Ross Roundtable

The Impact of AI, Blockchain and New Technologies on Accounting, Financial Reporting, and Business

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Reporter: Amal Shehata, Clinical Associate Professor of Accounting, NYU Stern School of Business

"We are here today to discuss something very powerful, incredibly innovative and something that has the capacity to change financial reporting; not just a tweak, but a profound change", with this introductory remark, Professor Paul Zarowin, Director of the Ross Roundtable, kicked off the Ross Roundtable, indicating the enormity of change ahead for the Accounting profession.

True to its mission, the Ross Roundtable included renowned panelists ranging from professional accountants, academics, fraud investigators, financial service industry professionals and more to discuss the impact of artificial intelligence (AI) and new technologies on the world of accounting. The discussion was quite lively as the speakers considered the many dimensions of the technological change, ranging from the history and use cases of blockchain and AI, the diverse government responses around the world, speculation of the impact on traditional professional jobs and much more. For many years, the Roundtables have successfully generated public dialogue, engaging in topics that benefit and educate many sectors of society and this event proved to be no different.

Background on the topic:

New technologies, such as AI, Blockchain, Big Data and Machine Learning have been the topic of seemingly endless discussion and press coverage, and they have the potential to transform business and society. Professor Zarowin shared a few background facts for the audience, as follows:

- According to a PwC June 2017 study, AI could contribute over $15 trillion in additional wealth for the world by 2030, implying enormous magnitude in its impact and encouraging strategic investment[1].
- Professor Zarowin provided many current examples of new technologies, including:
    - Natural language processing is used to analyze management comments on conference calls,
    - Hedge funds are using AI in their trading,
    - Empirical research indicates that machine learning can predict asset-returns more accurately than humans and improve portfolio returns[2] ,
    - Daimler, the German car manufacturer, floated a bond offering through a block chain[3],
    - Manifest, a software company, has used blockchain technology to make 401K transfers seamless, eliminating an estimated $3 trillion that were previously lost in this transition[4]
    - Asset management firms, such as Van Guard and Charles Schwab, employ robo-advisors to manage approximately $200 billion total assets at the end of 2017; this represents a significant increase from past years and is expected to reach $600 billion in the near future!

In other words, these technologies are impacting our world. Professor Zarowin turned the discussion over to the panelists, starting with NYU Stern Finance Professor David Yermack, who created the first academic Fintech specialization in academia, and NYU Stern is currently ranked the # 3 program in the country.

Note that the panelists provided their personal viewpoints and they do not necessarily represent the opinions of their organizations.

Viewpoint from Academia:

David Yermack, NYU Stern Albert Fingerhut Professor of Finance & Business Transformation

Professor Yermack launched the panel discussion acknowledging the 10th anniversary of the bitcoin network created by Satoshi Nakomoto in a "mystical" whitepaper in October 2008[5]. He described this network as a marriage between blockchain (which has existed since the 1970's) and the distributed ledger (which has existed since the 1990s). The term "mystical" refers to the fact that despite the anonymity of the author(s), the idea has rocketed around the world. "This clever integration of several ideas from cryptography to database design is probably the biggest breakthrough in financial records in 700 years, since renaissance time".

The design of blockchain technology is to record activity so that it cannot be altered without prohibitive cost and to create what economists have called a "trust machine"[6] , which implies that people will have no choice but to record data accurately. Thus, Professor Yermack surmises, "If you think for a moment how profound a breakthrough this really is, a set of database architecture that causes people, as an equilibrium outcome, to report truthfully and make it impossible to edit that truth, it leads almost immediately to the question of why we need accountants anymore...we may not see the Auditor as a career in 10 years" He noted that not only accountants, but any career where the professional is tracking data, such as bankers, stockbrokers, portfolio managers and more, must redefine their role to stay relevant.

The central idea is the *distributed ledger* which allows many parties to record activity on a single ledger with transparency of all activity recorded and one version of the truth. This is a radical change from the past when each party would maintain their own ledger, requiring reconciliations and auditors. This provides the opportunity to crowdsource the verification function since there is full transparency to all activity. It could also reduce the demand for audit services since there will only be a single ledger instead of many ledgers.

