

## Thomas Moser podcast

**Charles Miller** [00:00:00] National banks are at the heart of the financial establishment, which is why it was interesting to hear from Thomas Moser from the Swiss National Bank at CoinGeek's London conference. Moser talked about an initiative from the Swiss stock exchange called SDX, the Swiss Digital Exchange.

**Thomas Moser** [00:00:18] It will be the first fully regulated official end to end blockchain exchange. So the trading, the settlement and the custodial services for digital assets in the future, equities bonds will be settled on DLT technologies.

**Charles Miller** [00:00:36] I talked to Thomas Moser about how he sees Blockchain being integrated into national banking systems.

**Thomas Moser** [00:00:42] Thank you very much.

**Voiceover** [00:00:48] You're listening to CoinGeek conversations with Charles Miller.

**Charles Miller** [00:00:55] Thomas, thank you very much for doing CoinGeek Conversations.

**Thomas Moser** [00:00:57] You're very welcome Charles.

**Charles Miller** [00:00:59] So perhaps you could start off by explaining about what the Swiss National Bank is doing in relation to crypto currencies.

**Thomas Moser** [00:01:07] Yes, we have I think, a very interesting project in Switzerland. We have the Swiss Stock Exchange that intends to build a Swiss digital exchange where you have everything on a Blockchain. So the entire process from trading, processing, settlement and then also custody services, all on a blockchain. And the question that comes up is, how do you get the cash? How do you get money on the Blockchain and what type of money? Because a Swiss franc token doesn't exist at this stage. So we are doing as a proof of concept exactly that - a Swiss token for this very specific blockchain for the Swiss stock exchange.

**Charles Miller** [00:01:51] Right. So you've got an initiative, the SDX, the Swiss Digital Exchange. Can you explain to me a little bit about who's behind that and what it's doing?

**Thomas Moser** [00:02:00] Yeah. Behind it is Swiss infrastructure and exchange, which is SIX. They're basically the provider of the financial market infrastructure in Switzerland. And it's a private company, but it's in cooperation with the central bank. For instance it does the Swiss payment system. So it's something like a public-private corporation. And so they are doing this SDX, as you mentioned, the Swiss digital exchange. But we are working out together whether we should provide central bank money to this blockchain or what their initial plan was if they should produce their own private token or cryptocurrency for that infrastructure.

**Charles Miller** [00:02:50] And what sort of problem is this designed to solve? What is the advantage of this system if it works?

**Thomas Moser** [00:02:56] So the claim at least, is that if you have I mean, at the first stage, just to tokenise assets that are not tokenised yet - equity shares, bonds and debt,

you can do it much more efficiently on a Blockchain, on a permissioned blockchain. So this is at least a claim. But I think that's also one of the proof of concepts that we'll have to still show whether it really is more efficient. We have experience from projects from other central banks. They looked better if you put just a payment systems to payment between the commercial banks. If you put that on a Blockchain, whether that will give you efficiency gains and to my knowledge, the project that the Bank of Canada did, for instance, and the monetary authority of Singapore showed that it's really not more efficient compared with the current system. And I think the reason is because at least with modern infrastructure, payments between banks at least and within a single country are extremely efficient. But it's still quite inefficient is payments that households have to do, especially cross-border. And I think that's where it goes beyond the jurisdiction of a central bank. So it has not really been taken care of. And I think that's where a lot of fin-techs and crypto currencies are coming in now and show us that this can be done much more efficiently than it has been done in the past.

**Charles Miller** [00:04:23] Now, you've been talking today at the CoinGeek London conference, which is a big supporter of Bitcoin SV. What is the Swiss National Bank's attitude to Bitcoin SV in particular?

**Thomas Moser** [00:04:36] So we are at this stage basically blockchain agnostic. I mean, we are looking at the technologies and as you know, probably better than I do, there are very different types of blockchain out there. There is also a basically a philosophical dispute out there, whether some types of blockchains are really blockchains. I mean, you can you have different forms of centralisation and decentralisation. So at this stage, we are not building our own blockchain. We are working with the blockchains that the private sector provides. So we are agnostic in this respect.

**Charles Miller** [00:05:10] And what about the principle between a private blockchain and a public blockchain? Are you agnostic on that as well?

**Thomas Moser** [00:05:18] At this stage, yes. Our view is that if you have a public blockchain, of course it has a lot of advantages. But to my knowledge at least, there is still a scalability issue there. If you have a permissioned and which basically also means a more centralised blockchain, then you have less problems to solve scalability issues.

**Charles Miller** [00:05:42] Well, I think the technical people behind Bitcoin SV would say that there isn't a scalability problem with Bitcoin SV any more.

**Thomas Moser** [00:05:51] Yes. Actually I had a presentation maybe more than a year ago, about Bitcoin SV. So I was told that too. But given that we are not providing the blockchain, the central bank, basically we work with what the infrastructure that is provided by the private sector. So that in that sense, we are agnostic with it. And SDX right now is working with [unclear], which is a product that is used commercially by a lot of commercial banks.

