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Re-engineering Tokenization | Episode 4
Peter Zaman, Partner, HFW Singapore

This week on *Re-engineering Tokenization*, we welcome Peter Zaman, Partner at HFW Singapore, back into the SmarterMarkets™ studio. David Greely sits down with Peter to discuss the tokenization and fractionalization of commodities and real-world assets – and the law and customs that facilitate commodity trading by allowing for the transfer of ownership without the transfer of possession.

Peter Zaman (00s):
I have basically spent my career ever since carbon became a thing thinking about how does one deal with a dematerialized asset that behaves like a commodity, but not a financial security. And when you then translate that into the tokenization of a commodity product, you basically start becoming much closer to trading a carbon product. So that's kind of why there's a sort of a natural extension in my thought process and understanding of carbon as an asset class and now, if you will, commodity assets in tokenized form.

Announcer (33s):
Welcome to SmarterMarkets, a weekly podcast featuring the icons and entrepreneurs of technology, commodities, and finance ranting on the inadequacies of our systems and riffing on ideas for how to solve them. Together we examine the questions: are we facing a crisis of information or a crisis of trust, and will building Smarter Markets be the antidote?
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David Greely (01m 22s):
Welcome back to Re-engineering Tokenization on SmarterMarkets. I am Dave Greely, Chief Economist at Abaxx Technologies. Our guest today is Peter Zaman, Partner at HFW in Singapore. We will be discussing the tokenization and fractionalization of commodities in real-world assets and the law and customs that facilitate commodity trading by allowing for the transfer of ownership without the transfer of possession. Hello Peter. Welcome back to SmarterMarkets.

Peter Zaman (01m 52s):
Thank you David, it's always a pleasure.

David Greely (01m 54s):
Well it's always great to have you here on the podcast with us and some of our listeners may be surprised that you are not here to talk about the carbon markets today. Instead we're gonna be discussing the tokenization and fractionalization of real world assets and of commodities in particular. And so I wanted to start off just asking you what got you engaged with this topic, Peter?

Peter Zaman (02m 17s):
Well, if by topic you mean sort of tokenization of commodities or carbon, I think the market got me engaged is the real point. You might remember there was a bit of a hoo-ha back in sort of 2021 when voluntary carbon credits were being tokenized by an organization from KLI called Klima and interestingly enough, the same credit that was trading at 20 bucks in the real world was trading at a thousand dollars in the sort of on chain world. So yes, that caught my attention and I suppose the other point to just remember is that for those listeners who sort of remember me as the guy who has survived long enough in this market to both have experiences in carbon markets one and carbon markets two, we will also do the Matson workout. There was a nine year period in the gap where we had no real carbon markets.

Peter Zaman (03m 10s):
So the parallel hat that I have always worn is that as the commodity derivatives lawyer was one of those things that I start my life as a financial derivatives lawyer. But then you decide how you are going to stick out from the crowd. And I picked quite early on in my career a focus on commodities and actually commodity derivatives is what led me into carbon because it was the gas and power

traders who started trading emission credits. So because we were doing gas and power derivatives work. Got you landed up working together with the emissions traders as well and that's how I got into carbon as a asset class. So yeah, it's a sort of a logical pathway. And you know, futures contracts which have been sort of the extension of the commodity derivatives work I do, I mean I was just thinking about this last night ahead of our recording today and I sort of totted up how many different commodity products I've written futures contracts for.

Peter Zaman (04m 00s):
So it's LNG, it's nickel sulfate, oil, coffee, and of course carbon. So you add all of those up and I have probably done about 13 futures contracts by now. So you sort of have a nice little broad church, but there is this alignment between carbon and commodities. For me, I have always had that alignment. But interestingly enough, the bit that makes me very interested in the sort of crypto side of it is that one of the biggest challenges as a pure derivatives lawyer, especially one who has been schooled in financial derivatives is that most commodity derivatives are cash settled, right? Even in the futures world there are very few futures products that actually lead to physical settlement. So actually derivatives lawyers don't have the sort of day-to-day jobing knowledge and experience that physical commodity lawyers do dealing in bills of lading and particular commodity sales and off takes and so on.

