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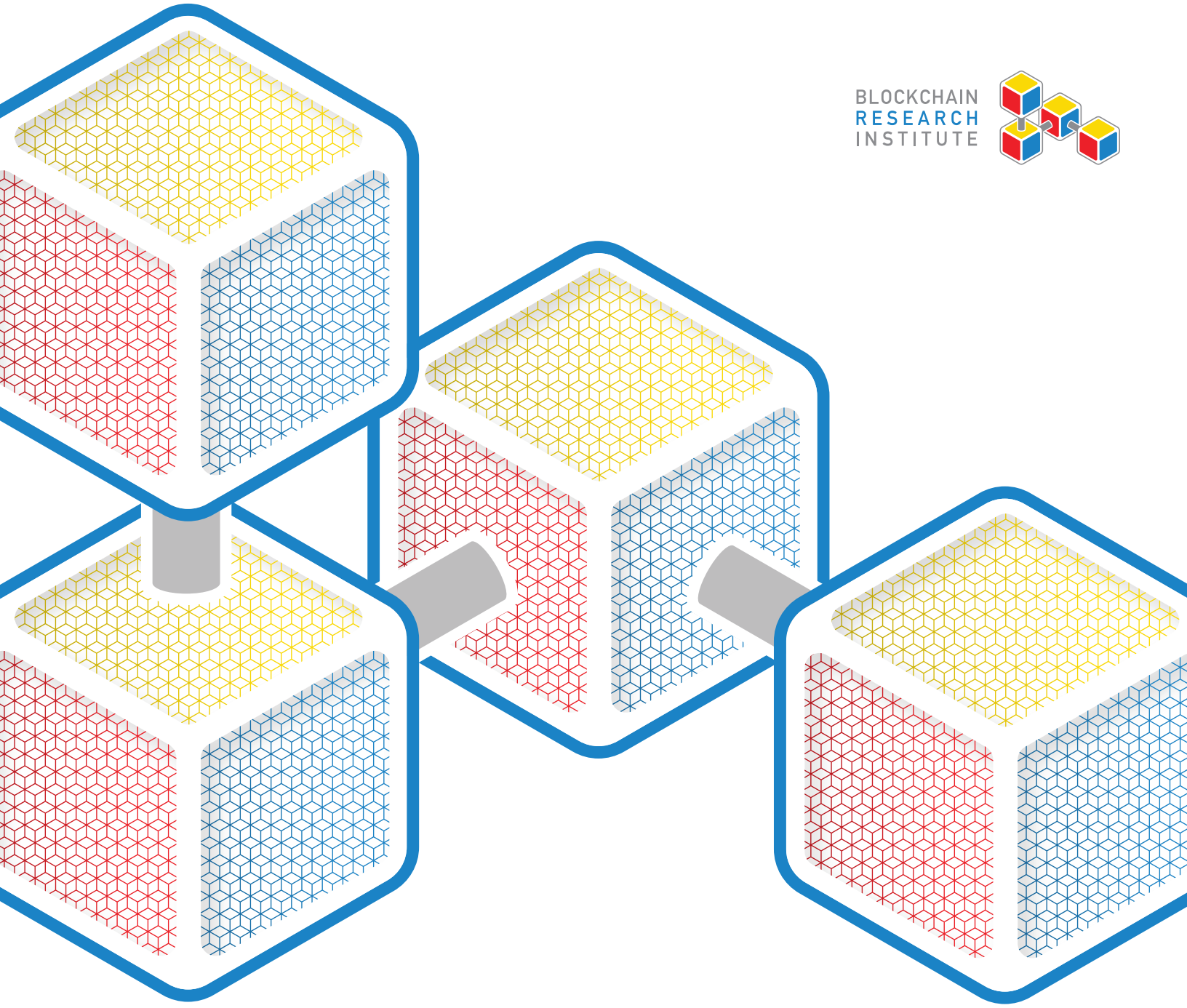

GOING CASHLESS

The Digital Dollar in the Face of COVID-19

J. Christopher Giancarlo
Willkie Farr & Gallagher

Alex Tapscott and Don Tapscott
Blockchain Research Institute

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A BLOCKCHAIN RESEARCH INSTITUTE BIG IDEA WEBINAR

Realizing the new promise of the digital economy

In 1994, Don Tapscott coined the phrase, "the digital economy," with his book of that title. It discussed how the Web and the Internet of information would bring important changes in business and society. Today the Internet of value creates profound new possibilities.

In 2017, Don and Alex Tapscott launched the Blockchain Research Institute to help realize the new promise of the digital economy. We research the strategic implications of blockchain technology and produce practical insights to contribute global blockchain knowledge and help our members navigate this revolution.

Our findings, conclusions, and recommendations are initially proprietary to our members and ultimately released to the public in support of our mission. To find out more, please visit www.blockchainresearchinstitute.org.

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Introduction: A new paradigm for money

On 28 April 2020, the Blockchain Research Institute (BRI) hosted a webinar, "Going Cashless: The Digital Dollar in the Face of COVID-19." Our guest was J. Christopher Giancarlo, former chairman of the US Commodity Futures Trading Commission and co-director of the Digital Dollar Project. Alex Tapscott, co-founder of the BRI, moderated the discussion, which was introduced and summarized by Don Tapscott, co-founder and executive chairman of the BRI. This is an edited transcript of the proceedings.

Don Tapscott

This webinar is one in a series of webinars that we're conducting at the BRI on the major challenges facing us today, related to the pandemic and global recovery.[1] COVID-19 has had and will have a profound and irrevocable change in the world.

Economic costs are devastating. The human costs are unfathomable. The crisis is challenging many institutions. They're coming under scrutiny and, we hope, will change for the better. The world will be a different place when the dust settles, as it surely will.

Blockchain and related technologies—artificial intelligence, the Internet of Things, augmented and virtual reality, autonomous vehicles, and so on—are becoming more relevant than ever, not just to business and the economy, but to the future of public health and the safety of global populations.[2] From a lack of data to the breakdown of supply chains, traditional systems are failing us.