**Charles Miller** [00:06:23] Blockchain is not a new concept in banking or in industry more widely, I suppose. And in fact, some people might say that it was a buzzword a few years ago that has now rather lost its appeal. What is your feeling about attitudes to blockchain technologies in the institutions where you work?

**Thomas Moser** [00:06:49] So I still think it's fascinating. I got interested in it relatively early for a central banker, just like in 2013. I got interested in Bitcoin. I wanted to figure out how that works. I thought he was fascinating.

**Charles Miller** [00:07:03] Was that part of your job?

**Thomas Moser** [00:07:04] No that was a private interest. Actually, I also wanted to buy some Bitcoin just to see how it works. You know, I really wanted to make a payment. And I asked our compliance whether it's okay that I buy a Bitcoin. And of course, I didn't hear from them for quite a while. They had to figure out what I'm talking about. And after a while they said, well, you can buy Bitcoin, but you have to hold it for at least six months so that you cannot speculate with it. So, like, if I buy gold, I have similar rules.

**Charles Miller** [00:07:34] You mean even in your private life, because you worked for the bank?

**Thomas Moser** [00:07:38] Exactly. So I didn't buy because I wanted to go buy a coffee. I didn't want to invest in it which probably was a mistake in 2013. So I didn't end up... So it was a private interest. It still fascinates me. And I think I'm a little bit a child of the, you know, 80s, 90s. I basically grew up with the popularisation of the Internet. I mean, it was much older. But that's when it really became widely used. And I think something similar is happening right now. So that wide use Internet in the 90s was kind of a first wave of digital decentralisation technology. And I think Blockchain is now the second wave. I think now and then there are a lot of expectations out there that are way overblown. But at the same time, also, I think there is really also it's not fully taken into consideration, what it can mean over the medium and longer term. So I think it will really have an impact, not at the short term, as some people claim. It will take some time to figure out how everything works together and to get it properly. But in the end, like the Internet, did, you know the big boom, a miracle didn't come in the 90s. But it's really now that we see how important the Internet is. And I wouldn't be surprised if in 20 years from now Blockchain does something similar.

**Charles Miller** [00:08:54] I think the interesting thing about the comparison with the Internet is that when the Internet began, you had companies like Yahoo! or eBay who were used by somebody at home in a small kind of way whereas in this discussion, in this technology, we're talking about central banks being involved and other big institutions. Do you think that this revolution will happen sort of from the centre out to the consumer rather than the other way round, perhaps?

**Thomas Moser** [00:09:29] I don't know. I don't think so. I don't think central banks are really leading the effort, you know.

**Charles Miller** [00:09:33] I can't see a groundswell of individual users saying 'we must use Blockchain' and then big companies having to get on board to kind of keep up with them.

**Thomas Moser** [00:09:47] No, that's right. But I think at least in terms of providing money, I think there need to be some blockchains out there. And exactly the question comes up, then how do you get money on the Blockchain? And if the central banks are not providing it, then there will be private solutions. And that's actually another, I think, for me at least also another interesting parallel is if you look at - now we go further back -, we go into the 19th century.

**Charles Miller** [00:10:10] The telephone?

**Thomas Moser** [00:10:14] No, the time when gold was basically still the payment, you know, and what happened then is that because it's very cumbersome to carry around gold, early on they started to have just ledgers where you would just have an account. You would have your gold somewhere in the bank and they would have it, but what the private sector invented at the time was banknotes. Banknotes actually came from the private sector and you had individual banks issuing banknotes, which was basically in the beginning a receipt that you had a gold there and you started to transfer that receipt. And of course, some of the banks then started to figure out that maybe you don't need to hold a hundred percent of the gold while the paper is circulating. You can have a little less. And then accidents start to happen because people want to have their gold and it's not there yet.

**Charles Miller** [00:10:58] Then they get a run on the bank.

**Thomas Moser** [00:10:59] Exactly. So what happened is then regulation came in. And in the end, actually bank notes got nationalised. That's why you have national banks. And I wouldn't be surprised now, you know, with stablecoins I see a similar development. You have basically, again, private issuers, you have stable coins because you want to have kind of a stable relation to prices. But basically, it's a claim too. If I have a stablecoin usually it involves a claim that I can exchange it into a dollar, into euro, into pound or whatever. The same bank run problem starts again. They all say we have a hundred per cent collateral on a bank account. You know, it takes a while to figure out maybe we don't need a hundred percent. And the whole cycle could start again. So that's why I think it's interesting and important to look into whether we should not from the beginning have the central bank issuing that cryptocurrency, which doesn't mean the central bank has to provide the blockchain; there can be different blockchain, different infrastructures, private solutions. But we could provide the money and that's what we are doing in Switzerland. We're just providing the money for a very specific blockchain.