Professor Yermack described the difference between the public/open source blockchain versus the private/permission chain. The public blockchain has no entry barriers and it rewards parties who create a block or node, creating a competitive environment. In this case, the role of the auditor shifts to one that is available the moment the block is created and has the fastest hardware and software; the auditor will essentially compete on the basis of productivity. In the end you are relying on crowdsourcing in which parties will have no incentive to commit fraud by falsifying the data or dates due to the transparency; everyone is watching in real-time.

In contrast, the private or permission chain being used in industry is more limited; banks are using the technology to stay relevant by appointing themselves as gatekeepers and trusted 3rd parties. "The open source blockchain model is truly a clever and creative breakthrough being used by more and

more people for more and more things...once you see how it fits together and what the capabilities are, it is the most incredible thing you have ever seen in the financial world…the estimates of the potential impact run into the trillions … you never heard of trillions except to talk about the national debt but now you hear it regularly!"

*Baruch Lev***,** Philip Bardes Professor of Accounting and Finance, NYU Stern

"Most people don't have a clue about accounting, they heard it is very boring … but they think that at least accounting is *factual*, no 'fake news'…accounting comes from (the word) "counting"…but there is nothing further from the truth than that! Accounting basically sits on a sea of managerial estimates, projections, assumptions…many of these estimates are completely unreliable". For example, fixed assets are presented on the balance sheet net of *estimated* depreciation, accounts receivables are presented net of the *estimated* bad debt reserve, the pension expense is based on 5 different *estimates,* some of which are completely unreliable, and often these estimates have a direct effect on income. "That is crazy but that is reality and those estimates have a huge impact on the financial report". As an example, Professor Lev cited General Electric, currently in the midst of a financial collapse. Professor Lev went back and reviewed their financial statement filing in 2016, prior to their financial crisis, and found that one change in an estimate generated 50% of their reported net income of $8.2 billion! Furthermore, in the entire 200 page filing, there was only 1 sentence that referenced this very critical estimate that had such an impact.

Professor Lev cited a significant increase in the number of estimates in recent years. He attributes this increase to the Financial Accounting Standards Board's (FASB) adoption of more estimate-based accounting principles, such as fair-value accounting, asset impairment assessment, mark-to-market accounting. Unfortunately, it is difficult to precisely measure this increase in estimates for S&P 500 companies as they are embedded in the financial data without explicit disclosures of the amount of estimate versus fact. In order to measure the increase, researchers counted the number of times the word "estimate" and similar terms are mentioned; they found a 400% increase since 1995, "it is just incredible the increase in the number of estimates and most, as I said, are completely unsubstantiated". Professor Lev identified 2 primary problems with estimates:

- They can be incorrect, even if done honestly
- They are frequently manipulated by management; "you can never pin down managers for mis-estimation, even if the mis-estimation is 500%! Exposed they always say 'at the time we made the estimate, it was based on our best information'; so they know they can, with impunity, manipulate estimates and they do it frequently"

Given these weaknesses with estimates, Professor Lev turned to machine learning to identify if machines can improve on accounting estimates. In their ongoing (unpublished) research, Professor Lev and his colleagues focus on insurance companies as this industry provides valuable disclosures based on both estimates and facts. For example, insurance companies disclose payments made for claims (factual) and they disclose their estimated future claims each accounting period. Additionally, they also provide revised or updated estimates for the last 9 years. When the researchers applied machine learning to this data and compared it to management's estimates, they found significant improvement with machine learning. Although the research is preliminary, it is significant enough to predict that this application to accounting estimating could be incredibly promising. At a minimum,

it provides a benchmark against which managers estimates should be compared. Professor Lev concludes that "perhaps machines aren't that dumb after all!"

Viewpoint from the Big 4 Public Accounting Firms:

Alexander Perry, Executive Director, EY, Forensic & Integrity Services Practice

As a forensic expert, Alex finds the concept of trusted data hard to accept. "It is a "trust machine" but …I don't trust anyone. I have acquired this while working in the forensics group and seeing all of the way things can go wrong. I haven't made a decision about *how* it will happen but I am pretty sure it will happen…that is what fraudsters do, (they) always find a way to make it happen". Although there are very useful applications of blockchain in business, there still exists the opportunity for fraud. For example, the possibility of identity fraud exists, where an imposter gets involved in an organization, submits false claims to the blockchain that may still get validated by the entire group.