It is time for us to think about a new paradigm. To build on Victor Hugo, "Nothing's more powerful than an idea that has become a necessity."[3] When the pandemic loomed, we evolved the BRI business model to offer full digital delivery of our research and services.

"From a lack of data to the breakdown of supply chains, traditional systems are failing us. It is time for us to think about a new paradigm. To build on Victor Hugo, 'Nothing's more powerful than an idea that has become a necessity.'"

DON TAPSCOTT
Executive Chairman
Blockchain Research Institute

Don continued

So, today's topic is the digital dollar, digital money. If supply chains are the machinery of global commerce, then money is its lubricant. But money itself has been a source of confusion and strain during this crisis. Some have criticized cash as a carrier of disease, and the drumbeat to abolish it altogether has loudened. Many countries are exploring the notion of digital cash or cryptocurrencies. We think in terms of three types:

- Community-based cryptocurrencies, of which Bitcoin was the first, is the largest, has a number of use cases, and actually works.[4]
- Emergent corporate cryptocurrencies, such as Libra from Facebook.[5] If it succeeds, and that's a big *if*, Facebook will become the largest financial institution in the world.
- State-based or fiat cryptocurrencies like the dollar, the euro, the pound, the yen, the renminbi, the peso, and so on.

These fiat currencies could become digital currencies different from what we have today.

Our guest today is the Honorable Christopher Giancarlo, former chair of the United States Commodity Futures Trading Commission [CFTC]. During his tenure at the CFTC, the agency published primers on virtual currencies and smart contracts and launched LabCFTC, as the agency's stakeholder in the digital evolution of derivatives trading market.[6] On Twitter, he's known as *Crypto Dad*. Chris established the Digital Dollar Foundation, which recently unveiled suggested principles for a central bank digital currency in the United States.[7]

Driving this fireside chat, is Alex Tapscott who is co-founder of the BRI and co-author of *Blockchain Revolution*.[8] Alex has a new book out, *Financial Services Revolution*.[9] Alex, over to you.

Disruptive technology makes for new policy options

Alex Tapscott Thank you, Don, for that introduction to today's discussion. This is an area that we've been researching extensively and one of the areas where the rubber is really hitting the road in this space.

Chris, you've emerged as one of the most vocal advocates for blockchain and cryptocurrencies to emerge from the traditional world of financial services. How does the head of one of the largest and most mission-critical financial regulators in the world, the Commodity Futures Trading Commission, which oversees what some call "the biggest financial market you've never heard of," the commodities futures market, become such a big fan of crypto and blockchain?[10]

Chris Giancarlo Sure thanks. What a pleasure it is to be here with the BRI. Thanks to you and Don for making this happen. What a great audience we have today—folks from all over the world, from the Congo, India, Europe, and the United States. Thank you for joining us and giving us an opportunity to talk about this.

"I had an interesting journey to government. I never set out as my career journey to go into government. I spent 16 years practicing law in New York and London, mostly at the intersection of technology and markets."

J. CHRISTOPHER GIANCARLO
Senior Counsel, Willkie Farr & Gallagher
Co-Director, Digital Dollar Project

I had an interesting journey to government. I never set out as my career journey to go into government. I spent 16 years practicing law in New York and London, mostly at the intersection of technology and markets. Then, in 2000, I teamed up with a group of entrepreneurs, and we built a company that launched the first electronic trading platforms for over-the-counter derivatives—not derivatives changed on an exchange like futures, but derivatives known as *swaps*, which are traded between financial institutions.[11]

Over the early 2000s, we raised several rounds of private equity. In 2005, we took the company public. It was a very successful initial public offering. And over that time, we built trading platforms in over 18 cities around the world, most of the major financial centers of the world. We took the company public in 2005. We conducted a secondary offering in 2006. By 2008, we had emerged as the world's leading platform for trading a type of swap called a *credit default swap*.[12] We probably saw 80 percent of the marketplace trade on our platforms.

Chris continued

I remember a call—a few days before Lehman collapsed in September of 2008—from a senior official at the New York Federal Reserve, asking us, "What do you guys do again?" As I had explained to him at a Fed reception a few months before, we were the world's largest trading platform for credit default swaps.

Just so your [readers] understand, credit default swaps are a proxy for the health and safety of financial institutions, and whether the market perceives that their creditworthiness is deteriorating or increasing. Credit default swaps trade at a spread to the lowest risk instrument, which is considered US treasuries.[13] So, the greater the spread, the more the belief is that that issuer of debt could be in serious financial trouble.

"Credit default swaps are a proxy for the health and safety of financial institutions, and whether the market perceives that their creditworthiness is deteriorating or increasing."

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He said, "Right, that's what I thought you did. So, what are you seeing in the market?" I said, "Seeing now? Or seeing earlier today? Or what I expect to see at the end of the day? Because they may be dramatically different." We had a good conversation and he understood. A few days before Lehman Brothers fell, we saw Lehman Brothers' credit default swaps on its debt trading at hundreds of basis points over treasuries.

But we also saw the same thing happening in name-your-favorite household money center, investment bank. And so our trading floor became the bellwether of what was happening in the global financial center, in the risk of bank failure.

At that moment, it struck me that regulators had no better way of knowing about the likelihood of failure of some of the world's largest banks than to call around shops like mine and ask, "What do you guys do again, and what are you seeing in the market?" At that time, based upon notional outstanding amounts, the world thought that there was around $400 billion in credit default swap protection written against the failure of Lehman Brothers.

If there was that much on Lehman Brothers, then the amount written against Morgan Stanley might have been $800 billion and the amount written against JPMorgan might have been $1.2 trillion. That's why we had the [Troubled Asset Relief Program].[14] That's why the central bank had to flood banks with capital, because of the fear of failure.

Alex To put that into context, the size of the insurance written against those banks was many times their market cap at that point.