Peter Zaman (04m 58s):
So for a derivatives lawyer to get his head around the physical delivery elements of it has never been very easy and in my sort of world of commodity lawyers, there are commodity lawyers who understand the derivative side of their commodity lawyers who understand the physical side. So I have always felt that it's important to be able to bridge those two. Now bridging those two in private practice is quite difficult. In-house it's easier because you are just seen as the lawyer and you have to do everything in-house and you land up getting experience both ways. But in private practice quite difficult to do. But carbon was an interesting one because the dematerialized nature of carbon, which whilst traded as a commodity, meant that it had features that were different from physical commodities. So as a carbon asset class lawyer, you land up thinking about analogies between securities which trade on a sort of non-paper basis in a digitized world and commodities which are very physical and you see carbon as something sitting somewhere in between.

Peter Zaman (06m 00s):
Now fast forward to tokenization of assets and you see a lot of parallels there. So I have basically spent my career ever since carbon became a thing thinking about how does one deal with a dematerialized asset that behaves like a commodity but not a financial security and when you then translate that into the tokenization of a commodity product, you basically start becoming much closer to trading a carbon product. So that's kind of why there is a sort of a natural extension in my thought process and understanding of carbon as an asset class and now if you will, commodity assets in tokenized form. Anyway, that's a bit of a rambling answer,

David Greely (06m 42s):
But this is why I wanted to have you here, Peter, because I think when a lot of people come to commodities, particularly if you come to them from the financial world, from the world of trading paper and you come to commodities, you have to really come to grips with the very physical nature of the trade and then when people start to try to understand, well I want to trade the commodity, I want to transfer ownership of this thing, punks of steel barrels of oil, I want to transfer ownership but I don't necessarily want to be moving it around because it's expensive. So you start to think about, well how do I separate ownership from possession and then what does that enable me to do? And so I wanted to kind of get down into some of those commercial and legal arrangements that allow people to trade commodities physically and how it bridges into paper before we can take the next bridge over into tokenization and fractionalization.

David Greely (07m 41s):
And I know you wrote an interesting paper on it at HFW this summer on tokenization and fractionalization and you brought up what you deliberately called a term that does not have a precise legal meaning. So I say deliberately the role of gatekeepers, basically trusted third parties who aren't the owners but have possession of the asset and look after it on behalf of the owner. Why is this role so important in making commodity markets and markets and real world assets and could you give us an example or two of types of gatekeepers and their legal relationship to the owner?

Peter Zaman (08m 21s):
Absolutely. I guess I will start by flagging that there are so many different commodity glasses and commodity products out there. Some are in physically hard form, you know coal, some are in liquid form oil, some are if you take carbon as a commodity, some completely

too materialized form. And you come to start thinking about the effect that has in the way people trade them. I mean you will be aware of people who trade natural gas, which is in gaseous form, but LNG, which is the liquid version of that being traded in liquid form, it's at its core when it comes to a sort of molecule energy use perspective, LNG and natural gas are the same thing. But of course how we physically move them about is completely different. One goes through a pipeline and the other one goes through LNG vessels and then has to be stored in a particular way.

Peter Zaman (09m 15s):
So when it comes to this question of how commodities are stored, you get this real sweeping variance of storage infrastructure, right? So if you take grain, they are held in grain silos, typically gold held in vaults base, metals held in warehouses and at some point you start realizing, okay, the reason I am using all of these storage facilities is mainly because these products have a particular need in terms of how they are looked after, how they are stored, what kind of conditions they have to be kept in. And my backyard or my Amazon warehouse equivalent just frame is not the right place for that. You do need people who understand how to look after the product. If you take, you know, an LNG terminal as an example, you have got to maintain certain pressures, you have to maintain certain temperatures, otherwise your, your LNG starts going back into gas form and, and you would have a little loss of value.

Peter Zaman (10m 16s):
So there is a specialized skill associated with how you maintain and store these products. Gold, I mean you are really giving the gold to a vault because you trust the security that they maintain more than your, you know, shoving it under your bed or something. So you get to this point where you realize the relationship between your storage provider for your commodity and the internationalization of the commodity itself from a trading perspective can't be delinked. So at the practical level of commerce, in order to internationalize commerce, you start introducing concepts like warehouse receipts, bills of lading, and those things then facilitate the ability to move money and goods around and the world operates therefore on this basis of relationships where because the goods are held by somebody who's trusted, the person who's buying it or selling it simply changes ownership without necessarily changing the storage provider.