Alex is optimistic about the potential of blockchain in preventing money-laundering since there will be a verified identity imbedded in the blockchain and used as a credential to a transaction. For example, if a party is going to submit a crypto-payment, there will be a clear history of payments prior to this transaction that will enable us to identify flags of suspicious activity.

Alex shifted his focus to the proliferation of Big Data and the power of technology. Big Data has been a hot topic for years and personal data is being collected, ranging from data regarding how people control their cars and refrigerators remotely, to the use of Alexa and Siri; the data is accumulating everywhere! Robotics is the first means of "wrangling" or organizing the data. Once organized, machine-learning and algorithms, largely human-run, can be applied by data scientists through the creation of complex models. Finally, AI will be useful in teaching the model to learn from itself, to allow it to get smarter on its own. "One of the fears I have about this new technology is it is moving much faster …and whether it goes well or poorly, it happens very fast so as we use these (technologies) we must make sure we have controls around them".

Alex ended with words of caution regarding the increasing trust and acceptance of AI. There are powerful data science tools, such as RapidMiner and Altyrex, that can provide the user with a false sense of control. It is important for users to learn what the model is doing "behind the scenes" and to not blindly trust without deep understanding.

*Beth Paul***,** US Strategic Thought Leader, National Professional Services Group, PwC

Beth focused on the accounting implications of blockchain and reminded the audience that bitcoin and other cryptocurrency assets represent 1 application of blockchain. "For the short-term, accountants and auditors have lots of roles because people do not know how to account for these things!" Bitcoin will still require traditional accounting judgement around issues like recognition and measurement. However, there are even more pressing concerns, such as validating existence and protecting the private key related to bitcoin. The private key is very vulnerable as access to it (or even seeing it) means someone could steal it. How can the auditor verify the ownership of the private key while still protecting it?

Beth continued to explore the accounting treatment for bitcoin or cryptocurrency; although these are mediums of exchange, they do not meet the definition of any of our traditional assets:

- Financial instrument: Although it is traded, it does not meet the definition of a financial instrument as there is no contractual right to exchange cash or a claim to an asset.
- Commodity: this does not have defined accounting treatment
- Cash or Currency: bitcoin is not a fiat currency, it is not accepted as a legal tender and it is not backed by a government. In fact, we don't know who is backing bitcoin and it is not completely accepted everywhere.
- Inventory: inventory is defined as a tangible assets under US GAAP; IFRS does allow for intangible assets so this could be a possibility but not in the US.
- Intangible assets: this category has the broadest definition and includes assets that lack physical substance so this is how many are categorizing bitcoin (although it may feel counter-intuitive). Since bitcoin has an indefinite life, it must be accounted for at historical cost with an impairment assessment model. The accounting questions are around valuing the historical cost and identifying impairment triggers. Although the ledger reports movement of bitcoin, it does not provide the bitcoin value, the exchanges are open 24/7 and there is no clear cutoff date. This implies that the historical cost is subjective and, technically, we have to track the market daily and write-down the bitcoin each time there is a decrease in value. US GAAP would not allow for writing them up if the value increases. This is clearly very different from other intangibles!

There are also disclosure considerations, such as related-parties (it is difficult to accurately disclose if you do not know the other party) and fair-value disclosure requirements.

Beth moved on to the accounting questions around the abundance of Initial Coin Offerings (ICOs), exploring questions such as, what right is being provided with the ICO? Is this a right to a *piece* of an asset? Or is it the right to access a platform as a service? For example, if you invest cash today, the issuer will provide you with a token that will give you the right to trade on their future platform at a discount. Consider the accounting questions at the origination of the transaction: does this represent a derivative? Is it a liability? Is it a donation? The accounting questions continue: does the holder/investor consider this a prepaid asset or an intangible asset? Does the issuer treat it as deferred revenue? If so, how do you identify the accounting period for recognition? One concern is that the contracts are quite loose, they are not that regulated, and they do not provide specificities.

"With a lot of these (blockchain) uses, come questions on the accounting; we don't follow a cash-basis model today so we aren't going to follow a bitcoin-based model, we are going to follow an accrual model. We need to think about what it is you got or what obligations you had, how do you recognize those and over what time period?" The SEC has created an office looking at these transactions in order to protect the investor. They are considering classifying the ICO as a security offering so they could be regulated. Beth clarified that even if the ICO is registered as a security, it does not mean that what the investor *holds* qualifies as a security under GAAP; actually, the SEC considers them an intangible. Beth concluded by reminding the audience that there are lots of unanswered accounting questions so in the short-term accountants will be busy!