Chris That's exactly right. Here's the salient point: through the work that we did at the CFTC, netting down all the shorts and longs for the failure of Lehman Brothers, we now know that the net amount, not the gross amount, of protection was only about $9 billion. Not $400 billion. Had we known that Lehman Brothers would have led to about $9 billion in outstanding loss, the Federal Reserve could have dealt with that net exposure in an instant.

I'm not saying that was the policy choice that should have been made; without the visibility, it was a policy choice that *could not have been made*. There's a big difference. What we know is that the crisis was really a crisis of the opacity of credit risk among major financial institutions. That's how I get to the blockchain. If we'd had a blockchain, if all those obligations had been recorded to a blockchain, then we wouldn't have guessed at the outstanding total amount. We would have known in an instant what the net exposure was. And we would have had policy choices that were not available to us then.

"What we know is that the [financial crisis of 2008] was really a crisis of the opacity of credit risk among major financial institutions. That's how I get to the blockchain."

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Over the next several years, I became a huge believer in the power of the blockchain to bring precision, transparency, and visibility to financial markets. Out of my experience in 2008, I followed the passage of the Dodd-Frank legislation very closely.

I served as head of a trade association for platforms like ours and testified multiple times before Congress on how the swaps market worked. In 2010, when the Dodd-Frank law passed, I put out a statement commending President Obama for its passage.[15] In 2013, perhaps as a reward for that statement, the President asked if I would serve on the commission, notwithstanding my party registration as a Republican. He was looking for someone who was a supporter of the law to serve on the commission, and I was delighted to serve.

Over the next few years, I came out with several statements calling for a do-no-harm approach to blockchain innovation.[16] In 2016, Donald Trump asked me to stay on the commission, and I assumed the role as chairman of the agency. In 2017, as we witnessed the rise of bitcoin, several of our largest exchanges approached us about self-certifying bitcoin futures, and we did.[17]

Chris continued Those products have demonstrated their value proposition in the marketplace. My term ended in July 2019, and I elected not to serve a further term and to step down and return to the private sector. That's my journey.

Alex That's terrific. The company you built was one of the largest marketplaces for over-the-counter derivatives, which are derivatives not traded through an exchange or a centralized clearing house. They're two different counterparties, financial institutions, right? And so, in the financial crisis of 2008, the Federal Reserve, probably the US Treasury, and other groups were trying to figure out who had what exposure to certain asset classes and where the counterparty risk existed.[18] And the only way they could do that was by contacting them. A lot of those agreements were done over e-mail, with spreadsheets, that made understanding the totality of the risk really hard to capture at that moment in time. Having a trusted, distributed record of who owns what and who owes what to whom would have been extremely helpful.

Chris Well said, Alex.

Overview of the digital dollar

How digital currencies differ from other financial assets

Alex Tapscott Let's move on to the dollar. Money markets are quite different from derivative markets, and we're seeing this huge amount of growth in digital currencies. Some people think of money as being digital in some ways—we use credit cards, debit cards, our online bank account, contactless payments, and so forth. And so what exactly is a digital dollar? How is that different from what we have today?

Chris Giancarlo I'm so glad you asked me that. I get comments all the time saying, the dollar is already digital. Let me use an example that somebody gave me. Faxes are digital, but they're representations of documents. They're not the original documents. What we're talking about is something that is actually the instrument itself. That's what tokenization is. It's not a representation of it. It *in itself* is the thing of value. That's the big difference.

When we're talking about the digital dollar, we're not talking about something like a stablecoin that's tied to something of value. We're not talking about a representation of something of value. We're talking about the thing itself of value. Now, the monetary system that exists today has some things of value in it like dollars and coins, and lots of things that are representations of value.

With the digital dollar, "what we're talking about is something that is actually the instrument itself. ... It's not a representation of it. It in itself *is the thing of value. That's the big difference."*

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If I write a check to you, the check is a demand on an institution to pay you money. If it's endorsed, it may become a thing of value, but initially it's a demand on an institution to pay you something of value. Institutions record things of value on their books, but that value is an obligation of the institution. It's not an obligation of the sovereign as fiat currency is.

So, when we talk about the digital dollar—we use *digital dollar* because it's an alliterative phrase that can capture the imagination—we are actually talking about something much bigger than that, which is known by the cognoscenti as CBDC, or central bank digital currency. I spend a lot of time talking to folks on Capitol Hill in Washington. If you start talking about tokenized central bank digital currency, you can see their eyes glaze over.

So, we use the phrase *digital dollar*. By that phrase, we are referring to something that is of itself the fiat currency in a digital format. It's very different from representations of that format.

Alex Someone on Twitter asked, "Which would you trust more, a stablecoin or your deposits at your bank of choice?" A lot of people prefer the stablecoin. They don't realize that the deposits backing that stablecoin are sitting in a bank somewhere. And so there's that same level of counterparty risk or default risk to owning a stablecoin.[19]

Chris In those places you're relying on an intermediary to validate that the money is there, that you're entitled to it, and that it has value. You're always reliant. When we talk about a digital dollar, we're still talking about reliance, but you're reliant on the sovereign, and that is the United States of America. Since the Second World War, that has been recognized around the world as the most valuable backstop that any instrument of value can have.

Alex Yes. T-bills [Treasury bills] are used as the risk-free rate, because they're considered to be undefaultable.[20]

Attributes of the digital dollar

Alex There are two angles that I want to approach the subject of the digital dollar. First, some people are saying that cash is potentially a bearer of disease, that it could help to spread the coronavirus, and that we should replace or eliminate it altogether. I find that troubling, because several attributes of cash are very important, such as privacy, the ability for individuals to do private transactions. And so we abolish cash at the risk of our own economic freedom.

You've said that the digital dollar is not a replacement for cash, banknotes, coins, and so forth. But do you think of the digital dollar as having those same privacy and freedom-enabling attributes that cash today has? Or can that never really be the case because there's always some level of traceability?