Peter Zaman (11m 15s):
So you can buy and sell LNG three times four times over just while the LNG is a right being delivered from Australia down to Korea, right? In that period while the LNG is in the vessel, it's probably having its ownership changed three times the physical movement of the LNG yes it's in transit from Australia to Korea, but it's still in that vessel. The vessel is the warehouse is a floating warehouse for these purposes. So trade has basically dictated that our storage providers become almost neutral. You know, they are the people who look after the goods and they will look at look after it for whoever is their task master for that present moment in time, right? So if I am the LNG vessel and the ownership has traded three times or four times, then my relationship has storage keeper for the LNG is changing four times or five times.

Peter Zaman (12m 14s):
Not the nature of what I do or how I do it, the only thing that's changing is who am I doing it for? So international trade therefore links back to these documents that we have been talking about, warehouse receipts and bills of lading and it's different from the financial world but the financial world has its own equivalent. So if you think about custodians in the context of dematerialized share trading platforms or financial instruments which are held through custodial platforms, Clearstream and other examples like that, you realize that what you are doing is you are saying that to one extent for the benefit of international trade, I have got to separate the movement of the asset from the tradeability of the asset. But in order to do that, in order to ensure that there is a transfer of interest from one party to the other, besides this idea that I am going to transfer my title in the goods to you by agreeing to a sale and a purchase of those goods, there is this question of where does the possession of the goods fit into that equation?

Peter Zaman (13m 19s):
So take an example of you selling me your car, right? We can verbally agree that I will buy your car and I have paid you for it. So notionally title is yours but you know what, unless I change the registration information or you change the registration information on the official record as to who owns the car, I can be arrested for driving your car even though it's at that point my car by way of legal title because we haven't formalized the transfer process or completed the transfer process. So you get to this situation where there is this correlation between title and possession and English lawyers will say that, hey there's this saying possession is nine-tenths of the law, possession is nine tenths of the law, but it's not legal title, right? The law will say legal title is a distinct proposition from possession, but actually possession is a very, very important part of evidencing whether or not you have legal title or not.

Peter Zaman (14m 17s):
Because If you have a dispute over legal title but you control the possession, right then you are already halfway towards saying you have a better claim over these goods than anybody else who is competing for that title. But possession in this case doesn't mean direct possession, it means indirect possession 'cause you're possessing it through the person with whom you have got this trusted relationship. And in commodities, very often that relationship is a bailment relationship in financial markets. That's very much a custodial relationship and I think that's kind of where I would say commodities and financial instruments differ. So the concept of what a bail law is doing is similar in principle to what a custodian is doing is looking after the asset for third party. But the legal nature of how you define custody and how you define bailment are very, very different things. And we can get into the impact of that a bit later on when we start talking about how fractionalized products then get impacted by that.

Peter Zaman (15m 20s):
But it's an important distinction because bailment as a common law concept has been in existence for hundreds of years, although a lot of it has now been codified into statutory form. You are drawing on very old principles of law. Custody is a more recent thing, but the law of custody for digital assets has been around for at least a couple of decades. So there are analogies where people learn from what happened in the physical world and apply it in a financial world. But that's probably it in terms of the conceptual idea that we need a custodian. Yes, all of that applies, but the reality is that the custodian's relationship with the owner of the goods and the Bailor's or Bailee's ownership relationship with the Bailor very, very different at law and that difference makes, has an impact in terms of how you can structure rights and interests or financial instruments or commodity instruments based on each one of those relationships.

David Greely (16m 22s):
And when you turn to something like Bailment, which you said has been around for a very long time and it's important in international trade, the degree of legal certainty that gives someone in terms of their own ownership, how much does it vary across jurisdictions or is it fairly well established internationally?

