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### What Are Smarter Markets? | Episode 3

Erik Townsend, Host, Macrovoices

**In this third episode of our three-part series, host Grant Williams speaks with the original host of SmarterMarkets, Erik Townsend. Erik and Grant discuss the concept of Smarter Markets, through the lens of financial systems, digital currencies, and NFT's, and how technological advancements will champion these new currency systems.**

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**Erik Townsend** (00s):

Smarter Markets is this technology gives us the ability to design markets, which better serve market participants and society as a whole. It actually is a better deal than the way the system works today and I think that that will have eventually win out, but not until a whole lot of entrenched special interests fight against it first.

**Announcer** (17s):

Welcome to Smarter Markets, 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?

**Grant Williams** (45s):

What a pleasure it's been to have both Jeff Currie and Josh Crumb return to the Smarter Markets studio over the past two weeks. Now, today we have the added twist of having Erik Townsend back again, the host of Macro Voices and the original host of Smarter Markets. This time back in the guest's chair, Erik, welcome back to Smarter Markets this time as guests, instead of host. Good to talk to you.

**Erik Townsend** (1m 11s):

Thanks so much Grant. It's great to be back and I like being the guest instead of the host.

**Grant Williams** (1m 14s):

Fantastic, well, let's get you right into that straight away and kick off this conversation. Now look from a very high level. How should investors be thinking when they think about this phrase Smarter Markets, what does it mean to you?

**Erik Townsend** (1m 30s):

Well, Grant, I am so excited to do this particular podcast with you personally, because this touches on the one area where I think you and I have seen things a little bit differently and for the benefit of our listeners, you already know, I have absolutely immense respect for the work that you do for your podcast, really enjoyed the end game series that you did with Bill Fleckenstein, but the one place where I think we don't quite see eye to eye is I think that there's a really important need to separate the concept of cryptocurrencies like Bitcoin that have been designed for the purpose of competing with government money and frankly, they've been designed with the goal of frustrating and annoying governments in many ways. We need to separate that concept from the invention of the secure digital bearer instrument, which was made possible by the whole Bitcoin cryptocurrency.

**Erik Townsend** (2m 22s):

I think it's going to take on a life of its own and of course the name of that trend now in finances, decentralized finance, I make the prediction that the US dollar will be replaced as the world's global reserve currency within the next 20 years with a digital currency system. Now, I'm not saying that I think the same view of the Bitcoin maximalist who believes that Bitcoin takes over the world. I think that governments are not going to be willing to let go of their monopoly over the financial system and I think that where we're headed is eventually toward a digital currency system, that's likely to be government controlled and probably have the opposite design characteristics of Bitcoin. In other words, it's been designed to give the government maximum ability as opposed to minimum ability to oversee regulate and control the private actions of private citizens in terms of their financial affairs.

**Erik Townsend** (3m 18s):

So, frankly, I don't think that's a good thing, but I think that's probably where we're headed. But Grant, the part of this that I am absolutely convinced of is that digital currency provides a superior alternative to conventional currency that decentralized finance is going to provide a radically improved version of a financial system compared to the system that we have today and it's going to change everything. Now, the big question is who's gonna be in charge, are the Bitcoin crowd who are basically saying, look, we invented a better mouse trap. So we're just gonna compete with the government to come up with better money. Are they gonna win I doubt it. Or our government is going to learn their tricks and say, hey, wait a minute. You guys invented some really good technology. We're not going to allow you to be in charge, but we're gonna steal all of your best technology to design something that works the way we want it to work, which will be the opposite of the way the Bitcoiners would like to see things work.

**Erik Townsend** (4m 14s):

So that's I think the big challenge of the next 20 years is who's going to be in charge of redesigning the financial system to embrace this really important game changing technology, which completely changes everything and maybe what we should do is start by unpacking why it's a game changer and why I'm convinced it will change everything.

**Grant Williams** (04m 29s):

Let's get into that in a second. Let me ask you a couple of things about what you just said there. The first being this this idea of digital currencies and governments when you say the dollar will be replaced by a digital currency, what does that look like is it a multipolar almost like an SDR construction in digital form. What do you think it looks like?

**Erik Townsend** (04m 47s):

The reason that I say that is that the invention of digital currency fundamentally changes the game. It offers a better way of designing a currency system than we ever had before and it's primarily about disintermediation and elimination of counterparty risk. We don't have the ability in today's financial system for me to send you a hundred dollars very easily you'd think well, yeah, sure. You do. You have a wire transfer for that purpose. It doesn't really work there, you know, or we've got PayPal or we've got all these other things. Those are all mechanisms that create debt obligations. When I send you a PayPal, it really is setting up a virtual check. It's like writing a check to you. That check still has to clear against my PayPal account. It's not sending you a hundred dollars. That's really a hundred dollars that you're sure that when you received it, there's no giving it back. You've got it.

