the definitions, if we refer to them as crypto assets, there is one vertical that is cryptocurrencies: bitcoin, Litecoin, Dash et cetera. There are other verticals that may be crypto securities, if we choose to define them as securities. There are other verticals that are crypto commodities: something like Ethereum, for instance, a digital commodity that is consumed in producing something. Just as we use oats and barley to create bread, we would use computing power to run software programmes.

As for an overall term, we need to redefine them as crypto assets, as the industry has evolved. Cryptocurrency is a subset. When we compare use cases, we are seven or eight years into bitcoin. Email took 35 years from the first digital email being sent, so it is very, very early stages. I am not saying it is going to take 35 years, but probably five or 10 years. We need to be careful when we make judgments on this.

Chair: I am going to bring in Charlie, because we are going to talk about some of the risks, but potentially some of the benefits and potentials as well.

Q98 **Charlie Elphicke:** Looking at the volatility and risks, if you look at the valuation of cryptocurrencies, in January 2017, the whole market was worth about \$17 billion. A year later it had gone up to \$830 billion, so a huge multiple. Since then, it has plummeted to \$330 billion, so it literally goes through the roof on absolute multiples up 20 times, and then



collapses to a third of what it was. Would an ordinary observer be forgiven for thinking this is all like the South Sea bubble?

Iqbal Gandham: There are two ways to address the bubble. First, is there systemic risk from when the bubble bursts? Bubbles are fantastic when you look with hindsight, but let us assume today that somebody stuck a pin in the crypto bubble and it burst. With the dotcom bubble in 2000, the US market cap of all tech stock was a third of global GDP when the tech bubble burst. In January, at the peak of cryptocurrencies, the market cap of all tech cryptocurrencies versus GDP was less than 1%. Since then, they have fallen by 65% to 70%. Society at large has not even noticed that. I am not saying it is a good thing that the value has fallen, but it is definitely not a bubble at a systemic or global level.

Should consumers be aware of prices falling? Should they be concerned about prices falling? Yes, but, if you have a look at the volatility of individual currencies, bitcoin's volatility at launch was 50% of its price on a daily basis. Last year, it was 10%. This year, if I have a look at the data on eToro's platform—one of our members, CryptoCompare, supplied the data—it is 4% to 5%. The same trend can be seen in Ethereum, Litecoin or any other currencies that have been around for five to six years, so the daily volatility is falling.

Another way to view the volatility, as they do in the industry, is by looking at something known as the Sharpe ratio, which is the absolute return over the volatility of an index. If you compare the volatility of bitcoin to Facebook, Apple, Netflix and Google, since Facebook's IPO, the Sharpe ratio of bitcoin is higher, which means it offers you more return with less risk.

Q99 **Charlie Elphicke:** Izabella, the price has collapsed in the last six months by 60%. Can anyone be recommended this as an investment?

Izabella Kaminska: I would disagree with the argument put forward here that bubbles are a good thing. Bubbles do not necessarily have to be systemic and all-encompassing to be dangerous. You can see bubbles in microcosms as well. If I am ever pushed to say one good thing about this space, it is that it potentially absorbs a lot of dangerous, speculative capital. It takes it away from real economy assets, such as houses, commodities, et cetera, and parks it in a little virtual universe where people can, on a zero sum game basis, like gambling, lose money to each other.

Yes, the question we should be asking is this: should this be propagated and should its use be encouraged among day-to-day people, your grandmother, your parents, et cetera? Anyone who had invested in November or December last year would be very disappointed in the returns they had had. Yes, you can look at the whole picture and say, "The early adopters have done fabulously well", but this turns out to be a poor case for the currency argument, because that encourages the sort of inequality that we have never even seen before in any currency



spectrum. Something like less than 1% of all the wallets own most of the wealth in bitcoin. Yes, you might be able to argue that people who entered it early have benefited from excellent Sharpe ratios, but as per the traditional Ponzi-type system, if you are a late adopter, you tend to lose out.

Marco Santori: I should respond to that.

Q100 **Charlie Elphicke:** Marco, is this a Ponzi scheme? Is it all a big, massive Ponzi scheme?

Marco Santori: No, it is not. Again, as a representative of a non-exchange, I feel compelled to comment from something of an orthogonal perspective. First of all, the price is the least interesting thing about crypto. It gets headlines. It gets huge headlines, because it is easy to understand. Price goes up; price goes down. People are happy; people are sad.

From a use perspective and a technological perspective, based on what we are actually gaining from these assets and what our users are using the assets for, up and down is quite a bit better than down. As a global company, that is what we see. As a wallet, this is another claim that is oft repeated by the press: that less than 1% of all wallets own some enormous amount of the wealth. Again, that is demonstrably false. Another statistic that the press likes to quote, that less than a certain number of bitcoin addresses have a large amount of the bitcoins, does not mean that they have that number of actual bitcoins.

Q101 **Charlie Elphicke:** Before I come to you, Obi, let me follow up on that, Marco. It seems to me that, in this gold rush, you have taken to selling people the picks, as they always used to say in the Californian gold rush. You are not going to lose out, whatever happens, because you are selling the wallets, not the actual product. You are therefore a bit more dispassionate. Do you really think this can ever be used by consumers when you do not know whether you will have to take a metaphorical wheelbarrow wallet with you to the pizza joint, or whether you will have to take a very small thing with you?

Marco Santori: I understand the sentiment. This is not a question of: "Gosh, can we predict the future?" This is a question of what is happening today. Our users are using bitcoin to survive, full stop. This is not a question of how people will use bitcoin. People all over the world use cryptocurrencies to insulate themselves from irresponsible Governments, market volatility and nationalisation of their currencies. That is just today, when we are at less than version 1.0.

Q102 **Charlie Elphicke:** This is my final question, to everyone. Some people say that it would all be much more stable if cryptocurrencies were regulated, if there was a compensation scheme like there is with other forms of investment. Do you think it would be just incredibly unfair on everyone else to socialise the risk of what, frankly, is a speculative



gambling addiction that some people have and like to take part in, and is not really a mature market?

Obi Nwosu: The market is at an early stage. The lack of regulation is one of the things preventing it getting to a mature stage. We want it to get to a point where the price stabilises. Price volatility has been reducing all the time, and one thing that has caused that is the increase in volume and liquidity entering the market. There are a number of institutional players that would like to get into the market, but they can only deal with other regulated institutions. If they enter the market, they will bring the disciplines that relate to that, but they will also massively increase the liquidity, stabilise the price and make it a safer place for consumers.

Iqbal Gandham: The industry does not need regulation to encourage user adoption. It also does not need regulation to enable price stability. That is happening. It is the one industry that I have worked in that does not have an issue in acquiring customers, as we saw in Q4 last year. The reason it needs stability is to support the innovation here in the UK. It is very easy for us to ignore not just the entire crypto asset space, but blockchain technology et cetera. What happens by derisking something like that is evident in what has happened in China and what has happened in the banking industry in the UK.

In China, they decided to outright ban crypto assets. That did not prevent people from purchasing them; it moved the problems on to platforms such as LocalBitcoins, where you are buying crypto with cash from somebody on the high street. The banking industry in the UK did exactly the same thing, and 99.9% of the platforms in the UK today have bank accounts in far flung jurisdictions with banks they have probably never met. They have no idea of the capitalisation of these banks. UK consumers are sending their own money to those banks in other jurisdictions, so there is a high risk. On the one hand we are derisking this by closing the door on it, but we are exacerbating the risk by closing the door on it. We need to be very careful that we foster innovation, but we also take a risk-based approach to this.

Obi Nwosu: While I would agree that regulation clearly is needed to protect consumers—that is one of the primary reasons we want to have regulation—we focus, unlike many other cryptocurrency exchanges, on institutional, sophisticated and professional investors and traders. We know for a fact that there is a huge demand for the provision of much higher levels of liquidity to the market to stabilise the price. The only reason they are not entering the market is because the players are not regulated and there is not appropriate regulation in place. If there were regulation in place in a jurisdiction such as the UK, with such a strong financial and technology base, we would see a massive influx of inward investment and businesses not only migrating to this space but also expanding to this space.