Peter Zaman (16m 44s):
It's a really good question and you know, I have been listening to your most recent series and I think in the first episode Josh and Ian were your guests and Josh made a really interesting point. He was saying that we trade assets relatively easily, but there's a difference between what's happening in the real world and the world of legal title. I am paraphrasing slightly, but I think that's broadly what he was trying to say. And in one sense what's happened is technology has moved ahead of the law, it always has and the law is always playing catch up. So one of the big challenges is harmonizing laws of international trade in circumstances where many of the principles about title and the control elements that we were talking about possession are very much questions of local law. And there are common law legal systems like in the UK in Singapore, a lot of the old sort of British colonial countries still maintain common law approaches.

Peter Zaman (17m 49s):
Similarly, if you are a French colonial country, you may have a have a codified system. You can go into Africa and depending on whether or not it was an old British colony or French colony, you either have French codified remnants as part of the legal system or you have English common law principles as part of your legal system and therefore the world has this patchwork of local laws that interpret these elements of ownership and possession slightly differently. Those differences mean that you can't say there's a one size fit all answer irrespective of where you go. So what has happened as a result of that is that there's been a long attempt over the years to try and harmonize the way in which different countries approach this relationship, particularly when it comes in respect to bills of lading warehouse receipts. And these efforts to harmonize them are always tricky because if you're in a common law jurisdiction, you think that your laws are the best in the world.

Peter Zaman (18m 51s):
If you are in a sort of a codified system, you think, no, no, no, my code does everything. You English lawyers, you have to define false majeure and it takes up half a page. My code defines false majeure and I don't have to write it out long hand in a contract. So my contracts are shorter and I like it that way. So getting lawyers from two different legal backgrounds to agree on anything is never easy. But you do have efforts to do so through organizations like UNITAR and UNCITRAL other organizations who are trying to create a common approach to how these things are done. And there has been a very, I would say recent, it's a couple of years ago, development by UNITAR to try and create a modern law on electronic transferrable records its MLETR. Now MLETR is basically an idea. It says if you guys want to create a harmonized set of rules where bills of lading are treated the same way, electronic bills of lading are treated the

same way and recognized the same way, then you can adopt in your laws at the domestic level, new legislation that is consistent with this model law.

Peter Zaman (20m 01s):
So the model law becomes a bit like a template for countries to follow and the MLETR has been implemented in the UK, it's been implemented in Singapore. So if you were trading just between those two countries, you would be confident that the principles of things like digital warehouse receipts or electronic bills of lading are commonly recognized and treated. But that's not true everywhere because not many other countries have not yet implemented MLETR, therefore you don't have this harmonization. You know, if you go to enforce a claim over goods in a country like China, sometimes a court will turn around and say, well where is your warehouse receipt? And if you don't present the original paper warehouse receipt, they are not gonna recognize your claim. So walking around with a digital one that you have emailed to the church and say here it is, isn't going to work. So there are problems that like that that still exist and that has impacted commerce. But we are moving towards a digital world. I won't say tokenized world commodities yet, but we are definitely moving towards a digital world.

David Greely (21m 05s):
And just as lawyers start to get everything harmonized and settled, of course technology pushes ahead, markets push ahead and as you said, tokenization is now the next aspects where markets are pushing ahead and one of the things that's driving tokenization on the commodity side is the idea of fractionalization. You know, the ability to allow for the buying and selling of smaller, more affordable fractions of the assets such as pieces of a gold bar essentially, even though the bar isn't chopped up. What is driving this increased interest in fractionalizing commodities and what are the benefits that people are seeing to it?

Peter Zaman (21m 46s):
I think what's driving it is the fact that in a world where people are trying to diversify their opportunities to invest in assets and they have had a number of shocks coming from things like being invested in, you know, securitized notes and bonds where loans default you can invest in you sits and other asset classes, some do well, some don't do well. Looking at very often you are looking as an investor for diversification and actually when it comes to institutional investors, they have much more choice than poor retail investors or even small to medium sized companies because the access to these institutional products that we often hear about and read about are often not products that just Joe blogs off the street has access to. So the idea that you reduce barriers to access has a big attraction there. Now commodities as an asset class has always been a source of diversification, even for financial institutions.