**Erik Townsend** (05m 37s):

Digital currency gives us that ability to send money right now so that I have got it. You've got it. We don't have to worry about whether my custodian is trustworthy or your custodian is trustworthy or the bank that's in between you and me is trustworthy. We don't have to worry about any of that stuff. I've got the money now you've got the money one second from now or one millisecond from now, whatever it is and it's a done deal and there's no counterparty risk. There's no intermediary risk. There's no custodian risk in that transaction anywhere. So it gives us the opportunity, not just with currency, but eventually with other kinds of financial instruments, with stocks, bonds, and everything else to get rid of this entire broken system that we have, which is a financial system based on institutions. Some of those institutions, by the way, don't have exactly a stellar track record of serving society as well as they could have because they're a little bit focused on themselves.

**Erik Townsend** (06m 32s):

And sometimes they get a little bit out of control. We can eliminate a lot of those problems where institutions and the lack of oversight and proper governance of those institutions has led to major risks in the financial system. We can get rid of all that risk with a completely different design of both a new currency system and a new financial system, which uses this decentralized finance concept of moving assets, not through institutional custodianship, but directly from the old owner to the new owner, with no middlemen in between. That is such a profound advancement. It's so ripe to be exploited that I'm convinced it has to be. Now, the question is who's gonna do that. Are these Bitcoiners gonna basically go take over the world and invent better stuff before the government can keep up with them or is the government eventually gonna put its foot down and say, wait a minute, you guys are treading on really important parts of the global economy that we don't trust you to be in charge of.

**Erik Townsend** (07m 29s):

We want us the government, even though we've proven repeatedly that we have no competence to do these things, we're the government we're in charge. We're gonna put you guys out of business and insist that we are in charge of this and that probably means government eventually contracting with private enterprise to build technology that is to the government's liking as opposed to

allowing the Bitcoin and the rest of the crypto community to engineer technology, which exists for the purpose of competing with government, which is what we've seen so far in the very early stages of this digital currency revolution, which I would argue is just beginning and which I would argue cryptocurrency is just a tiny part of. Right now it's the whole thing almost. In the end I predict that cryptocurrency will be remembered as this little thing that was the spark that started the digital currency revolution, which ended up being about something much bigger than cryptocurrency.

**Grant Williams** (08m 20s):

I'm genuinely interested in the DeFi part of this, but again, I want to understand what this digital currency looks like because the way you've described it, all I have in my head is a, is some kind of, as I said before SDR type structure where there's a basket of national interest, shall we say represented in a global digital currency, or do you see that there will be again, a whole bunch of competing digital currencies you know, when you say the dollar not gonna exist, what does that world look like?

**Erik Townsend** (08m 51s):

It's really, really hard for me to imagine how we get from here to there, because there are so many possible paths. Let me start by describing where I think the end game is headed and then we can guess where you know, how we might get there from here. I think that we're ultimately getting to is the realization that wait a minute, the whole global financial system is built around this idea that different countries have their own currencies, but it's not really cool for everybody to use their own currency to hold their nation's essentially piggy bank, the savings account for a country, is called the reserve assets or the Central Bank's reserve assets. The whole idea of the way that the global financial system works today is if you're a small country, you got to have a whole bunch of US dollars on hand so that if something goes wrong and somebody starts attacking your currency, if the shorts are trying to drive your currency into the ground, the Central Bank has to be ready to buy its own currency.

**Erik Townsend** (09m 49s):

They call that defending the currency. Well, how do you do that, you buy it using US dollars. You got to have US dollars in order to do that. The US dollar has become the center of the global financial system and despite the fact that since the mid-1960s the rest of the world has been objecting pretty darn loudly to the unfair advantage that gives the United States. Valerie Giscard, who was at the time, the French finance minister later became the President of France described this as the exorbitant privilege of the United States to essentially go into debt almost for free and the reason for that is Triffin's paradox. The Robert Triffin, the 1950s economist basically observed that if you are the issuer of the world's global reserve currency, you're almost forced to run a really, really big current account deficit because you've got to provide enough of your currency to the rest of the world, for them to use it for reserve assets.

**Erik Townsend** (10m 48s):

In order to do that, you got to run basically a, a great big trade deficit and that results in the issuer of the reserve currency, being able to borrow and spend beyond its means almost without penalty and that's what's happened. The reason that the us government has been able to borrow and spend so much and so far beyond its means without suffering the adverse consequence of runaway interest rates is because so many different people around the world need to buy US treasury bonds in order to solve this problem that they need money on hand to defend their own currency if something goes wrong. Well, wait a minute. What if we had a global financial system where you didn't choose one country's currency as the anchor for everything, but you instead designed a better digital currency system where all of the Central Banks of the world could hold their assets in a centralized currency that everybody agrees with that no one nation is in charge of.

**Erik Townsend** (11m 50s):

Well previously it was not possible to say we're going to pick a currency that no one nation is in charge of because by definition, a currency is something that's controlled by some nation and its Central Bank. Well, now we have the technology to introduce a global digital currency system, which gives all of the countries of the world fair access to a global financial system in which no one principle actor, the United States for the last 50 years has this exorbitant privilege, this special power over everybody else. Now that's bad news for the US government. It's good news for every other government on the face of the earth and by the way, there's a long list of them that are getting pretty darn frustrated with the US having this special exorbitant privilege over the rest of the world. So that's the reason I think that we ultimately have to get to this new world is the technology's already been invented.