Viewpoint from various business industries perspective:

*Abhishek Biswas***,** Corporate Vice President/Director, NY Life Insurance Company

Abhishek began by acknowledging the 1990's research of Dr. Stuart Haber and W. Scott Stornetta whom are often credited with establishing the key components of the blockchain concept[7]. Their work focused on validating the authenticity of digital data through time-stamping and providing public transparency of the hash algorithm. They began publishing the entire data chain in the New York Times each week so there is a clear record of the historical sequencing of the data (it is still being published!). This concept of an immutable record, data that is easily verified and changes easily identified, is fundamental to the blockchain concept.

Abhishek explored how many of the use cases of blockchain are based on this immutable record, or record-keeping, concept. However, he considered how blockchain could evolve, one example being the idea of an autonomous organization that allows for direct peer-to-peer activity "maybe (it will) disrupt some of these big market places like Amazon and ebay, where the real peer-to-peer transactions happen without these big organizations sitting on top of them".

Abhishek shifted his discussion to the topic of AI, recognizing that AI is now in the third generation of progress. AI was originally focused on replicating human intelligence in the 1950's to now trying to manage the massive amount of data that is available. He predicts that AI will be very valuable for specific-use cases, such as contract management, email discovery and data-driven insights into marketing and advertising. "Will we see a world where machines will take over? Probably not, but there are some specific use-cases that we see being used …in our day-to-day business".

Ryan Lazanis, CEO, Xen Accounting

As the owner of a small online CPA firm that is completely paperless and virtual, Ryan shared his perspective on how blockchain will impact the accounting profession. "The more I started researching this (technology), the more I saw there were parallels between what blockchain does and what we do in accounting". Blockchain is a ledger that can store, record and verify transactions automatically without any central authority. Characteristics that make it special are that it is public, the technology itself is decentralized with no company or CEO controlling it and it is immutable; whatever is recorded on the ledger cannot be modified or reversed. Lastly, it is transparent, anyone can search the ledger and view activity in real-time. Many of these characteristics are very interesting for auditors and accountants.

Ryan agreed that the role of the bookkeeper could be replaced by blockchain in the future, given the characteristics he mentioned. However, the role of the auditor as an independent verifier of third party data is more subjective. Although blockchain can verify the validity of transactions, Ryan does not see it capable of verifying proper application of subjective accounting standards.

"Ultimately, the impact on auditors down the road is that a lot of the non-value-added work will be eliminated… because the blockchain can be trusted". Ryan predicts that the work that will not be eliminated are areas that require judgement and verifying that data reflects correct accounting standards, particularly areas of discretion, such as impairment testing, fair market value assessment and more.

When we will see this impact and the shift of the role of the auditor? "The majority of a company's financial transactions need to be flowing through blockchain-enabled software for the role of bookkeepers, accountants and auditors to be displaced, changed or modified… you need to see the big players coming on board, you need to see regulation clear up a bit, you need to see governments

and banks coming on board before we see movement in this space. It is moving quickly, it might only be 5 years away".

*Joyce Shen***,** Investment Director, Tenfore Holdings

With a diverse professional background ranging from her prior role as Managing Director of Emerging Technology and Investments at Thomson Reuters, leading blockchain innovation projects in her role as CFO at IBM, working as a Data Science faculty member at UC-Berkley, to her current role as investor at Tenfore Holdings, Joyce was able to provide a very diverse perspective around AI to the roundtable discussion.

"We all live in a world where AI plays a role…what Amazon pushes to you, what google map does … everything around you, where you are producing data, that data is being used…AI has very much been consumerized in many aspects. So where is AI going?"

Joyce provided the historical evolution of the consumerization of AI. Approximately 5 years ago, large companies, such as AWS, Azure, IBM and others, invested heavily in the infrastructure of proprietary open-source technology, such as the Cloud platform. Soon after, these companies began to commoditize these technologies by selling value-added services, for example, improved security and improved management of your cloud. As the volume and access to data has increased, the value-added services have evolved to help the consumer manage their data, ranging from the ability to aggregate, analyze, or provide a predictive analytics library.