Peter Zaman (22m 59s):
If you go back to the time just before the financial crisis, there was a time financial institutions owned commodity assets. Some of them owned the ships that were transporting commodities, some of them owned power plants because they wanted to ensure that they had a clear understanding of the amount of electricity market demand and they wanted to be vertically integrated in the supply chain. So you had financial institutions owning direct commodity assets. The financial crisis sort of made the regulators a bit more aware of the consequences of banks doing not what's basically non-core business and pointed the finger at them and said to them, you need to stick to the stuff that you do well and not do stuff you don't really understand. So we saw this period where banks bailed outta the commodity markets, they sold all their commodity desks and businesses and of course they came back in afterwards more recently because now commodities is a more interesting thing for financial markets.

Peter Zaman (24m 01s):
But the reality is that the retail investor never had even the opportunity to get anywhere near that product. Part of it was the size of the investment value. You know, you had, if you wanted to access futures, you needed to be a member, you needed to have access to a clearing member. A clearing member wouldn't look at you if you didn't have a certain amount of capital or credit worthiness. You needed to be able to post margin in order to trade on an exchange. Essentially your financial position landed up being a ticket that said, you are not an institutional investor, you don't have access to these markets, you have to do something else. And that's something else often turned up being, well, you work through brokers, you work through intermediaries, you have indirect access to cash settled mirror products, and those cash settled mirror products are smaller in nature than often the big ones, but it's not the same thing.

Peter Zaman (24m 55s):
So you are dislocated further from the main asset, but you are trading some kind of proxy. And the net effect of all of that is you build in what I call frictional cost of access because you have all these layers of intermediaries giving you some kind of proxy access, but it's an imperfect proxy by the very nature of the fact that you are not trading the main asset, but it's linked back to the main asset. So

fractionalization, if you can do that successfully reduces the ticket size for your entry point. So you can then take a 12 kilogram LBMA qualifying gold bar and say, look how many people can trade this single bar, which now costs millions, why not trade a couple of ounces of what represents an ownership interest in this bar? So fractionalization where you can be able to give true direct access to that asset is a way in which you democratize the ability to consumers or customers to get their hands on commodity exposure. Now when we get into the weeds of fractionalization, you then start getting into the sort of limitations of, well what are you really offering your customer? Is it a cash value for the commodity or are you actually giving them a physical stake in the commodity? And that particular question then really colors the way in which people approach the structuring of their fractionalization of the product. And that's basically the thrust of what the paper we put out in the summer was saying.

David Greely (26m 29s):
And for people who want to have that physical stake, how do lawyers arrange that? How do you own a few ounces of a 12 kilogram bar? How do you square that? What's the legal foundation?

Peter Zaman (26m 42s):
Okay, so this is interesting because you are now looking at that point I was making earlier on about the distinction between title I own this and possession somebody else is holding it. Right and particularly when you want to fractionalize, you have got to realize that what I am taking is I am taking a whole bar, let's stick to the gold analogy, but it applies to other commodities as well. I am taking a whole bar and I am creating a multiple claim of legal interest in this bar and I can break that down. Let's start with a simple thing. Let's say there is a single 12 kilogram gold bar. I can't afford the million plus price tag on it. You can't afford the million plus price tag on it, but if we pooled both of our monies together, we might be able to actually own a single bar between us, okay? But as long as we are friends, that's not a big deal.

Peter Zaman (27m 35s):
But if we ever not become friends and you want to take your stake and I want to take my stake, we have two choices. We sell the bar and we split up the money between us, which is basically cash settlement. Or we go and say to the person holding the buck, can you please sell this bar in half? Dave wants his half and I want my half right? And that's physical settlement. So then you get to this question of, okay, if I am creating a fractionalized product, do I enable people to have the cash value of it or do I enable people to actually break it apart and have little bits of it? Very often if you take a 12 kilogram bar and you try to break that up, you are devaluing the value of it because the feature of a London good delivery LBMA bar is that it's produced by a certain listed and approved refiner.