**Erik Townsend** (12m 44s):

That solves a problem for the whole rest of the world, but it's a problem that Americans don't perceive as a problem because the problem is that the US government has an unfair advantage over everybody else. Americans are not upset about that everybody else is

and I think eventually that gets resolved with the US losing that exorbitant privilege to a fairer system. Who's gonna build that fairer system. Well there's governments around the world slowly waking up to this digital currency possibility, but frankly they're way behind. The people who are totally on top of this and get it are the cryptocurrency guys who are set on a mission of competing with governments. I don't think governments are gonna let them win in the end, but I got to admit, I've been saying that for years. I said, I don't know when I wrote my book was four whole years ago, I said, we got to be close to the point of the US government making some really, really strong effort to recognize that Bitcoin really does pose a very serious threat to the US governments, head Gemini over the global financial system.

**Erik Townsend** (13m 44s):

And if they don't outlaw it pretty soon, they're gonna get run over by it. Well, I made that prediction thinking that the US government would be smart enough to recognize that Bitcoin really is a threat. They're not smart enough. They're sitting around doing nothing and Bitcoin is gaining more and more institutional market penetration. That means it's getting harder and harder to outlaw Bitcoin that, you know, it's, it's much less politically expedient to consider outlawing Bitcoin now than it was five years ago and five years from now, it's gonna be even harder. So we may get to a point of no return where the Bitcoiners really are in charge and really do define a new global financial system. I still doubt it goes down that way, but I gotta admit I've been wrong so far in thinking that governments would get their act together and recognize how big of a threat this is to their monopoly.

**Erik Townsend** (14m 30s):

But I think that's the reason we eventually get to this. Now wait a minute. The way that reserve currencies have always gone for the last thousand years is whoever's got the most military power just says, it's us because we said so and if anybody doesn't like it, you're going to war. Well, the US can still play that card if they want to. So how's this gonna go down. I have no idea, but I think eventually we have to get to the recognition that digital currency is dramatically superior to what we have today and it creates a leveler fairer playing field that eliminates an unfair advantage that the United States has over the rest of the world. The US is not gonna want to give that up. I predict the rest of the world is gonna recognize that maybe the US should give that up. We'll see what happens.

**Grant Williams** (15m 15s):

It's fascinating to pick this apart and, and we'll definitely move on to DeFi a minute, but I just want to stick with this for a minute. In this system, you are talking about this kind of almost a decentralized global central bank currency. How is that limited you know, how do you please because every country is gonna want to print. However many of them it's a quasi-gold stand. If you make too few of these digital coins, then obviously you have a massive problem. If you print too many of them, you have a massive problem. If you give people free reign to print their own, you got a massive problem. How is this gonna be built, because there's a lot of financial stress in the system right now and that's being felt by many, many countries, all of whom if they see a chance for an advantage to kind of improve their own financial positions, gonna take it. So I'm trying to think about what you say because it's a fascinating idea and I'm trying to think it through, how does this thing get, get limited, get some kind of backing of something, some kind of limitation on it being produced at will.

**Erik Townsend** (16m 16s):

Well, I think what we're really talking about is the design of this new global digital reserve currency system who decides what the monetary policy limitations should be. Now there's bad news here Grant, which is, it is possible using modern technology to design a digital currency system that has digital monetary policy tools that are radically more powerful than the old fashioned monetary policy tools that Central Bankers use today. Is it good to give central bankers much more power than they have today, I would say arguably no, it might not be because allowing them to do much more debasing of the currency every time they think that's a good idea or when it seems to meet short term political objectives probably compromising the long term value of everybody's money is probably not a good thing. So does this go down a path where central bankers around the world eventually kind of come together and spec out the new system that they want, which gives the central bankers huge amounts of power or does this go the opposite direction where private actors basically design a system, maybe Google or somebody designs a digital money system and says, look, we've got a balance that we've designed into this where central bankers have some tools for providing monetary policy, but in the interest of fairness, we're not going to allow them to do quantitative easing no country on the world has the ability to just arbitrarily debase everybody else's money by printing more of it.

**Erik Townsend** (17m 53s):

You can only print more of it under certain circumstances, okay. What are those circumstances, what are the rules who decides who's in charge and how do we get the smartest technology minds who really know how to design and architect these digital currency systems

collaborating with and talking to and working with the smartest monetary minds in the world who really understand monetary systems and the importance of reserve assets and so forth and if we're going to architect a new fractional reserve or a replacement for the fractional reserve banking system, which works differently, I contend that we have the ability to design a completely new fixed income market that will get rid of bonds. Bonds are an outdated concept. There's a better way to design, fixed income using digital technology. Well for now, just take me at face value that there is a better way without substantiating that, okay.

**Erik Townsend** (18m 44s):

If I say there's a better way, you know, there's 141 zillion other technical guys who think their better way is better than my way who picks the best, best way who's in charge of this. How do we sort this all out. I don't know, but I suspect it's going to happen through competition. I think, I think it's gonna happen iteratively. People will build cool things and it's like, this does this feature and that's better than what we have today. And people start using it and once they're using it, we're kind of stuck with it. So I don't think it will be optimized. I don't think we'll make the best choices and ultimately what I think this will come down to is the desire of governments to make it as Orwellian and as you know, control everything, monitor everything, give governments the most visibility to everything as possible.