Izabella Kaminska: I would like to add to the point that Mr Santori was making about how it was demonstrable that what I was saying was



HOUSE OF COMMONS

wrong, whereas he failed to provide any evidence for that. On that note, one thing that is often said about blockchain and bitcoin is that it adds transparency because everything can be monitored on the blockchain. There are many professional outfits now studying and monitoring the blockchain, so we can determine how many wallets are active or inactive. I will double-check later, but I believe a huge proportion of wallets are inactive, so the funds just stay there and do not get traded. This is why we know that a lot of these assets are not being used as currency.

Secondly, if we differ so much in our perception and interpretation of what the data on the blockchain is telling us, we have to question how useful this data is in the first place. Either it is super-transparent and we know everything, or two people can read the same statistics and come up with completely different conclusions. That is bizarre in its own right.

There is an adage often put around in this space that it is empowering users because they can become their own banks by not having to depend on intermediaries et cetera. There is a huge problem with that, inasmuch as the everyday user is not a very good manager of his own keys. We are not very responsible in our day-to-day actions. I know a lot of very smart people with degrees coming out through their ears who have managed to lose their keys, and therefore their fortunes. This idea that we are empowered by taking control of our data has to be questioned because not all of us are responsible enough to do that. That is the other side of it, which was left out of that part of the testimony.

Responding to the point about regulation, yes, all the arguments put forward are fair, but the same concept applies to other asset classes that are dangerous and things we do not like, such as gambling or drugs. We have to consider whether it is better to completely freeze them out or to regulate them in such a way that we can control them and perhaps at least influence them through a responsible democratic system.

Chair: I am going to move on. You can absolutely come back, but I am conscious of time and everything else. I was only chuckling because Charlie's metaphor of using a wheelbarrow in relation to cryptocurrency seems extraordinary, using old technology and very new technology.

Q103 **Mr Clarke:** Thank you all for coming in today. I am going to look at some of the downside risks associated with hacking of exchanges. Just a few days ago, the South Korean exchange Coinrail lost up to £28 million of virtual currency. That is not an isolated incident. In January, the similarly named Coincheck in Japan also suffered a raid. Mr Gandham, why are coin exchanges being repeatedly hacked?

Iqbal Gandham: There is money there. That is the primary reason.

Q104 **Mr Clarke:** That is true of banks as well, and the banks are not being robbed on this scale.

Iqbal Gandham: Sure, but as with any internet-based businesses they are susceptible to hacking. This morning, there was another exchange,



Bithumb, which was hacked and it lost \$30 million. What Bithumb then went and did was to move the remainder of its funds to cold storage, i.e. not connected to the internet. They have also decided to compensate all the users for all the losses that they made. We at CryptoUK have created a self-regulatory code of conduct, one aspect of which is that any member exchanges need to keep 90-plus per cent of customer currency in cold storage, so not connected to the internet, to avoid situations such as this. Security is improving. People are moving their assets. As I said, they are disconnecting them from the internet. They are also now insuring any assets that are connected to the internet. It is very difficult to get insurance, because the insurance products have not matured enough, but they are working to address these concerns.

Q105 Mr Clarke: We will come back to the point about coverage for losses. Mr Nwosu, could you explain how it is possible to hack an exchange and steal other people's money if the hacker must then need to hack the entire blockchain in order to verify their ownership of the coins that they have stolen?

Obi Nwosu: To create a transaction you have to form a transaction, like a cheque, and then you have to sign it with a private key. Think of it as a very long, complex and hard to replicate password. Then you finally publish it. Once you publish it, it is like posting the cheque, and the rest of the blockchain will update worldwide. The private key, the stamp for authorising the cheque, can be kept online, in what is known as hot storage, on an internet-connected device, or it can be kept in cold storage, offline, on a device that is not connected to the internet. It would be created offline, stored offline and used offline. That is known as cold storage. This is important, because every single successful hack of an exchange has always involved the hot element, which is where the 90-plus per cent cold storage comes in.

Q106 Mr Clarke: This is the equivalent of leaving your keys in your car, basically.

Obi Nwosu: This is the equivalent of money in your purse versus money in a bank vault. One is online, available for other people to access, while the other is money offline and behind various security. So far, no hacker has worked out how to hack through solid concrete, steel, biometric scans and air. We at Coinfloor, given this is the case, have a 100% cold storage policy, because we believe that, given how desirable cryptocurrencies are, if you are maintaining cryptocurrency on behalf of your clients, you have to have the best possible policy. It is much more difficult to do because it is much more operationally intense, as you can imagine. Because it is possible, we should do it. We encourage other fellow exchanges to follow that.

Q107 Mr Clarke: How many do, out of interest?



HOUSE OF COMMONS

Obi Nwosu: Very few. We saw today, again, that Bithumb said the way it secured the remaining cryptocurrency was to take it to cold storage, i.e. take the keys offline.

Izabella Kaminska: On the hacking point, it is important to put this in lay terms. What we have here is the creation of a bearer asset. We hear a lot about how amazing it is that the blockchain is immutable. The downside of immutability is that if somebody steals your asset it continues down the chain, unless we start to blacklist said coins that have been stolen. That happens through a vigilante community, which sometimes tracks this. The Mt. Gox stolen funds have been watched all the time, so it is very difficult for them to get spent. But that then creates fungibility problems, which in itself creates problems on the currency side.

In terms of what we are talking about physically, we are talking about the capacity to remember a very complicated string of numbers. This is what gives you access to your funds. It is all about how securely those numbers can be kept. You can tattoo them on your leg. You can perhaps put them on a piece of paper and bury them under some sort of bird fountain in your garden, but if a criminal finds your string they have full access. By the time it has gone and been spent you have lost access. You are only as secure as your own capacity to remember those numbers.

The other downside is that people forget them. People die, for example, without passing them on. You have a whole load of inactive, dead capital that is sitting in that space that can never be retrieved ever again. Hacking is a reality. Yes, the blockchain itself has never been hacked, but this is all about social engineering. The real weak point is the user. As I say, users tend to outsource this to professionals for a reason, which is why it is no surprise that what has been manifesting in the crypto community is the total re-emerging of trusted third parties, which is the irony.

Obi Nwosu: I would like to respond to that, if possible. First of all, it is a bearer asset, but so are the clothes on your back, and we are not going to suggest that people walk around stark naked. They do have value and they operate differently from fiat currencies. For some people who do not have a choice, for example, who do not have access to banking but want to buy things online, this is an alternative, with trade-offs. It is not necessarily going to replace fiat currency, but it provides a choice.

Marco Santori: We, at Blockchain, agree.

Q108 **Mr Clarke:** Mr Santori, if I may, can I just clarify whether a software provider, such as your firm, is vulnerable to hacking in this same way?

Marco Santori: No.

Q109 **Mr Clarke:** You would say that is due to what—the security of your individual wallets?



Marco Santori: It is due to our architecture, as Mr Gandham said. The hackers hack exchanges because the money is there. At Coinfloor, they keep 100% of their coins in cold storage and none of their coins in hot wallets. At eToro, we hear testimony that they keep a certain percentage in hot wallets to service retail customers. At Blockchain, we have no wallets. We do not hold on to people's funds. As Ms Kaminska said, there are risks with that, in that people could lose their private keys. Today it happens, based on our numbers, much, much less frequently.

Q110 **Mr Clarke:** How frequently?

Marco Santori: I would be remiss if I quoted that statistic.

Q111 **Mr Clarke:** Can you write to the Committee afterwards to clarify roughly what proportion of cases that is occurring in?

Marco Santori: Certainly. We would be glad to do so, based on the information that we have.

Q112 **Mr Clarke:** I want to touch on this issue of compensation swiftly, because this is critical to consumer confidence in the process. Mr Gandham and Mr Nwosu, do your exchanges have mechanisms in place to compensate victims in the event of a hack?