In the last 2 years, with the continued proliferation of available data, the demand has shifted beyond predictive analytics to machine-learning, services such as supervised learning, natural language processing and translation services can now be provided directly on the Cloud, eliminating the need for the consumer to have to create the back-end code.

"The question now is for the people who work in AI, not at the PhD level, what is the value they can add if all of these large players with multi-billion dollar balance sheets … can (provide) access to AI capabilities and you do not even need to know the algorithm ….and by the way, they will also provide other tools to boost your model. So the question is what are the industries that will be most transformed by AI and how can people who are not PhD's really play in this field?"

Joyce highlighted the healthcare industry as an opportunity where AI can be used for significant advancement. For example, with the increase of open-source data for cancer symptoms, researchers have been able to create algorithms that diagnose cancer virtually (without the patient going to the hospital), a process that reduces costs tremendously and a process that can be replicated. Given that healthcare represents approximately 25% of our GDP, this is a potentially lucrative space for investors.

Joyce predicts that education could be the next big industry to benefit from AI by automatically generating customized content and democratizing education for the world. AI could be particularly useful for students with learning limitations as it could manipulate the curriculum to best serve their learning style. In manufacturing settings, companies like Boeing and GE are using immersive education to virtually train employees how to perform tasks without a manual, such as assembling parts, providing examples that are customized to their needs. In financial management settings, AI can be used to streamline expense reimbursement and classification process, it can be used for risk

assessment so management can use data to intimately understand macro-risk and fundamentally manage their risk more effectively.

However, with all of this momentum, Joyce did identify a few challenges in the AI space. With the proliferation of consumer data, there will likely be more stringent privacy laws that companies must comply with in the future, similar to the European General Data Protection Regulation laws in the European Union. As a final caution, Joyce reminded the audience that data scientists must be mindful of bias when creating AI algorithms.

*Charles Hwang***,** Managing Partner, Lightning Capital

As a hedgefund investor who capitalizes on market inefficiencies, Charles focused his talking points on blockchain technology and the impact on the auditing function. Charles used bitcoin, one of the first large-scale use cases of *public* blockchain, to illustrate the characteristics of the technology.

Charles reminded the audience that blockchain is a distributed ledger, thus there are several computers or nodes on the network updating the transactions. Although this could be an inefficient way of maintaining a database, the benefit is that the history does not rely on 1 computer; there are replicas of the information on many computers.

The immutable characteristic is beneficial in that no one can alter the transactions. However, there is the risk that if anyone accesses your private key, they can steal your bitcoins; there is no central banking system that can restore your account.

Charles criticized the nomenclature; "We use the term cryptocurrencies but the reality is that not all of these are currencies by the strict definition…I would call it 'crypto-assets'…some behave like currencies, some like commodities, some are securities, some are utility tokens, so they have different use cases."

Charles argued that the perception of bitcoin as anonymous is completely inaccurate. "You can see the addresses that are linked to you, almost like an email address, so you are actually pseudo-anonymous. There are companies, like Chain Analysis, that will track, for anti-money laundering reasons, illicit transactions on the network. They have been hired by law enforcement…they can track every address they have ever used…and try to figure out who the counterparties are … this is very powerful technology".

Charles cautioned the audience to beware if they invest in an ICO that there is no regulation, no guaranteed rights, many could be fraudulent. He would like to see more regulation around ICO's.

In terms of the audit function, Charles identified the many issues with the current audit model; the audit takes too long, it is not timely, and the report is filed months after the accounting year-end. He is working on a project called Audit Chain which aims to create a "decentralized continuous audit and real time reporting ecosystem" [8.] The objective is to have access to all of the latest financial reports in real time. Charles reminded the audience that bitcoin is just approaching the 10th anniversary, "A lot of this technology is so nascent, we have to give it time to grow and eventually more users will build on top of it to start using it…not a lot of people have actually bought bitcoins because…it is very clunky, it is not user-friendly … a lot of this will improve where there will be better user-interface, better user experience, once we get that, then your Grandmother will start using it, that is when it will become more mainstream". Charles provided an example of a company,

BitPesa, that uses the bitcoin network to transfer money between the US and Africa that could be a disrupter to the traditional money transfer industry. "I think it's important that you constantly learn about this technology but don't get too far ahead, it won't transform everything immediately".