**Erik Townsend** (19m 29s):

There will be a counter movement from the libertarians and the Bitcoiners and so forth to say, no, it needs to be designed to limit the power of government. That's the whole benefit of this is that we limit power of government by not letting them do all these things they get away with, which we think are irresponsible and then central bankers come back and say, no, no. The reason we're in charge is because we're smarter than you guys and what's best for the world is for us to continue to be in charge. Just give us your technology. That's a fight that I don't know how it's gonna play out. I suspect it will be decided more by the power of nations and you know, who's in a military position to say, we're gonna do it our way or else you're going to regret it.

**Erik Townsend** (20m 12s):

For the moment the United States has a massive, massive amount of military. Might. They they've got military superiority pretty much over everybody in the world, but wait a minute, that is changing with the development of hypersonic weapons by China and Russia and by the way, I don't think the US government has really begun to get their head around what's about to happen over the next 20 years. The Bitcoin guys, they get it, they know what's happening now. They think they're gonna be able to stay in charge of it. I doubt that's gonna last long term, but that's the path they're on. We've got all these different people going different directions. How does it all get reconciled and sorted out, I have no idea, but it's gonna be really interesting to watch. And I think it takes 20 years at least to play out.

**Grant Williams** (20m 52s):

We are gonna take a quick break and we'll be right back.

**David Greely** (20m 56s):

We hope you are enjoying what our smarter markets with Grant Williams. Please join us in February for our next series demystifying, the carbon markets hosted by myself, Dave Greely, Chief Economist at Abaxx Technologies. Corporate climate pledges went mainstream in 2021 as CEOs and boards of directors responded to increasing pressure from ESG minded investors, banks, employees, and stakeholders. Moving into 2022 these companies are increasingly focused on developing and implementing plans to turn their climate pledges into climate action and understanding how carbon markets can help them turn their good intentions into meaningful change. For many however, carbon markets remain unfamiliar, creating apprehension over the potential risks. They have many questions. What are carbon markets and how do they work. What is a carbon offset and what types of projects produce carbon offsets. How do I judge the quality of these projects. Will the carbon markets be large enough to be liquid and meaningful to all of these net zero goals. In this series, we'll talk with the architects and experience practitioners of the carbon markets seeking answers to all these questions and more from the people who know these markets best. You can join the conversation on Twitter at smarter\_markets and now back to Grant.

**Grant Williams** (22m 13s):

What about the incumbents particularly the current banking system players, because obviously this is their business. That's gonna take away. They're not gonna let that go without a fight. They are incredibly powerful lobby and at the point in time where this starts to happen, they are absolutely aligned with government in that point this would kind of be an end around for both of them. How do you

think the banking sector competes with this, because they can't compete on pricing, do they end up trying to kill this or buy the firms. How do you think they respond?

**Erik Townsend** (22m 45s):

I think that it is a power struggle that will be defined with a lot of very expensive acquisitions and a slow development of cognizance of what's really happening here. So what I think is really about to happen here and it's already started is there's going to be a global power grab race for who is in charge of designing the digital currency system that will ultimately replace the US dollar as the world's global reserve currency. Whoever is in charge of that, that's like the software design thing that puts you in the most power that any software developer or designer has ever had in the history of the world, because you're literally designing the software, which is going to run a new digitalized global financial system. Whoever's in charge of building that, designing that specking out, how it works is going to inherit immense power just because they know more about it than anybody else, never mind, whatever special features they sneak into it in order to give themselves edge over other people in the financial system.

**Erik Townsend** (23m 54s):

And that of course is one of the things we have to watch the most carefully as society is whoever's in charge of this, you know, there's conflict of interest there. We shouldn't let them get away with doing anything sleazy. Now I think what you're gonna see is there will be a power struggle between big tech and Wall Street finance. The biggest Wall Street banks will eventually realize that the entire history of the financial industry is being in charge of designing this new digital currency system that replaces the US dollar. At the same time, governments around the world are gonna figure out that they want to be in charge of that. They'll probably do that by contracting with private enterprise in order to build the technology for them and I predict that Silicon Valley is gonna say no, no, no. We're talking about software technology here.

**Erik Townsend** (24m 42s):

We are going to be in charge you know, this is the mark Zuckerberg. I'm gonna invent my own Libra digital currency system and by the way, I think that Libra, although it seems to be sort of to have failed in its first instantiation that's exactly what I'm talking about with Silicon Valley digital currency and the Bitcoiners will say, are you crazy, don't you know anything, you know, if you look at how Libra works, it's not decentralized the way Bitcoin is it doesn't meet all of the design goals that Bitcoin embraces and says are so important. It's like, yeah, no. That's the whole point. They don't have the goal of doing what Bitcoin set out to do. They have the goal of designing something that could eventually be sold to governments to say, look, here's a new idea of how to implement the whole concept of money globally.