Peter Zaman (28m 29s):
It comes from sources that have been vetted by the LBMA, the purity and assaying of that gold bar has been vetted by somebody else and it's been stored in a secure location. All of that gets lost if you and I then chop that bar in half just because we don't want to take the cash value of it. So some commodities are more suitable than others for fractionalization. So if we didn't start with a 12 kilogram bar, LBMA bar, but if maybe we started with a one kilogram bar, right, which is the Abaxx spot gold bar size at the moment, in one sense it's not so beyond the realms of contemplation that I could, and you and I could each have a bar, a one kilogram bar each. Especially if we could have afforded the 12 kilogram bar in the first place, the fact that we could take delivery of two six kilogram bars ourselves might be more realistic.

Peter Zaman (29m 25s):
So fractionalization also then depends on, well, how big is the asset that you are trying to break down? And do you start from a bigger entry point or a smaller entry point? So a 1 kilogram bar where people have fractionalized interest means that people are getting smaller quantities. So the entry point is even smaller than it would be if you were trading a 12 kilogram bar and your choices as to whether or not you allow physical delivery or you have to cash that way out, then get dictated by what was the size of that entry point in the first place. So a 1 kilogram bar, theoretically we can build a physically deliverable product off the back of that, which is kind of what the Abaxx spot structure for fractionalized gold does.

David Greely (30m 09s):
And one of the things that comes up when thinking about how to structure these is this somewhat strange term of undivided interest. What is the legal concept and basis for undivided interest?

Peter Zaman (30m 22s):
So it's very interesting, undivided interest you think is this unusual thing we have never heard of before, but actually it's been around for a very long time. So common law recognized the idea that suppose somebody bought some grain, okay and all of this grain, as we were saying earlier on, is stored in silos. Now all of the grain in the silo is altogether. They are not in separate bags, they are just poured into the grain silo and maybe there are two people who own all of the grain in that silo. Now somebody therefore has 50% of the grain and the other person has 50% of the grain and you don't know which individual grain itself belongs to me or to the other person. But the law recognizes that I own 50% and the other person owns 50%. So we have and both have an interest and it has not been divided between us, it hasn't been segregated and therefore it's an undivided interest.

Peter Zaman (31m 16s):
Now, if the law didn't allow me to sell my 50%, then you are back to this point of barriers of entry and the point of possession, the silo still is the silo and the silo keeper will turn around and say, you know, okay, Peter has now sold it to somebody else, I just hold it for somebody else. So the processionary relationship doesn't change only, who do you hold it for in possession changes? But in the meantime, I am free to sell my 50% to somebody else. Now if that person wants to take the grain out of the silo, clearly you now have to start thinking about how do I separate that my 50% from the other person's 50%. So the idea that you can sell something that is held in a bulk has been around for a very, very long time and when common law principles are converted into your statutory principles, which is what the sales of goods Act does, both in Singapore and in other countries, including in the UK, they codify those common law principles.

Peter Zaman (32m 15s):
So the sale of Goods Act in both these two countries recognize this idea that if you have goods that are held as part of a bulk, you can sell your undivided interest to somebody else and the ability to therefore sell the undivided interest to somebody else then then becomes the foundation for how you can fractionalize it. If you think about what fractionalization is, it doesn't have to be two people holding the grain in the silo. It could be 2000 people holding grain in cyber. So the undivided interest concept is just a matter of working out the percentage, if you will, of what that person owns. So you can use undivided interest to create fractionalization of commodities held in bulk and it works with gold, it works with almost any product that you can hold through a bailment structure as long as you can define what this bulk is.

David Greely (33m 07s):
And so while fractionalization is very associated with Blockchain tokenization in the current environment, clearly as you said, it's been around a long time, so Blockchain isn't necessary. Where do you see the pros and cons of on chain fractionalization via Blockchain versus I guess old fashioned off chain fractionalization?

Peter Zaman (33m 31s):
Yeah, look, I think the word off chain and non-chain is very helpful, if you will line in the sand between the two worlds. Just for the benefit of, I think for the audience, I think it's worth saying on chain basically means using distributed ledger technology and as you will be familiar in the on chain world, you have the very public version of being on chain and then you have the private environment in which you can also be on chain. What's interesting is that there are a number of commodity tokenized products out there in the market already. A lot of them deal with gold, which use fractionalization and use the undivided interest. So just to give you an example, there is a paper that's been put out by the World Gold Council recently, and what they are doing is they are basically saying, well, what if I created a pool of gold?