Iqbal Gandham: All our cryptocurrencies are stored in cold storage so they are not connected to the internet. We only connect them to the internet when we need to transfer.

Q113 **Mr Clarke:** In the event that they were and there was a loss, would you compensate or not?

Iqbal Gandham: We are working with insurance companies to cover that.

Q114 **Mr Clarke:** As things stands today, you have no such mechanism.

Iqbal Gandham: As it stands today, we do not.

Q115 **Mr Clarke:** Is that true of you, Mr Nwosu?

Obi Nwosu: That is correct. That is the case for most exchanges at this stage. Again, with regulation, the hope is that insurance companies will feel more comfortable providing insurance products for exchanges. There will be a long line of exchanges lining up to take out those policies when they are available. In the past, we have looked at policies. We have even had policies put forward to us by members of Lloyd's of London, but they had so many exceptions that our customers did not think they were worth it. They were comfortable with our 100% cold storage policy.

Izabella Kaminska: Cold storage has been put forward as a solution here, but we need to recognise what that actually means. It means total inefficiency. There is something called a security access paradox, insomuch as if it is secure it is not accessible, and if it is accessible it is not secure. When everything is in cold storage, it is very difficult to



HOUSE OF COMMONS

maintain the liquid availability of funds to manage things in real time. For example, Mr Nwosu was saying to me earlier that they settle on a once-a-day basis. That takes real time for a settlement very much backwards, if you think about it, to perhaps even the 19th century.

Chair: On that controversial note—I am sure Mr Nwosu might want to come back—we are going to suspend.

Sitting suspended for a Division in the House.

On resuming—

Obi Nwosu: When we left on that cliff-hanger, there were two points: one was daily withdrawals for us from cold storage, and the other one was being your own bank.

In terms of daily withdrawals, simply, our customers are institutional, sophisticated investors and traders. They are very comfortable with that withdrawal speed, if it ensures the highest level of security. If it was retail that would probably be different, which is why we do not focus on retail customers.

In terms of being your own bank and the comments that Izabella made, if we look at the unbanked, they are currently their own bank right now. They have to deal with cash, so there is no change for them, but at least they now have a new opportunity to transact online, for example.

Q116 **Catherine McKinnell:** I wanted to follow up on the theme of crime and the safety of the systems that are in place, but particularly in relation to money laundering. Do you think that cryptocurrencies and exchanges facilitate money laundering?

Iqbal Gandham: I am happy to address that. In 2017, the national risk assessment said that cryptocurrencies did not currently enhance the risk of money laundering. I believe the FCA's own submission to the Treasury Select Committee shares that sentiment, and I would agree with that sentiment. This is not to say that the increasing use of crypto assets cannot be used for money laundering, which is why it is really important that we create public-private partnerships. We cannot do that unless we foster innovation here in the UK.

In Europe, there is a project known as Project TITANIUM, which is between the local enforcement authorities and educational institutions, where they are developing open source tools to track money laundering across the blockchain. Denmark has done the same. It has developed its own tool to track money laundering across Blockchain. We have to realise that money laundering will not go away if we say no to crypto assets and say no to crypto exchanges and platforms here in the UK. What will happen is that the knowledge will move abroad. When we have to address the issue in three, five or 10 years' time, we will not be able to pick up the phone to anybody and ask them, "How do we address this problem on the blockchain?" We need to support the innovation here and



start working with the industries to form those public-private partnerships.

Obi Nwosu: If exchanges put efforts into knowing their customer, KYC, track the source and destinations of funds properly, use new technologies that allow them to track and monitor the blockchain, so they can programmatically track the source and destination of funds on the crypto side as well as the fiat side, have strong policies around monitoring behaviour on the site, and have a policy of submitting suspicious activity to the National Crime Agency et cetera, they have very low rates of issues in this regard. It is about the exchanges that do not follow these policies. We take a pre-emptively compliant approach and many members of CryptoUK do as well, and, as such, that is good. But what we want to see, and what we try to advise policymakers and policy advisers to have, is a broad range of regulation that is appropriate for the entire industry, so we know we have a base level.

Q117 **Catherine McKinnell:** If it is not required, why do you do it?

Obi Nwosu: First, given our customers that we deal with, they do not want to deal with sources of funds that are in some way illicit. They wish to use our services to invest or trade. Our customers tell us what they look for.

Secondly, we ultimately think that, to get to the high levels of volume that we believe this industry needs, it needs to be a regulated industry. That is not going to happen if it is a place where money laundering and terrorist financing can happen easily. It is in our long-term interests for the technology to deal with this.

Q118 **Catherine McKinnell:** Presumably, at the moment, that would place you at a competitive disadvantage.

Obi Nwosu: No, it places us at an advantage. Well, it depends. In the short term, it might place us at a disadvantage. To be fair, we have forgone huge amounts of revenue because of our choice of customer in the short term and our policies around storage—as you said, it is a once-a-day withdrawal—and pre-emptive compliance. We take a long-term view. We think that ultimately the vast majority of volume will come from institutional and sophisticated volume in the long run. We want to put in a service now that they will see, and we believe these people have long memories. That is the feedback we are getting.

Q119 **Catherine McKinnell:** You always require identification to operate on your exchanges.

Obi Nwosu: Our minimum deposit is £5,000, another indicator that we are focused on a different customer set, but if you did want to buy one penny's worth of bitcoin you would have to go through full KYC. You would have to understand the risks related to investing in cryptocurrencies.



HOUSE OF COMMONS

Iqbal Gandham: Across CryptoUK, there are several different types of institutions. There are the ones that are selling to institutional investors. There are also companies such as eToro that are selling to retail as well as corporate. We sell regulated and unregulated products. We offer equities as well as cryptocurrencies. Every single customer has to go through exactly the same KYC and AML checks.

In order to address your question on whether there are people taking advantage of this who do not have to carry out anti-money laundering checks, sure: if they can go on to a platform and buy cryptocurrencies in five minutes versus having to wait two, three or even 48 hours, if we have to do a full anti-money laundering check, the customer will pick the one that is faster. There is a lot of outflow into foreign exchanges, but that is no reason for us not to follow anti-money laundering standards. There is no reason for us not to follow KYC because, ultimately, it is about protecting the consumer in the UK. We believe if we can do that we, again, will bring business back here into the UK.

Q120 **Catherine McKinnell:** Would you say that the anti-money laundering provisions you have in place are equal to those of the banks and other financial services?

Iqbal Gandham: We are a regulated business here in the UK, as are several of our members. They adopt exactly the same policies as you would have to adopt in a regulated business, even though they are selling unregulated product. They are also aligning themselves with the fifth anti-money laundering directive, which will come to fruition at the end of 2019 or 2020 and will require platforms selling fiat and cryptocurrencies to carry out anti-money laundering checks. The exchanges and platforms are already aligning themselves.

We still need clarity from the UK Government to say, "These are the checks that we want you to do", either adopting existing regulation or adding crypto assets as a specified instrument, and buying and selling of cryptocurrencies as a specified activity, into the Regulated Activities Order. That way, buying and selling crypto assets will fall into line with all other regulated products.

Obi Nwosu: Cryptocurrencies are in some ways different from fiat currencies. There are differences in the way we operate. For example, we analyse the blockchain. That is not required for a normal regulated financial institution. But there is a large level of crossover. In that respect, we have similar levels to regulated financial institutions. We want to see an acceleration of adoption of regulation within the UK. We also believe it is the industry's responsibility to provide direction, advice and input into that process. We wish to do it together, in conjunction with the Government, not just to ask the Government to tell us what is coming.

Q121 **Catherine McKinnell:** Mr Santori, does Blockchain have anti-money laundering measures in place?