**Erik Townsend** (25m 30s):

That gives you governments more control than you have now and what we get in exchange is we Google or Facebook or whoever it is we get to design it. We get to be in charge of it and that means we're gonna design some stuff into it that we're not gonna tell you about. That's really gonna help us make a killing. I think that's where this goes is government wants to maintain control somehow they know they can't do it themselves. They've got to contract it out. Wall Street banks want to be in charge of defining this new digital currency system because it is going to define the financial landscape of the entire planet for the next several centuries and it's a competition it's government, it's big tech and it's Wall Street all competing for who's in charge and I think we're already seeing with things like Libra that Silicon Valley has figured this out. They know that the big prize is who designs the new money. We're gonna replace the concept of money that's been known by the world for hundreds of years, with something newer, better and improved. Who's in charge of that. Nobody knows yet. And I think we're gonna find out in the next several years,

**Grant Williams** (26m 36s):

Well, it's gonna be a hell of a battle because to your point, I think whoever, whoever does win control of this is gonna be an incredibly powerful situation. Well, let's move on to DeFi Erik, talk a little bit about your thoughts on DeFi and some of the things that are going on there.

**Erik Townsend** (26m 51s):

The good news is that a lot of people in the finance industry have figured out that digital currency was just the beginning. The real invention of digital currency is what I call the secure digital bearer asset. In other words, just as a hundred dollars bill is, you know, if you've got possession of it, you can give that hundred dollars to somebody else, doesn't have to be registered in your name, doesn't have to be listed with the SEC or anything. If you've got it, you've got it. We can create the equivalent of bearer bonds, financial instruments that whoever has possession of it owns it period, no question, that's it. We have the technology to eliminate custodianship

risk. counterparty risk in derivatives, we can design a new derivative system that works completely different than the one today. We can design eye content. We can redesign the entire 500 year old or 700 year old.

**Erik Townsend** (27m 45s):

I've lost track of how old a fractional reserve banking system is, but we could redesign credit itself to work differently than it works today and we could make it better for society. The thing is that would require a whole bunch of altruistic well-meaning smart people to go and build a lot of stuff. I predict what's more likely to happen is a lot of greedy self-serving smart people are gonna build stuff that advantages themselves rather than society. Now, what should we be doing here, what we should be doing is we should go back to the purposes that we allow these financial markets to exist in the first place. We should do something that almost nobody in finance ever does, which is remind ourselves that the reason we have financial markets is not for the purpose of creating this special class of people we call Wall Street guys who get to be paid more than almost everybody else in society for doing less work.

**Erik Townsend** (28m 45s):

That's an unfortunate side effect of having these financial markets. That's not the goal. The goal of having this in the case of the stock market is to facilitate the efficient formation of capital so that new businesses can grow, profitable. businesses have access to the capital that they need in order to grow and expand, hire more people, create more prosperity by creating more employment, as well as creating profits to the benefit of public shareholders which includes retirees and well, lots of other people. So the advantage that the United States had during the industrial revolution was largely attributable to having the best capital markets and the best ability to form capital, to support the growth of business. In the case of commodity markets, it's a slightly different equation. What commodity markets exist for is to allow both the producers and the consumers of commodities to lock in prices, eliminating market risk and shedding that market risk to speculators.

**Erik Townsend** (29m 47s):

So it's a mechanism to allow one class of investor to take their market risk and basically sell it to somebody else, get rid of it so that they can lock in their price and let the speculator take the price risk of whether, you know, the price of wheat is going up or down in the next six months. That market system allowed American farmers to lock in the price that they were gonna be paid for their crop before they planted the first seed that made them more competitive, more effective than their foreign competitors made them more successful and the existence of that capital market system really dramatically benefited society. I think the people that thought about designing financial markets for the purpose of benefiting society all died about a hundred years ago and as far as I can tell, nobody's paying attention to that. But if we were to step back and say, wait a minute, we've got this new wave of technology, Defi decentralized finance.

**Erik Townsend** (30m 44s):

It's going to make it possible to replace our existing capital markets with something much more advanced, much more automated, much more technologically sophisticated. Should we be designing that so that we deliver the most benefit to society to redesign something like credit so that it helps more people to get the money that they need in order to grow their business in order to, you know, get their operation, to do whatever they need. Are we gonna do it that way or are we going to redesign this system so that the people that are doing the redesigning are focusing entirely on building stuff that gives them advantage that nobody else understands because they were at the center of the whole thing and they knew how to figure it out and I go back to something like Reg NMS back in 2007, when the SEC had a very good idea, which was let's redesign the financial system so that one stock could trade on several different exchanges.

**Erik Townsend** (31m 39s):

And there's a mechanism for those exchanges to compete with one another. That was a great idea, but what happened was once they got into the committee meetings and figuring out how to actually make that work from a technology perspective, you ended up with two groups of people. There was a bunch of confused people that looked at this Reg NMS and it was very complicated and technical and they didn't understand it and didn't know what to make of it. Then there was a very small group of people who got it and they understood exactly what it meant and they said, wait a minute, we can game this thing. We can go invent this whole new idea called latency arbitrage and we can basically front run in real time at the level of you know, billionths of seconds. We can front run the orders that are going back and forth between these exchanges, through this thing called the SIP, the securities information processor.