Peter Zaman (34m 23s):
And so four of the sort of leading banks in the London Bull market will basically pool their goals and gold into a single pool and they would then create a gold pool gold interest as basically a fractionized product off the back of that pool and offer it to customers for trading. So that is relatively recent, it came out just at the, towards the end of the summer. I think people are still providing their feedback on that, but that doesn't use distributed leisure. It's fractionalized contrast that to say maybe PAX Gold or the Kinesis who have silver and gold products, they definitely use tokenized solutions and they use undivided interest to fractionalize. So you see undivided interest being the foundation used both in the on chain and the off chain world. But then I think to the theme of your question, what are the pros and cons about going down one or the other?

Peter Zaman (35m 19s):
There are clear pros and cons. So one is a regulatory pro and cons. So some European regulation and US regulation and other regulators around the world as they have been grappling with the idea of what do I make of distributed ledger technology and the products associated with it, like commodity tokens, how do I regulate them? Do I regulate them? Was a big question for a very long time and in one sense, the countries that have decided to regulate them have basically said the question of whether or not you fall within my regulated world is determined by whether or not you are using DLT technology, right? So the European regulation called mica, which essentially recognizes that if you are trading in, it's called the markets in crypto assets regulation, that's what MICA is an abbreviation for. If you are going to create a product and it uses distributed ledger technology, then MICA applies to you.

Peter Zaman (36m 22s):
That's the starting point. So just by the fact that you have decided you want to go down the tokenized route, you have taken yourself from a potentially non-regulated commodity environment, which has historically been the sort of unregulated space to a much more regulated subject to oversight place. Now just because you are in MICA doesn't necessarily mean you can't do things, but you are now immediately subject to a different regulatory framework than you would be if you were in the off chain world. So financial regulators have taken a really interesting position when it comes to the world of commodities and the world of financial instruments and what they've essentially said is that tokenization using distributed ledger technology, irrespective of whether or not your underlying is a coin or a commodity asset, brings you to my attention and then I will look at what you're doing to work out whether or not you fall within my heavily regulated space, my light touch regulated space or my exempted space, but I am going to look at you to ensure that what you are doing is kosher for my purposes in my capacity as regulator.

Peter Zaman (37m 33s):
Are you doing things that I don't want you to be doing? Now, this is an interesting point, but going back to the whole idea of the democratization of access to commodities through fractionalization, one of the big issues historically has been that, not that we haven't fractionalized assets before, but whenever we have done it, particularly in the financial instrument space, it's been a heavily regulated environment, right? So think about the creation of funds and units to funds. Anybody who creates a unitary fund is subject to financial regulatory oversight. So that means that that becomes a regulated product simply because what you are doing is you are trying to create units and access to underlying financial assets. Reits will being another example of that. So that idea that fractionalization is regulated, it has been in the minds of the regulators for a very long time and partially the reason why they are doing that is because they are trying to ensure that they do their job well in protecting the end user, the consumer.

Peter Zaman (38m 36s):
Now, if you're a sophisticated player, historically the regulator have said, I don't need to worry about you, but if you're an end user consumer, then I am worrying about you because if I don't worry about you, then I am not doing my job. So in the commodities world, because commodities have a real world demand, real world need, the financialization of it has been a bit of an afterthought. Go back to the time during the financial crisis where LME stocks were going up, even though there was no demand for LME products because we were in a period of sort of deflation and people were not manufacturing as much as they should, but the stocks kept going up and you were building up warehouse stocks in the LME and the net effect of that was people were trying to use inventories and raise financing off the back of the inventories of that thing.

Peter Zaman (39m 24s):
That was a sort of a financialization, if you will, of LME warehouse stocks in a way that didn't actually reflect real world demand. And guess what? It caused a problem. There was the problem with LME warehouse views kicked in people that the real world value of the commodity then got delinked in one sense by the artificiality of the access problems caused in warehouses. So the financialization of a commodity comes with risks. So when you tokenize something, although there are benefits, there are also risks. One example, if you have an illiquid commodity, which today in the real world doesn't have that much appeal and you open it up to a much broader customer base, including smaller medium enterprises or retail end user customers, suddenly those people are interested in trading your product. It creates liquidity and all of a sudden you've gone from an illiquid commodity to a liquid commodity where tradable value can be identified and true value can be determined, which is good.