Chris No, privacy is vitally important to a successful digital dollar. If we get it right, we could make the digital dollar potentially the most attractive sovereign currency in the world, compared to other sovereign currencies. Notwithstanding the dollar's economic power, simply because of the privacy issues. Let me explain what I mean.

"Cash is already a balance between privacy and state law enforcement and other restrictions. ... So, cash does not provide absolute privacy, but there is a zone of privacy *under a certain amount for cash."*

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Let's start with the premise that cash provides absolute privacy. It doesn't. Cash is already a balance between privacy and state law enforcement and other restrictions. Right now, any cash transactions over $10,000 are recorded by banks and reported to federal authorities. So, cash does not provide absolute privacy, but there is a *zone of privacy* under a certain amount for cash. We also know that cash is used in many cases in large amounts outside the purview of law enforcement. And so there is a zone of privacy, but it's not absolute.

Alex I like that expression, the "zone of privacy." We know that privacy is important for individuals doing normal day-to-day transactions, but we also know the criminals use cash to evade taxes, law enforcement, and so forth. So we have to figure out a way to strike that balance.[21]

Chris Let me tell you how we think you can strike that balance, and why I think a US digital dollar could be superior in privacy rights to all other sovereign currencies. It starts on the following basis, and reasonable people can agree, that there must be a balance. They may put the balance in different places, but there must be a balance between the individual's civil rights to a degree of privacy in transactions and the sovereign's right to conduct law enforcement, national defense, and so forth—to make sure that the fiat currency is not used for money laundering, human trafficking, or [illicit] drugs.

So, we've got to balance it. We've got to find that right balance point. For over 200 years in the United States, there's been a search for that balance. Here's where I think the United States could have superior privacy rights. Only the United States has written into its Constitution, in the Fourth Amendment, privacy protections against the government's using information.[22]

That traditionally has given people the right to their commercial activity using the sovereign currency. We think that, if Fourth Amendment rights and the jurisprudence around them are properly developed, then there could be a zone of privacy in the use of a digital dollar that could be superior to others.

"Developing the jurisprudence around the US government's approach to commercial activity using the sovereign currency ... could be a feature of a digital dollar that could be superior to other global reserve currencies."

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Why do I say that? Europe has a strong privacy protection law, GDPR [General Data Protection Regulation], but it protects only against *commercial* invasion of privacy, not *government* invasion. China, in its development of a digital yuan, is claiming that there will be a zone of privacy. Yet we know in an authoritarian system, all civil rights are compromised when it comes to state security issues. And so, at the Digital Dollar Project, we believe that developing the jurisprudence around the US government's approach to commercial activity using the sovereign currency, if it's done right, could be a feature of a digital dollar that could be superior to other global reserve currencies.

Alex That's music to my ears, because that's one of the big hurdles to implementing the digital dollar effectively.

The need for infrastructure innovation

Roadmap to a new banking system

Alex Tapscott The second angle I want to explore, in the context of COVID-19, is financial infrastructure. Right now, the Federal Reserve and the government in concert are pumping a record amount of stimulus money into the economy.[23] Congress has authorized issuing money to individuals, providing emergency relief.

But you have different states with different financial infrastructure. You have people with bank accounts, some without accounts. People who paid the IRS [Internal Revenue Service] last year, some who didn't. The system is very balkanized and inefficient. And so people are not getting the money on time.

Is one of the potential benefits of the digital dollar, that every individual could have a digital account with the Federal Reserve? If you needed to put liquidity into the economy or provide emergency relief, then you could—to borrow an expression from the blockchain industry—*airdrop* that money into their accounts?[24] In the past, you've said that Federal Reserve accounts are not one of the main benefits of the digital dollar. But can you see such accounts as part of a roadmap at some point?

Chris Giancarlo At the Digital Dollar Project, we do not propose Fed accounts. We propose that digital dollars be distributed through the two-tiered banking system in the same way that fiat cash is distributed now. It works like this. Physical US dollar bills are minted for the Federal Reserve. The Federal Reserve distributes those bills through regional Fed banks and then through the commercial banking system, in return for reserves. The banks distribute those bills as a public good to their ATM users and otherwise. That's how cash gets into the marketplace.[25]

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Chris continued We propose something very similar. Policymakers may find that digital currency provides them with more tools than the traditional system. As you mentioned, the IRS may find this to be a superior way of delivering helicopter money. But we're talking about architecture. How policymakers use that architecture is for the political process to determine.

Let's get the most modern architecture we can, so that policymakers have those tools. In terms of monetary policy, we're not making recommendations as to what the size of the money supply would be, or what the balance between digital fiat and cash fiat would be—those are for policymakers to determine. But we absolutely need the most modern digital tools possible for a modern digital economy. And that means a digital dollar.

"As we go into a digital age, … these analog-based systems are not up to the challenge. Nowhere is anything more central to a digital marketplace, a world of digital assets, than a digital unit of account—a digital dollar."

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If you look around, systems that were once state of the art in the twentieth century like transportation infrastructure—roads, bridges, tunnels, airports—have been allowed to age, decay, and, in some cases, become obsolete.[26] The same is true about much too much of our financial market infrastructure. As we go into a digital age, into the Internet of Value, these analog-based systems are not up to the challenge. Nowhere is anything more central to a digital marketplace, a world of digital assets, than a digital unit of account—a digital dollar.

Today, the world's commodities—whether they're soybeans, cotton, wheat, oil, or natural gas—are priced in US dollars. Most of the world's important large contracts are accounted for in US dollars. As all those things become digitized, how long can the dollar remain the world's major unit of account, and therefore the reserve currency, if it remains analog? It needs to become a digital instrument, to be the unit of account for digital instruments.

Alex That's incredibly well said.

Attributes of a digital global reserve currency

Alex Let's go down that path for a second. Mark Carney, the former governor of the Bank of England—I'm sure you know him personally—

Chris I know him well.

Alex Last year at the Jackson Hole event that the Fed hosts for global central bankers, he gave this speech—you probably remember this—

Chris I remember.