Marco Santori: We do. We do not engage in KYC and we do not engage in customer identification, like the exchanges do. We are not an exchange, but we do partner with exchanges. When we do partner with exchanges, we ensure that they are doing all the KYC that they need to do in their given jurisdiction. We offer services globally, all around the world. It is important to us that we do not participate in crime. That is in addition to doing our own anti-crime and anti-money laundering training for every single new employee internally, with particular emphasis on our user support personnel. Because we do not hold on to people's currencies or exchange people's currencies, there is a limited set of things that we can do, but we try to do as much as possible in order to assist in it.

Q122 **Catherine McKinnell:** Why do you do that?

Marco Santori: It is for a couple of reasons. First, the meme that bitcoin is unregulated is something of a misstatement. Of course, the software itself is not regulated, because it is open source software. That said, all around the world, exchanges are regulated in one form or another in a number of different countries, including Japan, Korea and India, and they soon will be here in the UK and Europe. Frankly, we do not think the issue is decided. We do not think we have a good handle on the way that regulation is going to shake out around the world. The only way that we think we are going to have an industry to participate in is if we partner with responsible entities that are doing their part.

The internet is aflame with people who think that Governments cannot stop crypto. I do not think that is true. Governments can be very powerful in this regard. Before coming to Blockchain, I was a partner at two major law firms. I have seen the power of regulation and I know what it can do. We think it is our personal responsibility to do right by the whole ecosystem in that regard.

Q123 **Catherine McKinnell:** Are you confident that you are doing everything you can to ensure that money launderers are not using your software? Is there more you think you should or could be doing?

Marco Santori: As an industry, we can always do more. We have probably, as an industry, been guilty of not doing enough in the past, but that is changing. As an industry, and certainly as a company, people realise there is just no way to do this in a wild west fashion.

Q124 **Catherine McKinnell:** You say "wild west", and you all say in very reassuring terms that everything is being done to ensure that this is all above board and it is not being used for money laundering or criminal purposes. I read an article in the *Financial Times* that noted that criminals demand ransoms for stopping their attacks on corporate websites and operations, and they demand cryptocurrency. Why do you think they demand cryptocurrency, rather than US dollars or pounds?

Izabella Kaminska: There is a difference between asserting that you are pre-emptively compliant and the reality of that compliance. In my day job as a journalist, I often test a lot of these platforms for exactly



HOUSE OF COMMONS

that. I have often been privy to situations where I can open accounts without providing the full spectrum of information that is usually needed to fulfil KYC requirements.

In fact, one test case was eToro, and I managed to start trading without providing the full spectrum of details that were required. Essentially, I did not finish the application form. I was then followed up by somebody from eToro, who called me and kept asking me to finish that process. I did not finish because I was at a conference. I did not have time and I was not intending to anyway. Suddenly an email arrived saying that I had been given full approval to start trading. It is very easy to say that you are compliant, but who is testing that compliance?

With respect to why people who deploy ransomware ask for cryptocurrency, it is very clear that there is a lot of money laundering going on. This is highly reflected in the different so-called spreads between the different exchanges. In the exchanges that do comply and fulfil some sort of obligation on that front, you will see that the prices tend to trade at a premium over those that are less scrupulous. From that perspective, you also have to consider that, when these less scrupulous exchanges are shut down, it can also impact on the price of bitcoin.

One of the reasons we have these absurd valuations in cryptocurrency, in my opinion, is because cashing out has become so much more difficult. As these exchanges try to legitimise themselves and seek regulation—your point about competition was bang on—you have to ask where the cost of regulation will manifest. It manifests in the fact that it will become harder to cash out, unless you are able to pass those KYC criteria.

From that perspective, the point I am trying to make is that—sorry, I have lost my stream of thought—you have these different spreads and there is all this trapped capital that cannot get out. The exchanges desperately want to legitimise themselves by being properly regulated. If they achieve that, will they really be any more competitive than banks? So much of the cost of banking is in the regulation. By all means, I am very happy for these exchanges to be regulated because then we will see the true power of the technology and whether it is any more efficient. When they comply, I would be interested to know how profitable these ventures really are—the honest ones—because I do not think they will be that profitable.

Obi Nwosu: It is lucky that she did not try to sign up to Coinfloor, because she would not have been able to succeed. There were many points there, so I cannot really address all of them.

In terms of price, the main reason prices increase is because, at the moment, one of the biggest use cases for cryptocurrency is speculation. Speculation is good if it is performed, at this stage, by parties who have the ability to understand the market, invest and take the hit if it does not go in the direction they want it to go. It is needed because this is a new



technology. It needs to grow and it needs funding. In the same way that the venture capital community funds start-ups, and some succeed and some fail, but it helps those industries grow, the speculative phase is required to help cryptocurrencies grow from the infant phase to the adult phase. As they are analysing it, they see that there is this huge potential value and are therefore effectively calculating that value and taking a call as to the value right now, discounted for risk.

Chair: You will all get the transcript of this after the hearing. If there are further points that you have not had the chance to address or, when reading it, you think, "I would like to have said more", you are absolutely very welcome to write to us further on that.

Q125 **Rushanara Ali:** I have quite a few questions, so I would appreciate very quick-fire answers. My first question is related to the transformative impact of distributed ledger technology. So far, these are the headline points that resonate for me: there are very good examples of good practice, but there are lots of challenges, and lots of companies that are not necessarily going to play by the rules. Would you agree with that?

Obi Nwosu: In the UK, we have many companies that try their best to play by the rules.

Rushanara Ali: You cannot guarantee that they are all playing by the rules.

Obi Nwosu: We cannot, no.

Q126 **Rushanara Ali:** You can speak for your company, but this is not a well-understood field. Would you not agree? This includes Parliament, it includes the regulatory field. When it is new innovation, it takes time for Government and other institutions to catch on. Would you not agree?

Obi Nwosu: It does, and that is why the industry has an obligation to have events like this. Tomorrow, we are meeting with the cryptocurrency task force for a similar reason, to educate and hopefully help bring that forward in terms of understanding.

Q127 **Rushanara Ali:** Ms Kaminska, do you want to add anything to this point about the risk management element? We want to support the potential positive benefits of new technology but, if it is managed risk, there will be more public confidence in ensuring that we can charge forward.

This is reason I am asking. If we look back and then look to where we are now, we can take financial services and the banking crisis. It might be a caricature but new developments in finance and so on led to the kids taking over, as some of the well-seasoned, older bankers might have said, and it got out of control. Regulators could not keep up and we ended up with the financial crisis.

If you take the tech innovations, I am not saying that these things have not changed society positively as well, but let us focus on the big shocks caused by new innovation in technology and what we can learn from that.



HOUSE OF COMMONS

Take the tech sector and what has happened with data, misuse of data, the Facebook scandal and others recently. What can we learn from past mistakes like those, in order that this arena is properly regulated and managed, we can get the best out of it—I am going to get on to the positives and what we do with that—and we create the climate where it is effective, so those who are doing good work can be supported and it is managed innovation, if there is such a thing and that is possible?.

Izabella Kaminska: I would make two points. One is simply that I feel very strongly that the word “innovation” is often misused. Innovation is at its heart a neutral concept. Innovation can be used for both good and bad. We often neglect this point. I really feel that, very often, Government policies champion innovation without pointing out that criminals are very innovative.

As for the other point, Northern Rock was once considered a challenger bank. The kids tend to think they know better but often do not do a lot of the reading as to how we have arrived in this place through trial and error. These are established concepts in economics; look at George Akerlof’s *Phishing for Phools*. We learn from our mistakes. When we come in and start innovating without respecting history, mistakes tend to repeat themselves, and I believe very strongly that we may be on that journey right now. We will only know the answer for sure if and when it happens. As Mark Carney alluded to in his speech, with regulation and banking licences comes great privilege, but also accountability and responsibility. If these new outfits can perform in that context and prove themselves to be more efficient, potentially more profitable and more secure, that is fantastic. That is yet to be determined.

Q128 **Rushanara Ali:** Is there a risk that this could be, if it is not properly managed and regulated, the Frankenstein’s monster that some would argue Facebook and so on, on the negative side, although they have had huge positive benefits, are heading in the direction of becoming?