**Erik Townsend** (32m 28s):

All we have to do is buy more expensive computers than the other guys have and we can cheat this system and we can design the actual rules to allow us to cheat in this system and we can get away with it and that's exactly what they've done and that's why we now have high frequency trading and latency arbitrage and we've reached a point Grant where the smartest kids coming out of university, they don't want to go and cure cancer. They don't want to make the world a safer, better place. What they want to do is learn to write the latest co-located server latency, arbitrage algorithm. That's going to skim a tiny little bit of money off of the top of a whole lot of transactions and effectively steal money from a whole bunch of people that don't realize or understand what's happening. That's the way that all went down.

**Erik Townsend** (33m 13s):

Did we really design better markets where you can trade one stock at a whole bunch of exchanges yep that happened, but came with a bunch of hidden side effects, which is there's these latency arbitrage guys that are making a killing doing essentially a guaranteed wind strategy that steals money from everybody else in a way that most people don't understand. That's like small scale. I think what we're about to see is big scale conflict of interest, where the smartest people who understand the technology the best are in a position to exploit it for their own benefit and what society needs very badly is for somebody who fully understands this to be in charge of doing it for we, the people for the benefit of the people not to make a bunch of Wall Street guys, even richer, who's gonna be in that role. I don't know. I can't figure it out. I'm a little bit worried about where this is headed.

**Grant Williams** (34m 07s):

Self-interest is always in everywhere, part of the human conditions. So no matter how you do this, it seems to me that it's almost impossible to build a system that is devoid of self-interest. You know, whoever wants to put this thing together is gonna have an interest of some sort, you know, and the lobbying and a jockeying to try as you say, be a part of the consortium that puts this thing together is gonna be crazy to watch. Do you think it's actually possible for a genuinely, you know, utopian system like this to be built out of nowhere by people who have no self-interest and be adopted in place of an existing system that conveys enormous privilege on those at the heart of it., I just struggle to see how there's any way that can happen. I mean, I think it's a great idea and I get.

**Erik Townsend** (35m 00s):

Oh, I'm not suggesting it could happen. I don't think it can. I think we're in violent agreement there. My point is there is something that ought to happen here, which is not going to happen. What we ought to do is look at what purpose financial markets are supposed to serve to benefit society and figure out how to better benefit society by using technology to design better smarter markets. Nobody really is incentivized to do that altruistically for the good of the world. Now, what we're seeing is there's definitely people that are starting to build things in the Defi world to advantage themselves.

**Grant Williams** (35m 37s):

Yeah. Well, listen, let's drill down into some of these ideas. You, you you've thrown a lot of ideas out there, you know, all of which sound fascinating. We we've already seen, obviously there are, I mean, seemly, an endless number of discount online brokers now where the middle man has been made obsolete, you know, free trading, all this stuff. And we've seen actually in the last year, the kind of damage that that can cause and I suspect the damage part of that particular technological advancement is yet to be seen to its fullest extent. I suspect this year, we'll see an awful lot more damage caused by that, but what kind of advancements are we talking about in terms of what investors would see and experience from the new technology that you're talking about?

**Erik Townsend** (36m 19s):

Let's start with, what are the fundamental powerful benefits of this technology to start with. It's really about disintermediation and elimination of counterparty risk. Today we have a financial system, which is a system of institutions. You do your banking with a reputable bank, so that hopefully they'll still be around when you need to go and, you know, withdraw the money that you deposited with them. You deal with a reputable firm for your brokerage transactions because when you buy a hundred shares of stock, you don't really buy a hundred shares of stock in your name Grant. The way it works today is those shares are being bought in street name. The broker owns the shares. The broker owes you the shares. The broker is supposed to honor the fact that those shares were bought by you for your benefit, as long as they don't go bankrupt between now and when you sell them.

**Erik Townsend** (37m 10s):

And if they do well, there's a system for protecting you that involves some insurance that may or may not be paid and has limitations and so on and so forth. You could design a system where there simply is no risk of the counterparty failing or the custodian going



bankrupt because the custodian doesn't really exist anymore. You're buying a hundred shares of stock you own the hundred shares one millisecond after that transaction is complete. The whole concept of clearing and settlement that we have in the existing financial system goes away because the clearing and settlement happens instantaneously as you buy those shares. That means that all of you know, what if MF global goes under, what if you have a Lehman moment where the counterparty risk in over the counter derivatives could potentially blow up the entire financial system, those kinds of risks could be eliminated completely so that they just don't exist anymore.

**Erik Townsend** (38m 06s):

And not only would you still be able to do the kinds of transactions that Lehman was involved with sophisticated derivatives, you know, interchanging obligations with other banks and so forth. Not only could you still do that, but you could do it better because you could design a much more capable, much more functional system for doing that. Well, what happens Grant, if you do come up with a better mouse trap and all of a sudden you've got a way of doing things that obviates the need for the entire tri-party repo system. Well guess what, there is a lot of entrenched players who make their entire living of the existence of the tri-party repo system and their ability to game that system to their own benefits. Something that they've spent the last several decades, perfecting their techniques for doing. You're talking about making the system better by eliminating a flawed system where exploiting those flaws is exactly where a bunch of very powerful people make all of their living.