Alex Carney said that the US dollar was the reserve currency because, at Bretton Woods [in July 1944], the United States was the biggest creditor nation with all that gold, it had the biggest military, and after World War II, it had the largest economy by far. And so it was able to exert its will. But these days, the situation is quite different. We have a multipolar world. In terms of global trade, half of global trade or more is denominated in US dollars, even though the US economy represents only about 10 percent of the global economy.

During his speech, Carney argued that we should move on from the US dollar standard, but not to some other sovereign currency—not the renminbi or the euro or other fiat currency. Instead, it should be what he called a *synthetic hegemonic currency*, a unit of account based on a basket of sovereign digital currencies.[27] So, I want to get your perspective on that. If the United States retains its status as the global reserve currency, then is that good for the world or just good for the States? What do you think the idea of a synthetic hegemonic currency?

"Mark Carney argued that we should move on from the US dollar standard [to] what he called a synthetic hegemonic currency, *a unit of account based on a basket of sovereign digital currencies."*

ALEX TAPSCOTT
Co-Founder
Blockchain Research Institute

Chris I'm so glad you asked that. So, a disclaimer to your audience is, at the end of the day, I've just finished five years' service as a US regulator. I'm a US citizen, I have to view the world from my perspective. Our audience members all have their own perspective. I believe that the prevalence of the US dollar as a global reserve currency from the mid-twentieth century is unique in human history.

Chris continued

Throughout most of human history, we've had multiple sovereign currencies competing for market share in the world. The predominance of the dollar is relatively unique. Yet, during that period, a global world economy has emerged. As part of that emergence of a global economy—what we used to call *globalization*—more people have moved out of poverty, into the middle class, than ever before in human history. With that has come fewer child deaths and greater life expectancy.[28]

At the same time has come greater enjoyment of civil liberties and freedom. US values have accompanied the dollar's role around the world. That's not to say it has been perfect. There are many complaints, reasonable complaints about the dollar's use of sanction activity and so forth. I don't deny that. I'm talking about something that, on balance, is a net good.

Over the last several generations, the dollar's role in the global economy has been a net good for the world. If it's not the dollar, if it's another sovereign's instrument, then what values would come with that? Mark Carney is not proposing some other sovereign. He's proposing something that is a global world order, perhaps rules out of Basel by the FSB [Financial Stability Board] or other body, that would set the terms of such a [synthetic hegemonic] currency.

But one of the core values that's driven the dollar has been democracy, some degree of representative interest. And so my question for Mark is—who elected those people at FSB?[29] What's their representation? Do they determine this basket of values? How? Where's the representativeness of that in that thing?

If we could solve that, then maybe that's what the future looks like. But I'd be cautious about that because I believe that, at the end of the day, all government must be accountable to people. That's democracy. And so my question about his proposal is the representativeness of it, or its lack of. Is it to be central bankers who themselves are not terribly accountable to a voting population? So, if we could get that right, then maybe there's something in that.

Chris continued I'm of the mind that the US dollar has a generation or more left to go, because its value proposition is still superior to alternatives coming from authoritarianism countries. I think of the democratic values of private enterprise, of a broad durable good for all participants, of public and private partnerships, of a balance of privacy and national security. Looking at some of its competitors, I ask how are privacy rights abrogated and when? Do they take a rule-of-law approach, or is it down to state supremacy?

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So, if we could address all those issues, then I think something could replace the dollar. But right now, there's a reason—and not just an economic reason—that the dollar has enjoyed the world's patronage. It also has to do with some of the values that went into it.

The goal of modernizing global economic architecture

Don Tapscott China is moving quickly toward its DCEP [digital currency electronic payment], a fiat cryptocurrency. President Xi Jinping has said blockchain and artificial intelligence are the two dominant technologies for China to build an innovation economy. Has that announcement really stimulated things in the United States? The threat to the US dollar as the currency of record is clear. China has rolled out its One Belt One Road initiative into Southeast Asia, Africa, the Middle East, and South America. All of a sudden, the Chinese currency, in theory at least, could become a dominant currency globally. Is that helping you in your efforts with the digital dollar?

Chris Giancarlo Don, I think there's been a series of events: bitcoin first, perhaps China next, then Libra Coin, and now COVID-19. Those four events have woken up people who might not otherwise want to do early adoption of this new technology. But it's more than those developments—it's about modernization of architecture.

Bridges and airports need to be modernized. Every 50 years they need to be torn down and reengineered. At the heart of it, currency is about infrastructure. It's a public good on which an economy is built, on which people start businesses, realize their dreams, and aspire to a greater financial security. It relies on the security that it's fit for purpose.

Chris continued

I'll talk for a moment about history. At the time of the European exploration of the east coast of the Western Hemisphere, in the sixteenth and seventeenth centuries, there were multiple currencies in use. Some were sovereign—French francs, Dutch guilders—and some were commercial. The [Dutch] West India Company issued its own script.[30] So, there was a balance of commercial and sovereign instruments. (We can analogize to our own time, when we've got perhaps Libra Coin as opposed to sovereign CBDC, all competing for commerce.)

During that 150-year period, the one instrument, the one coin that was the most desirable, was the dollar—not the US dollar but the Spanish dollar—for three reasons.[31] One, it was minted from New World silver, which was purer than Old World silver. That meant it used less alloy, which made it *lighter to travel*, whether in your pocket or in a trunk. Two, it was more consistently pure and, therefore, *more fungible*. One coin was the same as another, and you had to do less weighing. Three, it was *more technologically advanced* than the others—it was minted in such a way that you could break off eight equal pieces, known as *pieces of eight*—so that you could fractionalize it to do smaller transactions.

"This is about modernizing something that has served so well in an analog economy, modernizing it for a digital economy. It's worth doing in its own right, [whatever] may be happening elsewhere in the world."

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That's what digitization of our currency is all about, right? It's a technological advance. Think about the dollar today. It's an analog instrument. We're going into a digital world, and so we need to futureproof the dollar. We need to modernize it with the times. So, despite the challenges posed by commercial instruments like Libra Coin or something as deep as Bitcoin, or something as sovereign as China, this is about modernizing something that has served so well in an analog economy, modernizing it for a digital economy. It's worth doing in its own right, notwithstanding what may be happening elsewhere in the world.