Izabella Kaminska: The isolation point that was referenced earlier is a very good one. If you do not regulate it, it will just go to the dark corners of the markets. You see that with LocalBitcoins. You cannot stop people meeting face-to-face. Ironically, when I do stories or research this side of the market, dealers will meet face to face in bank foyers because they prefer the security provided by banks. It turns out when you meet unknown people face to face you often get hit in the head and your money confiscated from you anyway. On that front, history tends to repeat itself. When you have these innovations turning into initiatives where people keep their private keys in safety deposit boxes in banks, one has to question what the innovation is.

Iqbal Gandham: History does repeat itself. If we want to understand the innovation here in the blockchain or DLT, we need to look back towards the internet. You made a couple of references to Facebook. The internet was, as I mentioned earlier, about communication. With communication, the risk was limited. If an email is sent to somebody else or we do not



HOUSE OF COMMONS

receive an email, it is fine. However, blockchain is all about value and it concerns money. With the internet, the UK could take a wait and watch approach. We did for 15 or 20 years, and now we have things like GDPR. When it comes to value, we cannot adopt that wait and watch approach, which is why it is really important, if we are not to miss the opportunity here in the UK, that we have regulation, but the key is to have a regulatory framework that manages risk and is innovation friendly.

Marco Santori: Could I respond to that point? I do not think any of the folks on the panel are opposed to new regulations, but the point I would make—as the only one with a funny accent on the panel—is about the need for harmonisation. That is a mistake that some jurisdictions in the US have made. It is a lesson we can learn from here in the UK, but this is very much a global phenomenon. As I am sure you can imagine, most of us can argue for hours about why so many of the mistakes that occurred in the financial crisis were solved for by blockchain technologies, but there are obviously risks.

Q129 **Rushanara Ali:** Do you not just get a collective action failure, because it is quite difficult to get harmonisation, as we saw in the past? The tech world argued that as well: you cannot do this together and, if you cannot do it together, do not do it alone. Actually, we are now having to do some of this stuff alone, for instance Germany instituting fines on tech companies if they do not take down incitement to violence material online. I am pushing our Government to do the same, because it is not on. I am simply asking whether that is not a bit of a copout that lets Governments off the hook where they do not take a leadership role and do stuff unilaterally for others to follow.

Marco Santori: I do not think so at all. The good news here is that, so far, harmonisation is happening. I am not saying, “Do not do anything” but, if you look at the comparative regulations around the world, you will see that those that have acted are all following a uniform set of principles, which is a risk-based approach.

Q130 **Rushanara Ali:** Some are just not allowing it to happen at all, right?

Marco Santori: There are some that simply have not acted.

Q131 **Chair:** China has said it is not having it at all.

Marco Santori: That is probably the copout, the zero-tolerance policy, but in the United States at the federal level, in any state that has spoken on the matter and here in the EU, in terms of the fifth AML directive, we have a harmonised set of principles that are emerging. Far from saying, “Do not do anything”, I am saying it is actually happening and it is probably happening in the right way.

Q132 **Rushanara Ali:** On the positive case, it may not sound that way, but I am very interested in the positive benefits. The sort of thing that could be really powerful is how this technology, blockchain technology, could be valuable for public services. I came across one example on a visit to



HOUSE OF COMMONS

Jordan, where I met somebody from UNHCR, who was looking at how blockchain technology can help them reduce banking costs as the money is moved to individuals, refugees in refugee camps. It is a significant amount of money.

The third area is around the sort of work that Everledger has done on diamonds and tracking supply. I was particularly interested in whether that model could be applied, for instance, to supply chains such as garments. Some of you will be aware of the garment sector accidents in Pakistan, Vietnam and Bangladesh, where thousands of people have been killed. The consumer benefit and case for technology that can help them see the supply chain is a really important area to understand. Does this sort of technology have a role to play, both in the finance sector and saving costs, and in terms of the public sector and ethical supply chains?

Obi Nwosu: In terms of the public sector, there are potential benefits from cryptocurrencies. There is also, as a separate matter, a potential benefit from blockchain, but let us just take the cryptocurrency case, so the use of blockchain for transferring value directly.

First of all, Governments around the world, and especially the western world, have policies around improving financial inclusion. Cryptocurrency could be an alternative or a mechanism in achieving that. It can also at some point—and we need to see a lot of maturation in the technology—act as an alternative mechanism for paying benefits to, for example, the more dangerous way of paying benefits in cash, and potentially even for collecting taxes. Ultimately, that would require the technology to mature to a state where it is far more stable and far more regulated.

Marco Santori: Blockchain focuses on public permission-less networks, and we think that is where the real revolutionary power of this technology lies. That is not to say that Governments and financial institutions cannot partake in that. I would be careful of using blockchain technology generally as a panacea for global ills. On the other hand, the UN has looked closely at this matter, as have a number of other intergovernmental organisations, and the potential seems there. That is because one of the core benefits of blockchain technology is allowing people who do not trust each other to do business together on a level playing field without intermediaries or rent seekers. That is something that can be applied in the public sector as well.

Q133 **Rushanara Ali:** Could it be applied to supply chains, for consumers to understand where their clothes from? Is it ethical or is it exploitative?

Marco Santori: While I was a partner in private practice, I represented a number of these companies. The benefit is there. I would query what sort of cost savings would emerge over centralised servers, but not to explore that line would be short sighted.

Izabella Kaminska: It is very important not to be blinded by the promises. Provenance issues are ultimately determined by the authenticators doing the authentication. That is the cost in the system. If



HOUSE OF COMMONS

you have corrupt authenticators at the end point—garbage in, garbage out—it stays the same. Equally, it is the economic case. If you have a black market of much cheaper goods that are not ethically sourced, the only way you can control that, whether there is total transparency on blockchain or no blockchain, is through the consumers' preferences. If consumers are not educated themselves to make these choices, that black market will not disappear. It is the consumers who make the black market, not the technology.

Q134 Stewart Hosie: Mr Nwosu, you have said the most today about a lack of regulation. Could you tell us what the negative implications are of the lack of regulation for the industry in the UK today?

Obi Nwosu: One of the most obvious for us is that there is a huge amount of liquidity and trade volume that does not enter the market because it is not a regulated market. A number of institutional players would very much like to trade in this market but, because it is not a regulated market, they are precluded from trading in it. These tend to be the largest with the ability to have the highest volumes. That is one of the biggest losses.

Q135 Stewart Hosie: What would the key regulatory change from Government be, if you had your way?

Obi Nwosu: A few people have alluded to some, but we should take it one step at a time. We already know that, recently, the European fifth anti-money laundering directive has been ratified. I know that over the next 18 months all the EU member states have to implement it. The UK was involved with the formulation of that. It was carved out of the fourth anti-money laundering directive, so it makes sense to implement it, no matter what happens to the UK over the coming year or two. We believe that the UK should aim to implement that faster than others because we know that the cryptocurrency community, entrepreneurs and technologies are incredibly mobile. We have seen rapid movements to jurisdictions that have regulation in place.

Q136 Stewart Hosie: The key thing would be getting that anti-money laundering directive up and running and functioning across the crypto world.

Obi Nwosu: Across the crypto-related exchanges, that is. Initially, it is related to custodians of cryptocurrency or exchanges. After that, we should look at crypto-specific regulation, but first let us take it on a step by step basis. That would be a big step.

Q137 Stewart Hosie: Mr Gandham, you said earlier that the industry did not need regulation for stability or to gain customers. I am presuming that you think that what we have, regulatory-wise, is sufficient.

Iqbal Gandham: I was referring to the question of whether we are really looking for regulation to aid our businesses. We do not need regulation for customer acquisition. We need regulation from a consumer-risk



HOUSE OF COMMONS

perspective and an economic risk perspective. It is a missed opportunity here in the UK. Consumers are buying crypto assets today. Hundreds of thousands of these are buying them from exchanges, such as the ones that have been hacked abroad. If you speak to these exchanges, they would be more than happy to be regulated and operate out of the UK. Currently they are going to jurisdictions such as Switzerland, Gibraltar, Malta, et cetera. They would be happy to be regulated. They would be happy to have their crypto assets in cold storage, so that if they were hacked the coins would not go missing and customers would not be affected.