**Charles Miller** [00:12:06] It's interesting because, I mean, despite what I said about the individual user not being involved, it's true that, as you implied, there are many, many different crypto currencies out there competing with each other. But of course, here at CoinGeek, we're big supporters of Bitcoin SV and Dr. Craig Wright's vision as Satoshi Nakamoto that really all those other blockchains are a travesty and that we should really be thinking in terms of a single cryptocurrency, which is Bitcoin, as he invented. And that everything else is really a distraction. And going down the wrong route. What is your attitude to his views on that?

**Thomas Moser** [00:12:46] So I mean, that that's an interesting point, too. But the way I see it, basically this comes down in the end to the question of whether you need a central bank at all or not, because the central bank is a centralised institution. If you really have the Bitcoin vision that you have, that you have it fully decentralised public blockchain currency, then in my view that would put into question whether you need a central bank at all. And then it comes down to the question, does a central bank... then we come to the long term question: what preserves the value of the money that you use better? Is it a central bank with its monetary policy or is it basically code - that you have something encoded that just provides you a very stable growth of the of the money supply. I mean, some economists have put out that view a while ago, you know, even, for instance, Milton Friedman in the 60s, he didn't talk about computers or anything, but he basically says the centre bank shouldn't do anything else but to have a stable growth of money supply.

**Charles Miller** [00:13:53] I mean, Dr. Wright is very clear that he wants Bitcoin to operate within governmental and a legal framework. There's no idea of it being some sort of alternative world of economy. But the point is that he wants it to be integrated with different ways of using it. And that's why we've got all these entrepreneurs creating new businesses which integrate money with functionality.

**Thomas Moser** [00:14:24] So that's where we get into these new things that are basically developing. And it's difficult to make any forecasts about it. Actually, I talked with Mr. Wright. He came to the Swiss National Bank about a year ago and we exactly talked about it. And I asked him I said 'as a central bank, if I issue a digital currency, I will probably do it in a centralised way. Why would I need the Blockchain?' And his answer to me was, amongst different things he said, transparency. You know, you get full transparency in the blockchain. So I think these are all questions that will clearly occupy us in the future. And I mean, as you say, maybe getting rid of the central banks is one model, but the other could be that the central bank just uses that blockchain to provide its currency. And I think that's where we are in an area where we just don't know how it looks in the future. But just again, but I think it's interesting now to see, and you mentioned it, to get it basically into the regulated world. Again, that's the parallel with Internet. You know, I mean, you remember eBay, Yahoo! in the beginning, basically, they said we don't need regulation. Early on, they had different court cases even and now the Internet, the more it became commercialised, the more it became regulated. And sometimes I have younger people come to me and say, the state comes now and regulates that and kills everything. And I usually say the funny thing is, it's the companies, it's the customers that ask for regulation they ask for protection. They want to have legal certainty. And what's difficult is just to figure out how this new technology fits with the old regulation and how we can actually integrate two things, as you say.

[00:16:05] Yes, of course one difference between the Internet and the world of Bitcoin is that central banks are only responsible for the money in one jurisdiction whereas the whole advantage of Bitcoin is that it is global.

**Thomas Moser** [00:16:21] No, that is true. But again, so that will be very interesting to see how that plays out. Again, interesting parallel is in the beginning, as you remember, for instance, Yahoo! had that legal fight with France. It was about stuff that they sold over eBay that was forbidden in France. And basically, the first answer from Yahoo! was Internet is worldwide, you know, we cannot differentiate between France and Germany and whatever. But what then happened is that they figured out if they have their commercials targeted to different countries, actually, that pays out. So they found a way to identify the location. Now, it's even used, you know, to build firewalls, to deny people in a country access to... And just Yahoo!, the same company, you know, they then afterwards helped China to build that firewall. So it will be interesting to see. But but in the end, you know, national jurisdictions, a lot of times people still want different things in different jurisdictions. We just had Brexit in the UK, so it'll be interesting to see. You might have this global blockchain, a global currency, but but national differences might creep in again one way or the other just because people demand it.

**Charles Miller** [00:17:39] Yes. And that would be a sign that the technology is useful, really, wouldn't it?

**Thomas Moser** [00:17:46] Exactly. That's exactly when the demand for regulation comes in because you want to protect your rights. You want to invest. And if you want to make

investments, usually you want to have some legal certainty. And that's that's why you then need all these cumbersome laws and regulations.

**Charles Miller** [00:18:04] Great. Well, thank you so much, Thomas. And I hope your conversations with Dr. Wright will continue and bear fruit in the years to come.

**Thomas Moser** [00:18:13] Thank you very much, Charles.

**Charles Miller** [00:18:17] My thanks to Thomas Moser, please, like or subscribe to CoinGeek conversations. And please join me Charles Miller again next week. Until then, thanks for listening and have a good week.