Alex

That's a terrific analogy. The piece of eight was the first form of fractionalization of a single unit of currency. That's always been one of the criticisms of precious metal, that it's hard to fractionalize. Fiat currencies are fractionalizable. But digital currencies can be fractionalized to any specific amount, which enables other kinds of use cases like micropayments. So, as the piece of eight was better than what came before, and the US dollar was better than the pound sterling, with these attributes.

The need to modernize global financial regulation

Alex There are a couple of ideas there. In the twentieth century, we talked about American institutions. Many institutions that emerged from the Second World War were American by design, such as the financial system based around the US dollar. But securities regulation was also American by design. After the crash of 1929, the Securities Act of 1933 became state of the art, in terms of how we think about public disclosure, insider information, market transparency, and so forth.

Yet, that's almost 100 years old. Would you argue that the regulatory infrastructure—similar to the bridges, roads, and tunnels—and even the underlying financial system, are antiquated and in need of modernization?

Chris One hundred percent, what you said. Having run the world's preeminent derivatives regulator, the CFTC, I'm acutely aware that, over the decades, regulatory agencies have developed bodies of regulation that can become increasingly antiquated, especially when facing a new technological paradigm, as we are seeing with the Internet of Things, the Internet of Value.

That's very much the case at the Securities Exchange Commission, chaired by my good friend, Jay Clayton. As an independent agency, the SEC is older than the CFTC. The CFTC, which I chaired, is a *principles-based* regulator, which means that we look at our rule set on a principle basis and adapt it for changing times and changing paradigms. The SEC is *rules based*. It builds rules on top of rules, often written to correspond to the prevailing architecture, the prevailing technological paradigm, and it's very hard to adapt that paradigm for new technology.

"Going into a digital world is a challenge. There needs to be a reset, a reengineering of those rule sets to match this new paradigm. … Just as we need to modernize our airports, our bridges, and our currency, we need to modernize our securities regulation."

J. CHRISTOPHER GIANCARLO
Senior Counsel, Willkie Farr & Gallagher
Co-Director, Digital Dollar Project

Despite some very good work at the Securities Exchange Commission by Chairman Jay Clayton and commissioners like Hester Peirce [a.k.a. *Crypto Mom*], the SEC is struggling with almost 100 years of rule sets.[32] Ninety years of rules built on top of rules written for an analog securities trading world. Going into a digital world is a challenge. There needs to be a reset, a reengineering of those rule sets to match this new paradigm.

Chris continued I'm somewhat envious of emerging economies that are writing their securities rules for the first time now and can write these rules based upon that new paradigm. Look at what Singapore is doing. It's not exactly a new economy, but it's very forward-looking, and it's writing rules for this new paradigm very well. We really need to wake up to that in the United States. Just as we need to modernize our airports, our bridges, and our currency, we need to modernize our securities regulation.

Alex There's an old joke that God may have invented the world in six days, but he didn't have an installed base.[33] We see this after the Soviet Union fell in the late 1980s, early 1990s, certain countries like Estonia emerged without rule sets or institutions at all. And so they started on a digital forward path. Many aspects of how Estonia's government interacts with its people are more advanced than in Canada or the United States.[34] I wonder whether that creates a drag on the US' maintaining its advantage in money and financial services globally.

Conclusions: This is just the beginning

Diversity makes for a healthy marketplace

Alex Tapscott I want to get to the [audience's] comments and questions about Libra, a proposed type of corporate currency. One of the criticisms of Libra was that, by having a basket of currencies, Libra was in effect creating money, which is a role normally confined to governments and central banks, at least for the past 150 years or so. Yet there was no democratic accountability for where those deposits sat, what monetary policy it would have, whether Libra could start or cut off service in certain countries, and do whatever usually and hopefully requires the consent of the governed using that currency. And so Congress and certain US regulators have been very vocal in their opposition.

More recently, Libra has scaled back and is going more the route of creating stablecoins for different kinds of currencies like the US dollar and hoping that it will be more palatable.[35] What was your view on the original design?[36]

Chris Giancarlo At the Digital Dollar Project, we have taken a foundational position, that we don't seek either to criticize or to call for the restriction or suppression of any other instrument, whether it be a commercial instrument, another sovereign, or a DeFi [decentralized financial] instrument like bitcoin. The market's always healthier and healthiest when there's a multiplicity of trading instruments for market participants to choose from. Choice is a good thing.

Chris continued

So I don't want to sound as a critic of any element of Libra, either its initial one, or where it's migrating to. But I would say is: even in a world of CBDC, of sovereign central bank digital currencies, there will be a need for other instruments. If one constructs a good basket of currencies to backstop a stablecoin, then investors might say, "This is a good hedge against the failure of any one currency or, if I'm engaged in global commerce, this is a better way of hedging my currency risk in the world." In some ways, it becomes like an exchange-traded fund (ETF) or a mutual fund. It's not *if* but *when* the United States develops and rolls out a digital dollar, you will still see stablecoins available.

"The market's always healthier and healthiest when there's a multiplicity of trading instruments for market participants to choose from. Choice is a good thing. … Even in a world of CBDC, of sovereign central bank digital currencies, there will be a need for other instruments."

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There won't be myriads of them, but there may be a few key ones that folks engaged in international commerce may see as a way of hedging a particular currency risk. But construction will be very important, just as investing in a fund is. You have to read the fine print. Where are the reserves held? Who holds them? Who are the trustees? What risks of loss are involved when you're not having actual fiat, but something tied to fiat?