From an economic perspective, there is a larger ecosystem that has been developed here due to crypto assets. There are the legal associations, the compliance associations, the regulation, advertising, marketing and development that are occurring in the blockchain. If you look at websites that list jobs, you will see that jobs listed for the blockchain and blockchain-related development far outweigh any other industry currently today. There are two risks but, just to summarise, as an exchange, platform or association, the platforms are not looking for regulation so they can add more customers; they are looking at protecting the consumers.

Q138 **Stewart Hosie:** It is the same micro and macroprudential protection that we have for the financial services sector across the piece.

Iqbal Gandham: Sure.

Q139 **Stewart Hosie:** On eToro's sign-up page, it states that it is authorised by top European regulators. Which ones are those?

Iqbal Gandham: Because we sell regulated products also, so we sell equities, we are regulated by the FCA and CySEC.

Q140 **Stewart Hosie:** You are regulated by the FCA here.

Iqbal Gandham: Yes.

Q141 **Stewart Hosie:** Mr Nwosu, can I come back to you? In your written evidence, you encourage policymakers to look at the examples set for fintech. What were the lessons to be learned from regulation in fintech where there could be a read-across to the crypto world?

Obi Nwosu: In my written evidence, I asked them to focus more on the examples set by other jurisdictions. For example, we have set up Coinfloor Exchange Gibraltar. The reason why is that we were incredibly impressed with Gibraltar's forward-thinking approach to regulation. We have been working with them for over a year. They have taken a policy around AML and CTF, countering terrorist financing. They have also looked at policies around custodianship of cryptocurrency, treating customers fairly, and they have taken a broader look at the market. This is what I was recommending that the UK should look at as well, as an example.



HOUSE OF COMMONS

Q142 **Stewart Hosie:** One might make a case that Gibraltar is an easy touch compared to what one might expect a tougher regulator to be like elsewhere, with some justification.

Obi Nwosu: I cannot speak to that. My experience of Gibraltar has been incredibly positive. They are very thorough, but are very knowledgeable about the space and passionate about being a leader in the space.

Q143 **Stewart Hosie:** Can I come back to you, Mr Gandham? In January, Facebook decided to ban cryptocurrency adverts. Why do you think that was?

Iqbal Gandham: It was more of a hammer to crack a nut. Not only did Facebook ban adverts, but I believe Google has also followed suit. They were particularly concerned about adverts relating to companies that are using the ICO mechanism to raise money.

Q144 **Stewart Hosie:** I understand the argument there, for any IPO type equivalent, whether it is a coin or anything else. Your Facebook page, the eToro one, had a quote from your chief executive and founder that said, "It's amazing. There are more people who bought BTC than any of the large stocks combined. In December, people gained hundreds of millions of dollars in a matter of days". The Facebook post does not mention that this particular bubble popped in January and almost all those gains were subsequently lost. Do you think it should, or should that kind of advertising be time limited to when the gains are happening?

Iqbal Gandham: I am not sure if that was an advert or a comment.

Q145 **Stewart Hosie:** I will read it again: eToro posted on its Facebook page the following quote—

Iqbal Gandham: Sorry, it is a post. Should there be an alternate post? Absolutely.

Q146 **Stewart Hosie:** The reason I ask that because, in a sense, it is advertising. You can see how an uninformed investor, and you do cater to the retail market, might be misled by that message on your Facebook page that the market will only ever go in one direction.

Iqbal Gandham: Of course, which is why we carry out the KYC checks on our platform. We try to understand the customer's risk profile and their risk appetite before they invest.

Izabella Kaminska: And very risk averse.

Q147 **Stewart Hosie:** I will come to you in a minute, Ms Kaminska. Do you want to finish what you were saying, Mr Gandham?

Iqbal Gandham: No, that was everything.

Q148 **Stewart Hosie:** Sorry, Ms Kaminska, what do you have to say about how we restrict, monitor or regulate advertising in this space?



Izabella Kaminska: That is really the area that policymakers can look to the most and help the retail element gain understanding. At the moment, there is a wild west situation with the adverts. They are deployed in a way that, as you say, presents the impression that it is a one-sided market that will go up and that anyone can make a lot of money very easily. The advertising is prolific as well. It is not in any way catered towards a sophisticated clientele. You see it on the tube. Younger people are being exposed; older people are being exposed. Everybody is exposed at the moment, so that is certainly one area that the Committee should look to.

The other point I would simply make is that I embrace regulation in this area. These outfits should be regulated and held accountable to the same standards as the conventional financial industry. At the moment, we do not understand how efficient or profitable these ventures really are or how much good they are doing, because so much of the advantage is regulatory arbitrage based. It is very easy to make money if you are not going to follow the rules.

Your point about Gibraltar is also excellent, because this is very much the recreation of offshore markets mark 2. We have gone to these extreme efforts to try to bring offshore markets into the catchment of conventional regulation and now they are recreating the same old bad habits but in the crypto space. If and when we put everybody on the same standard, I would be very surprised if it still paid to operate at the same level as they do now.

Q149 **Stewart Hosie:** I have one final question, and I am going to be cynical for the sake of asking the question. Earlier, Ms Kaminska, you described Uber and Airbnb as disruptive technologies. The last time I looked one was a taxi firm and one was an online way to book a bed and breakfast room so they are not disruptive technologies at all. They are very old technologies. It is the same with this. These crypto assets can either be equities, futures, securities or currencies. The distributed blockchain technology is separate, because that is just a bit of computer software, which is jolly good. None of this is new. We were told that in the States this market is either frothing with crime and fraud or it is 90% crime and fraud. Where is it? Is it just frothy at the top or is the whole thing riddled with it? Why should anybody buy into effectively a Ponzi scheme?

Obi Nwosu: There are a few things there. There are so many points there. In terms of the crime and fraud, Chain Analysis did a recent study of transactions on the blockchain. Chain Analysis is a blockchain monitoring company. It analyses the blockchain, and organisations like that are used by exchanges to help manage and identify the source and destination of funds. It identified that less than 1% of blockchain transactions are related to transactions going to and from dark net markets. The vast majority is related to exchanges and trading.

Q150 **Stewart Hosie:** Could you make sure we get that? That is rather different to much of what we have heard.



Obi Nwosu: Yes, I will provide that to the Committee.

Marco Santori: Again, I do not think anybody on this panel disagrees that there could be a risk of money laundering and crime in many different forms using virtual currencies. At the same time, there is some hard data on this. We are not just feeling around in a dark room. The Treasury, here in the UK, publishes a report on money laundering mechanisms, which, every year since 2014, I think, has included virtual currencies. I have not checked the most recent one but, certainly for the first couple of years, out of the twenty-something different mechanisms for payments—credit cards, cash, gift cards, all the way down—it ranked it dead last. Does that mean there is no risk? Of course not, but it is important to take a proportional approach. Otherwise we end up like my home state, New York, where companies have simply left. In fact, the overwhelming majority of companies do not do business in New York. We, as New York residents, have suffered because of that.

Izabella Kaminska: If you consider blockchain to be a euphemism for block balance sheet, which I sometimes do, you would appreciate that the vast majority of transactions are currently occurring off balance sheet, i.e. off blockchain. They are not going through the blockchain system at all. This is the murky world of OTC trading. When we analyse these statistics, so much of it is going on off balance sheet that it is very hard to determine who and what is trading. Therefore, you have to take these assertions with a pinch of salt on that front.

Marco Santori: I disagree. The Treasury gets this information directly from these people doing off balance sheet transactions.

Stewart Hosie: Hold on. Finish the answer.