**Erik Townsend** (39m 04s):

Well, guess what they are not on your side and they're still very powerful people. They want to prevent you from improving the global financial system because you want to improve it in a way that eliminates those subsidies and special benefits for insiders. Well, they love the idea of reengineering the system, but they want to build in more of those benefits for insiders for themselves and not take them away. That's an inherent conflict of interest where the good guys are likely to have a lot less power and resources than the bad guys and unfortunately, I don't think this is gonna be a pretty picture, but what are smarter markets to me, Smarter Markets is this technology gives us the ability to design markets which better serve market participants and society as a whole. It actually is a better deal than the way the system works today and I think that that will have eventually win out, but not until a whole lot of entrenched special interests fight against it first and it's gonna be a long and difficult fight and to some extent, corruption really defines the way everything works. There will be plenty of the new system, which is just designed in a way that benefits the designers of the system. It's the way things always work.

**Grant Williams** (40m 20s):

Yeah, it's so interesting to talk about the stuff, Erik, because you know, we talk about these ideas, all of which seem fantastic, right and they all improve the financial system. They improve the playing field. They level it for people who are at a disadvantage already, but every single one of these ideas and every single time I get into conversations about the changes that, that Blockchain technology and Defi can make I just have this enormously loud bell going off of my head because I realize who this is gonna hurt and the kind of benefits it's gonna take away and I wonder what it takes for this to win that battle because you are fighting against the face it forces that have the ability to regulate that have the ability to make laws and whilst I suspect that they will be forced to kind of incrementally allow this kind of stuff to happen. It's very difficult. I know you talked about this being a quarter of a century long rollout. So for investors kind of thinking this through, as this rolls along as we move through that quarter of a century, how should we think about this, what can we expect in terms of a pathway, what does it look like this transition?

**Erik Townsend** (41m 37s):

An analogy that I like to use is think back to the mid-90s, when all of a sudden the market figured out, okay, look, the Internet's gonna be a really big deal. This is important. We got to invest in it. They were right about that. They were exactly right. But what happened is nobody was really sure exactly where it was headed. They correctly intuitive that internet equals big deal, but somehow it seemed like pets.com was worth whatever it was worth back in the middle of that, they weren't sure where it was headed and they were just buying everything that had .com in its name. I think we're kind of in that phase right now with DeFi, which is we're waking up to the realization that DeFi is as big of a deal for finance, probably a bigger deal as the internet was it, it's really gonna change everything in a bigger way than the internet changed everything for broader society.

**Erik Townsend** (42m 30s):

But to a greater extent than we were confused in the mid-90s, the finance industry is like, wait a minute. Okay. Where is this headed, nobody knows the, the Bitcoin maximalist think that the open source kind of, we, the people are gonna create a better money system that's gonna compete with the government. The government won't be able to do anything and we, the people will just choose this

better system because it's better. I don't think that that is at all likely to happen. I think a lot of very powerful and special interests are going to fight it out. Now, the good news is that competition, I think creates some transparency. In other words, if all the Wall Street banks were competing with each other to create this new financial system based on decentralized finance technology, no, I'm not too excited about whether or not there's gonna be any visibility for the rest of the world to see what they're up to.

**Erik Townsend** (43m 21s):

But if Wall Street wants to be in charge of this and big tech wants to be in charge of this and they're competing with each other, they're gonna be publicly criticizing each other and they're gonna be saying look, our version of this does benefit society more than yours does yours is, you know, big tech is saying you Wall Street guys are trying to create this specific benefit for yourselves and that's the reason that your design is the way it is and ours is better because it doesn't exploit we, the people, the way yours does, then the, the bankers come back and say, wait a minute, we're gonna get our analysts looking at that and look at what big tech did and say, wait a minute, you guys are, are lying too. So to some extent, anytime you have a competition, the competitors are keeping each other honest, we'll have a little bit of visibility that way, but at the end of the day, most people don't understand this stuff. Most people in finance don't understand what this tokenized technology is all about. It's going to be a bloody battle. And unfortunately, the way I look at this is I think that the Bitcoiners kind of let the cat out of the bag that, that I don't think should have come out. They invented technology, which I think is going to be used in the exact opposite ways of what they conceived it for by more powerful people who have the ability to force its adoption to go down a path that's different from what from what Satoshi would've intended.

**Grant Williams** (44m 51s):

Yeah. I mean, that's been my kind of read on it for the longest time now, but talk about how DeFi and the financial system, is there a way they can live together. Is there a way that DeFi can be embraced by the traditional finance system or is it something that it's, you know, it's, it's like Highlander, they can be only one.

**Erik Townsend** (45m 18s):

I think it's a question of an incremental process of first, there will be some things in the DeFi world that offer a slightly better way of doing things than you have in the traditional finance system. Let's suppose right now you've still got T-plus one clearing on your stocks and somebody introduces a new stock exchange that's T-plus one millisecond. So, you know, there is no clearing and settlement risk, okay. You know what the clearing and settlement risk to wait that one day when I bought stocks through Fidelity is just not a big risk. I'm not that worried about it. I gained a little bit there. I can see, you know, as sort of something to talk about at a cocktail party, I'm a little bit better with this new stock exchange that doesn't have that counterparty risk in it, but it's not a big deal.