Blockchain will transform other financial assets

Alex

We've been talking about money, and money makes the world go round, as they say. There are so many other kinds of financial asset classes. The notional value of derivatives outstanding is in the hundreds of trillions of dollars. The net amount is smaller, which people fail to realize, but it's still a lot. Global equity markets are $60 trillion, $70 trillion. One of the big promises of blockchain is that we could apply these underlying properties, which seemed to work so well for money, to other financial assets like stocks and bonds specifically, since they settle to cash and there's no physical delivery—the perfect kinds of assets that ought to be tokenized.[37]

I spent almost a decade in the stock market. A stock is really a contract. It's an instrument that entitles the bearer of the contract a share of a common enterprise to cash flow if the company pays dividends and to vote on certain decisions. Why should we have share certificates, clearinghouses, and myriad institutions inside the securities industry? Why has the pace of innovation not been faster? Is it a technical question or a regulatory question?

Chris I think it was Bill Gates who said, when you look at things forward-looking, it always seems as if it takes longer to get there. Then, when you look back, wow, it happened fast. The front offices of our financial markets are probably 90 percent automated now. Yet, when I began my career on Wall Street 35 years ago, the ferries, the subways, and the trains were letting off tens of thousands of people to go to the front office and the floors of the exchange in lower Manhattan. They're all gone now, all that floor trading. The floor of the New York Stock Exchange is a TV studio. It's not really where trading takes place. The front office has been digitized. Now we're talking about the middle and the back offices.

It took a generation for the front office to transition. I don't think it will take a full generation for the middle and the back offices to transition, because of Moore's Law. Just as the SEC and regulation didn't stop the transformation of the front office, I don't think it will stop the transformation of the middle office. Because markets are always searching for greater efficiency, and the pressure for efficiency will push aside barriers, whether they be regulatory or institutional. It is happening, it will happen, and the Internet of Value is going to accelerate that happening.

Alex It's a great point. People hear about high-frequency traders who put their trading desks next to server farms in New Jersey rather than in midtown Manhattan, because the signal for trade travels along fiber optic cable. If you're eight miles closer along the speed of light, you can beat the market by picoseconds. Yet, those trades take T plus three days to settle.

Chris Do you know why it's three days? Because the standard delivery for US first-class mail used to be three days. Today we send everything in an instant, electronically, yet we have a settlement cycle based upon a modality of delivery that nobody uses anymore.

Alex Unbelievable. I remember reading that it was only after 9/11, when all the airlines were grounded, that the Fed finally allowed for same-day settlement of transactions because, otherwise, you had to budget for the time it would take to fly a check across the country.

Chris That's fascinating—it took a crisis to realize that a methodology was inadequate and needed to be replaced. I think COVID-19 is going to show the inadequacy of the account-based system as a delivery mechanism for federal benefits, and the need to move to a digital-based system. That's why you now see in Congress these initiatives called *digital dollar wallets*. They are not CBDCs; they are a recognition that the accounts-based, paper-based, check-based delivery mechanism for money, for federal benefits, is out of place, especially in a crisis. If you're going to fix it for a crisis, let's just fix it for everything.

"Crises tend to change the course of history. Bills and laws that would take months or years to pass, pass in days or hours. ... Those emergency conditions could lead to a real shift in our thinking about money and value."

ALEX TAPSCOTT
Co-Founder, Blockchain Research Institute

Alex Absolutely. Crises tend to change the course of history. Bills and laws that would take months or years to pass, pass in days or hours. Changes to our behavior, like work from home or using Zoom happen overnight. Those same emergency conditions could lead to a real shift in our thinking about money and value, which is quite exciting. Never let a good crisis go to waste.

Currency innovation will unleash economic innovation

Alex I want to talk about those three kinds of currencies: community currencies [e.g., bitcoin], corporate currencies [e.g., Libra], and CBDCs. It seems as if this unstoppable force of technology is on a collision course with all this legacy infrastructure in the financial services industry.

Most of the time, collisions are violent, but sometimes they're not. When two galaxies collide, they actually interact in this beautiful way—they coalesce around a new center of gravity—and very few stars are destroyed because there's so much space between them.[38] We get something that's bigger and stranger but different. So, what's the collision going to look like? Is it going to be violent? Are vested interests going to push against change? Are we going to see them fighting to defend their territory, or could this collision create something beautiful?

Chris I think it can create something beautiful. For the effort that's needed to create a digital dollar, the two analogies that I draw on are the 1960s space programs and the 1990s and 2000s development of the Internet as a public good. In both cases, what I think the United States did very well was to build partnerships between the public and the private sector. When China does something big, whether it's building a blue-water navy or creating a digital renminbi, it's a top-down approach driven by the Communist Party. When Europe does something big, it's often the public sector that lays out a framework and tells innovators, "Okay, here's the framework. You need to innovate to this framework."

When we do big things in the United States and Canada, we tend to blend public and private. That's what the space program was. Think of all the good that came from that for the private sector—all the new businesses, all the entrepreneurial activity that flowed from that. Certainly, the same was true of the Internet as well.

"When we do big things in the United States and Canada, we tend to blend public and private. That's what the space program was. Think of all the good that came from that for the private sector."

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I think that should be the model for developing a US CBDC. What may flow from it is a lot of innovation for commercial currencies and DeFi experiments.[39] Just as I think a US CBDC can learn from bitcoin, bitcoin could learn from the work that would go into creating a US central bank digital currency. So it doesn't have to be worlds collide. It could be a beautiful flowering of innovation, with one side informing the other and vice versa, and with all the good that could come out of that.

Alex Well said. We've often advocated for a multistakeholder approach to problem solving. You mentioned a couple of great examples where collaboration between public sector, private sector, and nongovernmental organizations even. Many governance organizations in the Internet ecosystem played an important role in developing standards, shaping policy, and so forth. I think you're right: we need that all-hands-on-deck approach for this as well.

Chris One of the silver linings of the COVID crisis is how the public sector and the private sector are working together. There are all kinds of innovation in building respirators, PPE equipment, vaccines. The large pharmaceuticals and biotech companies are doing work that normally takes years, if not decades, to get done. It's remarkable. There's an amazing amount of cooperation going on. We should look to those models as our edge.