Izabella Kaminska: Chain Analysis has said that 80% of all transactions last year involved third parties, much of which would have been off-chain processing because it makes sense. It is much more efficient to do it off chain. Whether or not they are compliant with KYC is another matter. However, when things go on off chain it is very hard to determine whether or not the transaction chains that have been followed are effectively being policed as they say they are.

Q151 **Chair:** I am going to bring in Alison on consumer protection. I am also conscious of the fact that it is two minutes to 5 o'clock, Mr Santori. Alison, do you have any questions specifically for Mr Santori before he goes?

Marco Santori: I will stay because I think this is important. I would like to stay and not rush.

Chair: We are not that far off concluding, but you must go when you need to. The Treasury Select Committee does not want to be responsible for you missing your plane. That is not an excuse you can use at the departure gate.



HOUSE OF COMMONS

Q152 **Alison McGovern:** I will take the questions in the order that I was planning to, in that case. Mr Gandham, just to cover off briefly on regulation in other countries, there is a post on your Facebook page that says eToro is staying out of Canada at this time due to regulations implemented by Canadian authorities. Could you just say which those are?

Iqbal Gandham: I am just reading it off here. If you are selling crypto assets or crypto tokens you have to register with the Canadian authorities but they have not finalised or given clarity on that. My notes here say that in 2018 they are still being finalised, so we are not sure what regulation they need and what steps we need to take, so we do not retail in Canada.

Q153 **Alison McGovern:** Fine. I just wanted to come back, Mr Nwosu, to your company also operating in the British Virgin Islands. You talked about Gibraltar before. Was there a particular reason for going to BVI?

Obi Nwosu: Yes, it was a similar reason. We opened up an exchange. It is the first physically delivered futures exchange for cryptocurrency. It is BVI and St Lucia. We met the Finance Minister of BVI and the Prime Minister of St Lucia, and we were impressed with their forward-thinking approach to this. It is important to state that we are going to these locations purely because of their approach to regulation and nothing else. They are complete 100% subsidiaries of the UK offering. We pay full UK tax on all of these, for example.

Q154 **Alison McGovern:** Sure. Finally, to the whole panel, in terms of other jurisdictions, is there a particular jurisdiction you would consider that the Committee should look at?

Obi Nwosu: I have mentioned Gibraltar.

Marco Santori: Could you repeat that?

Alison McGovern: Is there a particular jurisdiction that you would recommend the Committee ought to consider as an example?

Marco Santori: I do not mean to sound like a broken record, but we have an example here in the UK that the Treasury published in 2014. It was a result of a long period of consultation where a great diversity of companies, community members, users, individuals and investors submitted testimony, and they came out with a sensible regime that holds true today for most digital assets. Thankfully, the EU in the fifth AML directive put that into practice. We are very well on the way to closing the gap between where we want to be and where we are today. Again, I do not think it is a panacea. We are going to see more risks evolve.

Q155 **Alison McGovern:** To get through the questions fairly swiftly, I just want to return to the issue that we talked about earlier on consumer protection as it relates to regulation. Mr Santori, your company's Facebook page has



a series of comments on it with customers having lost their password and wondering how they can recover it. The company has responded, "The recovery phrase is the only way to restore access to your wallet". Because of the practice of that, in effect, those customers have lost their money because they forgot their password. The conversation earlier was about whether that is an appropriate business model, but I just wanted to put the question: do you think that, if organisations such as yours were regulated in the way that conventional financial organisations are, you would be able to take that approach?

Marco Santori: I do not think that we would be. I am not on the technology side of the company, but I will do my best to talk about some of the measures that are in place. First, you can access your wallet by entering a username and password. If you then lose that or either of those, you can use a 12-word backup seed, which is built into the protocol. If you lose that, you can store the exact same crypto in a blockchain at the exact same time in not just one other industry standard wallet, but any number of other industry standard wallets. We are not the ones holding on to your crypto, which contributes to the fact that we cannot give it back to you.

That said, there is really no escaping this fundamental point that crypto virtual currency digital assets are different from government currencies. They will forever be different from government currencies. There will forever be risks inherent in that. That said, they are an alternative. At Blockchain, we do not see cryptocurrencies taking over. We do not see them surpassing parity with government currencies, certainly not in our lifetimes. Maybe there are believers on the panel that feel otherwise, but we try to be practical about this. We think that people deserve the choice. They deserve the alternative.

Q156 **Alison McGovern:** Sure, but at the moment in conventional banking the Government have been trying to promote choice and diversity for some time. It has not worked, mainly because consumers want to see their bank as infrastructure. They want believe in it and have faith in it. This conversation begs the question as to how that could ever be the case if human beings and our words and actions are the last word in security, not the system that those human beings work within.

Marco Santori: I think that the desires are different. I really do. It is important that an alternative exists. Not everybody wants that, admittedly. Many people do, but not everybody wants that. When people call bitcoin and digital currencies "digital gold", there is an element of truth to that. Not everybody keeps all their wealth at a bank. Some people keep gold, jewellery or a number of different assets. There are risks associated with that. We think they can be controlled through carefully tailored regulation.

Obi Nwosu: Some people do not have that choice. Some people do not have bank accounts. I grew up in a council estate in London. I knew people who did not have a bank account for various reasons. My family is



HOUSE OF COMMONS

originally from Nigeria, where there are much larger groups of people who do not have access to banking. It is too far away from where they live, et cetera. Their choice is nothing at all or nothing at all, right now. With cryptocurrency, maybe it is not as good as a depository bank account but it is better than nothing at all if they want to buy something online, and they have to pay 30% M-Pesa fees or 50% carrier billing fees as an alternative.

Q157 **Alison McGovern:** How do you all keep your passwords safe?

Izabella Kaminska: If they reveal that, they will be hacked.

Iqbal Gandham: I memorise it.

Izabella Kaminska: Like Jason Bourne.

Obi Nwosu: Do you mean our personal ones?

Alison McGovern: Yes.

Obi Nwosu: Data has to exist in three places or more, so we store it in multiple redundant places. Ultimately, we use bank vaults with security similar to that at the Bank of England to store each one of these backup redundant locations for the password. We do not keep it in our head, because that is not the safest way to do it, for obvious reasons.

Q158 **Alison McGovern:** The FCA has issued consumer warnings for cryptocurrency contracts for difference and ICOs, initial coin offerings. Have they been useful? Ms Kaminska, do you want to start? Do you think the FCA's steps have been helpful?

Izabella Kaminska: Personally, I do not think they have gone far enough, and they have been very late to the game as well. We were all waiting to see action much earlier than it happened. There is a big debate in the regulatory sphere right now as to whether or not ICOs are tantamount to securities. This will determine regulation in the future months. The American approach is very much that, if a cryptocurrency is very decentralised, it is probably not a security. Most ICOs are fairly concentrated and hence would qualify as securities.

Again, on that front, the question then is this: if they are really securities and we are going to regulate them like securities, what is the point of them, because you are not gaining any advantage? Then you have to ask: why are these companies going to the ICO markets instead of going to the conventional markets? If your product is good enough to raise money in the markets, you should be able to raise it in the regulated markets, not just go to the ICO issuance.

Iqbal Gandham: As one of the members of the association, BlockEx, would say, ICOs are not a noun; they are a verb. It is not like Facebook is an IPO. We need to stop addressing them as nouns. You do an ICO. It is a mechanism to raise money. It is an extension of crowdfunding, for



want of a better model. The moment we start calling these companies that are raising money ICOs and one of them is fraudulent, suddenly we tar the entire industry with the same brush. There are companies raising money through venture capital, angel funding, et cetera, that are probably not sitting on the correct side of the law.

In terms of securities, yes, the FCA I think last week said that bitcoin is not a security. Ethereum is also not a security, so this clarity is starting to emerge on what is a security and what is not a security. We cannot say that everything that who has been through the ICO process should be a security. Some of them are just crypto tokens. Some of them might be cryptocurrencies. It is about what we use them for and what the use case is, so there is an extrinsic and intrinsic value. For instance, I could purchase a car. That car is a mode of transport, but if I start buying and selling cars it suddenly becomes an investment. We have to be very careful about tarring them all in calling them securities and ICOs.