Peter Zaman (40m 28s):
But if you have a liquid commodity, take my example of the KlimaDAO situation where the real world asset VCU was trading at 20 and the tokenized version of it was for a short period of time, trading it at a thousand dollars, you can see a complete delinking between the real world price and the tokenized price. So there are pros and cons with all of this, but I have given you a sort of broad sweep of

things. If you want a sort of more, I guess less rambly version of it, I think go to my paper. But I walk people through these various pros and cons in the paper as well.

David Greely (41m 05s):
Now, and we appreciate you doing that with us today, Peter. I mean, it's an education for sure, and I appreciate you taking the time. Thinking back to the start of the conversation, you have been around the commodity space, the derivative space, carbon one, carbon two. When you look at what's happening in tokenization and fractionalization of commodities now, where are you seeing the biggest commercial interest and potential opportunity laying ahead?

Peter Zaman (41m 34s):
Okay, so I think this is the sort of main message of our paper as well, if you want to use tokenization for fractionalization, that clearly can be done. Although as we've been talking about using the example of both the World Gold Council as well as the Abaxx gold product, you don't have to use tokenization if fractionalization is your objective, but if tokenization is your objective and you have got more pros than you have cons in that exercise of weighing up, should I do it in an on chain or off chain world, you have still got one fundamental problem and that is the difference between the purely public chain and the more private chain. Now, you have probably been thinking about this quite deeply with your audience as part of this session. One of the biggest dangers of going into the public chain is that actually you have very little control over the token.

Peter Zaman (42m 28s):
Once it goes purely public, you lose control because theoretically, anybody could buy it, anybody could acquire it. And at some point, depending on whether or not this is a cash settled or a physically settled asset, particularly if it's linked back to the commodity, you still have to go back to the person who's got possession and say, either sell that commodity and give me the liquidated value of it, or give me the commodity itself. And that requires you to deal with the custodian, the gatekeeper. As we started talking about now, the gatekeeper's going to turn around and say, I don't know you from Adam, by the way, you're a sanctioned individual. I can't give this to you. I am regulated enough to know that a ML laws, sanctions, restrictions, all these other things that I'm bound to comply with and you would want me to comply with. If you want me to be a trusted, good gatekeeper, they all stop me from being able to deal with you. So just because you have put it out in the purely public ledger doesn't mean that you are a safe individual who can automatically turn up and say to the gatekeeper, giving my asset, because the gatekeeper has get outs saying, I can't deal with you. You are the wrong sort of person. I don't have the luxury of recognizing your claim. So that's part of the reason why a lot of the tokenized products and commodities have been much more restrained in the way they have been structured to be limited to the sort of more private environment, and in that private environment you can control who can come in. There is a localized gatekeeper. Often the person who is put the structure together, who is vetting the members of that pool that have access to this, so that's not properly democratizing the asset, the proper democratizing of the asset, requires you to answer this question, how am I gonna manage the a ML risk? How am I gonna manage the sanctions risk? How am I gonna stop this being used by people who are on restricted lists where I can't deal with these people either because you know they are involved in conflicts or wars or something or the other. Those real world questions become highly relevant if what your commodity, tokenized product at the end of that chain leads you to say, now either give me the cash value for my token or give me the commodity for my token. That answer to that question cannot ever be answered until we resolve that entry gatekeeper regulatory problem. And that I think is a big, big, big consideration when people say, I will let this product go out there into the world and let anybody do this on a tokenized form. There is, again, that pro and con exercise that you do have to resolve, but it's even more relevant for commodities than it's for financial instruments in one sense.

David Greely (45m 26s):
Thanks again to Peter Zaman, Partner at HFW in Singapore. We hope you enjoyed the episode. We will be back next week with another episode of Re-engineering Tokenization. We hope you will join us.

Announcer (45m 50s):
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