Alex Where can people learn more about the Digital Dollar Project? Where can they follow what you're doing?

Chris Thank you, Alex. We have a website DigitalDollarProject.org. I use Twitter actively to report on what we're doing, and my handle is @GiancarloMKTS. Follow me on Twitter and follow the Digital Dollar Project. We are weeks away from publishing our first white paper on the Digital Dollar Project.[40] It's a fairly thoughtful review of not just how a digital dollar should look, but also what use cases can be done. It also proposes a series of pilot programs that the US public sector could do with the private sector in rolling this out.

We don't think a digital dollar should be done in a big bang, overnight. It should be done thoughtfully, carefully, in an iterative process. Just as the decision to go to the moon was taken in the late 1950s, the landing on the moon didn't take place until ten years later. Along the way, there were multiple programs—the Mercury mission, the Gemini mission, the Apollo mission.[41] All different rollouts of the technology before the technology was perfected.

We're proposing that the development of a digital dollar be a similar developmental effort across the private and the public sectors, in a series of pilot programs and iterative structures. We'll be laying that out in our white paper and publishing it on our website. We welcome thoughtful input. Again, we want to learn and to educate at the same time. So, thank you.

Don Tapscott What we have today is not a digital dollar but a bearer instrument. Privacy can be a competitive differentiator for the US dollar, privacy built into the architecture. A system like this could defend the privacy of individuals and still deliver extraordinary transparency. Central bankers could have a lighter touch on regulation, fewer rules upon rules. Sunlight is a great disinfectant. If you make institutions naked, then they've got to get buff.

Regulation is the number one implementation challenge. It's a new paradigm bumping up against an old, causing dislocation and conflict, confusion and uncertainty. New economies have new opportunities to leapfrog established ones. We saw that with mobile technology in emerging markets. When we have a new paradigm, we have a leadership crisis. A new paradigm calls forth new leaders, and Chris Giancarlo is at the top of our list.

"What we have today is not a digital dollar but a bearer instrument. Privacy can be a competitive differentiator for the US dollar, privacy built into the architecture."

DON TAPSCOTT
Executive Chairman
Blockchain Research Institute

About the Blockchain Research Institute

Co-founded in 2017 by Don and Alex Tapscott, the Blockchain Research Institute is an independent, global think tank established to help realize the new promise of the digital economy. For several years now, we have been investigating the transformative and disruptive potential of blockchain technology on business, government, and society.

Our syndicated research program, which is funded by major corporations and government agencies, aims to fill a large gap in the global understanding of blockchain protocols, applications, and ecosystems and their strategic implications for enterprise leaders, supply chains, and industries.

Our global team of blockchain experts is dedicated to exploring, understanding, documenting, and informing leaders of the market opportunities and implementation challenges of this nascent technology. Research areas include financial services, manufacturing, retail, energy and resources, technology, media, telecommunications, healthcare, and government as well as the management of organizations, the transformation of the corporation, and the regulation of innovation. We also explore blockchain's potential role in the Internet of Things, robotics and autonomous machines, artificial intelligence, and other emerging technologies.

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Alex Tapscott – Co-Founder

About the speakers

J. Christopher Giancarlo

The Honorable J. Christopher (Chris) Giancarlo is senior counsel to the international law firm, Willkie Farr & Gallagher. Previously, he served as thirteenth chairman of the United States Commodity Futures Trading Commission. As CFTC chairman, Chris served as a member of the US Financial Stability Oversight Committee, the President's Working Group on Financial Markets, and the executive board of the International Organization of Securities Commissions.

Chris also serves as chairman of the board of Common Securitization Solutions LLC, a joint venture between Fannie Mae and Freddie Mac, an independent director of the American Financial Exchange, the sponsor of Ameribor and Ameribor Futures, and on the advisory board of the Chamber of Digital Commerce. He is the founder of the Digital Dollar Project (DigitalDollarProject.org) to advance exploration of a United States Central Bank Digital Currency.

Alex Tapscott

Alex Tapscott is a globally recognized writer, speaker, investor, and advisor focused on the impact of emerging technologies, such as blockchain and cryptocurrencies, on business, society and government. He is the co-author (with Don Tapscott) of the critically acclaimed nonfiction best seller, *Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies Is Changing the World, which has been translated into more than 15 languages. His TedX San Francisco talk, "Blockchain is Eating Wall Street," has been viewed over 711,000 times.*[42]

In 2017, Alex co-founded the Blockchain Research Institute, a multimillion-dollar think tank that is investigating blockchain strategies, opportunities, and use cases. He also received (with Don Tapscott) the Digital Thinking Award, one of Thinkers50's Distinguished Achievement Awards. Previously, Alex was an executive at Canaccord Genuity, Canada's largest independent investment bank. Alex is a graduate of Amherst College (cum laude). He lives in Toronto, Canada.

Don Tapscott

Don Tapscott is CEO of the Tapscott Group and executive director of the Blockchain Research Institute and one of the world's leading authorities on the impact of technology on business and society. He has authored more than 16 books, including *Wikinomics: How Mass Collaboration Changes Everything* (with Anthony Williams),

which has been translated into more than 25 languages. Don's most recent and ambitious book—*Blockchain Revolution: How the Technology Underlying Bitcoin is Changing Money, Business, and the World*—was co-authored with his son, Alex Tapscott, a globally recognized investor, advisor, and speaker on blockchain technology and cryptocurrencies. His TEDSummit talk, "How Blockchain Is Changing Money and Business," has received over 4.6 million views.[43] More recently, Don edited the book, *Supply Chain Revolution: How Blockchain Technology Is Transforming the Global Flow of Assets.*[44]

According to the late Harvard Business School Professor Clay Christensen, *Blockchain Revolution* is "*the* book, literally, on how to survive and thrive in this next wave of technology-driven disruption." Don is a member of the Order of Canada and is ranked the second most influential management thinker in the world by *Thinkers50.* He is an adjunct professor at INSEAD and former two-term chancellor of Trent University in Ontario.

Notes

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