Obi Nwosu: I am not sure it is relevant whether it is a verb or a noun. The offering is a noun. What is more important is that ICOs are new and innovative technology, but they are at an even earlier stage than cryptocurrencies. For example, we, as an exchange, only list the most decentralised and developed cryptocurrencies, so it is only bitcoin, Bitcoin Cash and Ethereum for OTC.

We do think that we should have appropriate regulation in place for ICOs as well. That is why we are part of not only CryptoUK but also the Global Digital Finance initiative, which is putting together a taxonomy, describing the different types of ICOs and currencies out there, and eventually putting in place self-regulatory frameworks, working in conjunction globally with people in the industry, policymakers and policy advisers. It is at an early stage.

Q159 **Alison McGovern:** I would say an offering is an event and therefore it is a noun, but, anyway, never mind. Mr Santori, do you want to add anything?

Marco Santori: Blockchain has not done an ICO, and we do not currently support any tokens that were issued as a result of an ICO or any other token sale for that matter.

A comparative approach is useful here, in that most of the jurisdictions that have spoken on token sales have done so through interpretive guidance. One of the first jurisdictions to do this was Switzerland's FINMA. It adopted a fairly straightforward approach with some caveats around the periphery that pre-functional tokens, tokens where the purchaser is still reliant on the efforts of the issuer to create the value that they promise, are probably securities. If the thing actually works, like Ethereum or bitcoin, and the value creation and loss process is more decentralised, as Ms Kaminska said, that tends to shade away from securities territory.



The director of the division of corporation finance at the SEC recently gave his own personal, but obviously influential, position on this, which was pretty close to what FINMA in Switzerland said: that pre-functional tokens and tokens sold as securities are very likely to be securities, but once they are decentralised and functional, and once the efforts of the issuer of that token have ceased to be the primary changing factor in the price, those things are very much less likely to be securities. Again, not to sound like a broken record, but the harmonisation element of this is very important, in that we have jurisdictions that have spoken very intelligently on these issues. That might be worth a look.

Q160 **Chair:** I have three final questions. Mr Nwosu, you have mentioned financial inclusion quite a few times, people who do not have bank accounts, the unbanked. I think you said in your evidence that, by simply downloading an app, an individual could have access to international banking-like functionality. The issue is this: how does the individual who is unbanked get money on to the app in order then to take advantage of the cryptocurrency?

Obi Nwosu: Cryptocurrency, even though it has different properties, is still a currency. The question is how you get currency. I provide a good or a service. Instead of asking for payment in a fiat currency, I ask for payment in cryptocurrency. That is the simplest way.

Q161 **Chair:** To buy currency in the first place, do you not have to convert it from either cash or money in a bank account?

Obi Nwosu: No, that is the initial stage. In this early stage, there are relatively few producers. The initial examples of producers are the cryptocurrency miners, who are performing the service of protecting everyone else's transactions and, in response to that, are being awarded cryptocurrency. That is the exchange that happens there. They are being rewarded by the entire network. They have costs, a large percentage of which go into electricity, and it ends up going through the community: they pay their staff; their staff want to use it, et cetera. That is how it initially starts, but eventually merchants provide a service or good and they choose to accept cryptocurrency instead of fiat currency.

In places where people are unbanked, instead of accepting currency in cash, they may say, "I want to buy something online; I will accept currency in crypto for whatever task I do", whether it is giving you some water, washing your car or whatever it may be. They use that cryptocurrency to purchase something online as opposed to using something like an M-Pesa, where at very low levels they are paying 30%, or carrier billing, where they pay 50%.

Marco Santori: I live and work in New York City, where we have good currency and good banks. For many years, my firm accepted bitcoin for legal fees. That was not at a small firm. It was at one of the largest global firms in the world that we did that.



HOUSE OF COMMONS

Q162 **Chair:** Do they still do that?

Marco Santori: That is a good question. I do not know. I would have to ask.

Q163 **Chair:** Could you find out? It would be very interesting to know.

Marco Santori: I will. I would also be interested.

Obi Nwosu: They are not the initial target.

Q164 **Chair:** No, of course, it is a very different market. Mr Gandham, building on Rushanara's questions about social value and other use of technology, in your evidence, you cited the ability, for example, to pay social security benefits using a digital technology, which could then only be used to obtain certain goods and services. Is there any further elaboration on that idea that you wanted to put before the Committee?

Iqbal Gandham: These are use cases. These use cases are the third stage of innovation, where we have to have collaboration across different industries and even across different geographies. We are just in the first two stages of innovation, where you had the techies playing around with bitcoin in a single use case. You now have enterprises, for instance banks, starting to have pilot projects. This third wave is where all this funding is coming in, with the ICO mechanism in 2016 and 2017. I think, towards the end of 2018 and 2019, we will start seeing this third wave of innovation.

Q165 **Chair:** The final question was about cryptocurrencies that have failed. I am going to start with you, Ms Kaminska, but others will have views. The website CoinMarketCap lists 1,628 coins and tokens, of which over 300 have no market capitalisation whatsoever. Does proliferation of alternative coins undermine the advantage, which is supposed to be that they cannot be devalued by a central bank? What is the motivation behind so many coins being created and then potentially quite a large number failing? I do not know if that is something you have looked at in your work.

Izabella Kaminska: This also relates to the financial inclusion point. Fundamentally, these enterprises are the heart of the offering. If the enterprises are any good, they should theoretically be able to retain value and be successful. This applies to both conventional security markets and crypto. If your concept is poor, it will not succeed. The question then is why more securities are supposedly failing in that crypto sphere than they are in the conventional one. The answer is that it is much easier for a bad organisation to raise money because there is no investor protection; there are no prospectus needs; there is no due diligence, essentially.

On the financial inclusion side, it is a lovely idea that everyone should be financially included, but I feel very strongly that we should not confuse financial inclusion as a technical problem. It is very much a



socioeconomic problem. Mr Nwosu is completely right: fundamentally, you can earn crypto. You do not only have to purchase it. It is about the earning potential. It is the capacity for the unbanked to have jobs and secure mechanisms that allow them to earn that will fundamentally change the financial inclusion picture. It is not the panacea of a cryptocurrency. Yes, there is a little bit of a chicken and egg scenario, inasmuch as, if you cannot accept digital payments, potentially it impedes some ventures that otherwise might be facilitated. On the whole, it is about the concept and what you are offering to the economy, not so much the technical magic that backs it.

Obi Nwosu: I disagree with that. There are 1.5 million people in the UK who do not have banking and 2 billion people worldwide who do not have banking. I do not think that they all do not have jobs. They have jobs, but they do not have access to banking, and this is an alternative.

Iqbal Gandham: To address the point on the failure of certain companies in the crypto asset space, coming back to my point at the start, they are not all cryptocurrencies; they are crypto assets. As in any other business or industry, there is a high failure rate. If we are saying 300 out of 1,600 failed, that is just under 20%. In the start-up industry, 60% to 70% fail. If you have a look at the AIM stock market, in the first 20 years of operation, approximately a third of them lost 95% of investor funds. Businesses fail; some ideas work and some fail. Some are too early. Some just are not executed correctly. I would not say that is a fault of crypto assets, the blockchain or DLT.

Marco Santori: Global financial inclusion is not just a socioeconomic problem. It is also a technological problem. I do not think that cryptocurrencies and digital assets in general will solve that problem entirely, but I know that they will go a long way to solving it.

Chair: Thank you very much indeed. Thank you for bearing with us in terms of the change to time. Thank you for bearing with us in terms of votes and everything else. You have been here on what has been an interesting day in terms of what has been going on in Parliament, but you have provided some really interesting and very useful evidence this afternoon for this inquiry. We are very grateful. As I said, if there are things that occur to you when you have read the transcript or points you want to clarify—I think there are a few things you are going to send to us—please feel free to write to us. For this afternoon, thank you for your time.