**Erik Townsend** (45m 57s):

When you get to the point where you can say to a Central Bank, look, we've defined this new concept. We're calling it a digital sovereign bond market and when you issue credit in this thing even though it's, you know, your credit that your central bank is issuing, it's not gonna be denominated in your currency and you don't have to denominate it in US dollars you can put it in this other thing that doesn't give the American government, the total authority over your future through their monetary policy power. It's better than that. Now we've got this advantage. Okay, wait a minute. That's a game changing benefit, as opposed to just a tiny little bit of benefit. So where are the game changing benefits going to come from and who are the parties that are going to really respond to them. I think that elimination of counterparty risk elimination of custodian risk is gonna be a really big thing to institutional finance.

**Erik Townsend** (46m 55s):

I think that a really big thing that will eventually change everything is the reinvention of how credit works. The whole concept of bonds just doesn't need to work that way. There's a better way to do it. Okay. Well, what exactly is the better way to do it. I've got a few ideas, there's lots of techies that have probably better ideas. Who's gonna have the bake off. How are we gonna compete. I think what happens is probably just as we've seen the introduction of new financial products where, you know, somebody says mutual funds are a thing and okay, mutual funds really took off. Somebody comes up with ETFs and says, this is a better way of accomplishing essentially the same function, but we could do it in a better way. All of a sudden ETFs have dramatically, you know, replaced a lot of the mutual fund business has gone the way of ETFs.

**Erik Townsend** (47m 45s):

I think what you'll have is new credit instruments that are DeFi credit instruments that at first are just a novelty. It's like, oh, they did a digital bond. You know who the hell cares. Maybe I'll buy one just in case it goes like Bitcoin did and takes off for reasons that nobody anticipated well, we'll see what happens. Couple years later, you're seeing that, oh, well, when we get into a default situation and the

conventional bond defaulted, the people that held the bond got screwed, but the guys that had the digital bonds, the smart contract kicked and we basically went and took the assets that were remaining of the borrower and distributed them fairly. We essentially did the equivalent of a bankruptcy proceeding automatically in real time instantaneously without anybody having to go to Court. Oh, wow. I was much better off with this digital bond.

**Erik Townsend** (48m 30s):

Aha moment. All of a sudden everybody wants them. I'm just making this up as I go. Now, maybe it doesn't even happen in bonds. Maybe it's some other part of the financial institution, but when people come up with game changing benefits, I think that individual product sells because of its benefit. Now you could do a much better job of designing an overall financial system not just an individual product, but nobody's gonna let you be in charge of designing the whole financial system. So I think the only way you can influence the eventual evolution of that financial system is to incrementally introduce small things. Here's a product that does something better than the way it's done. There's really big pieces of that. The global digital currency system that replaces the US dollar would be a foundational thing. If you could control that, that's like being Google and basically, you know, having control over the search engine that seems to be everybody's favorite or it's being Microsoft and having control of the operating system that has 90% or whatever it is of the market share.

**Erik Townsend** (49m 32s)

You've got a huge advantage. So if you can be the player that defines that base technology, like the currency system, you've got huge advantage. If you're a smaller player, you want to be introducing something that's built on top of that currency system that does something better than the alternative that exists today. I think it happens incrementally and the way a lot of things go, you know, there there's look at the development of the internet. It's not like somebody said 25 years ago, we've got to eventually get to NFTs because that's the thing that we want to have and let's all work towards that. You know, these things come up and you get surprised. I would've thought when somebody explained to me exactly what an NFT is that nobody would've had any desire to own one. Well, I got that one wrong, seems like a whole lot of people want to own NFTs.

**Erik Townsend** (50m 15s):

I'm still not sure why, but I'm not meant to know why it's taking off. So other things will take off. Maybe I still don't get it and NFTs are gonna be so important in the new global economy that they're the, the cornerstone. I can't imagine why, but you know, we're going to define a completely new financial system and if you look at what's happened with the internet over the last 20 years, I think something very similar is about to happen in finance over the next 20 years, Smarter Markets are at the center of it. It's the question is, is who can design Smarter Markets that work better than the old market systems in a way that appeals to enough people that you can make money on it, and that you can advance and improve the financial system in the process. Unfortunately, some people will be looking for ways to make money on it while not advancing the financial system while making it worse, to build in defects into the financial system, which can be exploited by the people who designed it and I think that that conflict of interest is something that is really gonna be managed arbitrarily. There'll be people complaining about it. People will figure out where certain players have exploited the rest of the market or created things to their own benefit and they'll talk about it publicly and try to shame the other guys into doing the right thing. But at the end of the day, this is competition and it's, it's manipulation of perception and there's a lot of money involved. So anything could happen.

**Grant Williams (51m 37s)**

It's always a great time speaking with you, Erik and it's been a terrific conversation to conclude the first series of 2022. Next week begins our next Smarter Market series, demystifying the carbon markets and that is hosted by the fantastic Dave Greeley. So please join us.

**Announcer** (52m 05s):

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