Question and Answer Highlights

A brief Q&A session followed the panelists' remarks before the reception. Below are some highlights:

"Many of the CFO's are still mired in traditional fiduciary activities so they don't have time for the enterprise risk management, strategic advising…CFO's said they spend 29% on strategic support instead of 46%. We have been studying the evolution of management accountants, they are evolving to become more strategic business partners, probably this AI can free up the CFO team to allow them to become these strategic partners. But they need to have the competencies to do this – everyone needs to develop the skills to succeed in this digital age". *Raef Lawson, VP-Research and Policy, Institute of Management Accountants*

Question to Professor Yermack: "You said you think permission or private blockchains won't be successful…but isn't the permission or private blockchains a stepping stone? As Charles said, for Grandma to believe bitcoin might work, she is only going to trust a bank if they are giving bitcoins, so maybe the banks using permission blockchains will start to introduce it until Grandma can accept the open blockchains".

"I don't see it that way, it is as though you are riding horses one day and then you try to put wheels on the horse without having the automobile. I think the technology is so fundamentally different, the point of it is to design the trusted third party right out of the equation, it is not for the third party to borrow 20% of the technology and find some continuing use. I do think the incumbent players, banks and stock exchanges, are at a huge disadvantage because they have to comply with existing regulations and they have …to safeguard data of their customers, they have to do AML compliance and so forth. They don't have the luxury of going into lawless, unregulated jungle where many of the start-ups are. But in the end, it is not a particularly worthwhile experience, in fact, it is defending a business model that is not going to be competitive… you might buy a couple of years of relevance but I am even skeptical of that". *Professor Yermack's, NYU Stern*

"Some of the large organizations that are incumbent in these industry spaces, it is really hard to move them to innovate…it takes a lot of momentum and time. When you look at your existing resources and their skillsets, how do you help your employees build skillsets and be prepared for the impact of blockchain and AI?"

"It is tone at the top is the only way to get it done, you have to build innovation teams on the side and keep the bus moving". *Alex Perry, EY*

"At PwC, we have a lot from the tone at the top from our CEO, digital upskilling for all of our people, teaching how to embrace data analytics and technology, how does that change the way we audit and all sorts of innovation. A lot from the top down but a lot is actually coming from the staff, coming up…" *Beth Paul, PwC*

"Yes, it is tone at the top and how you recruit but also the corporation has to have more skin in the game…the Google model of 'just carve out 25% of your time to innovate'…no one has 25% extra time so put funding against it … Thomson Reuters had a catalyst program where employees could

come up with ideas … and corporate would have set funding every year…if you actually put more performance metrics against it, people are more likely to do it." *Joyce Chen, Tenfore Investments*

"One of the great moments for tone at the top was just over a year ago, Jamie Diamond at JP Morgan went on a rant about bitcoin, he said if he found anyone dealing with it, he would fire them[9]. Then the next day they published lists of projects within his own organization that he had no knowledge of, he was eventually voted "blockchain person of the year for being a role model for what you should NOT be doing!...You don't want to work for an organization led by such a person – it is like the captain of the Titanic. The risk of middle class unemployment is very large and potentially a social problem that every organization and individual person should be thinking about". *Professor Yermack, NYU Stern*

"Whatever it is, it cannot be a fraud, it is a transparent ledger, call it what you will but it is not a fraud, there is no omission of information." *Professor Yermack, NYU Stern*

"What would your response be to the socio-economic problems we will face when the unemployment happens, white-collar manufacturing goes by the wayside? What are some responses, is anyone doing anything?"

"We have had this in history, when the automobile came and made horse-and-buggy transportation obsolete, word processor ended the job of secretary as we knew it, the ATMs made the bank teller obsolete; I think in the end, decentralizing these things to the labor market is going to work much better than any type of social planning you might try to do. But the investment in human capital and skills … there has never been a higher premium on continuing education. When your kids ask you what they should study in college, the answer, surprisingly, is statistics, probability and cryptography … this may sound boring but this is the value-added skill of the future…these will be huge growth areas for universities… there is no substitute for learning these skills to have a relevant job in the future". *Professor Yermack, NYU Stern*

In terms of the blockchain technology, it is pretty interesting in terms of usage from healthcare to shipping business, but as it relates to cryptocurrency, my understanding is the origin of it was to move away from a centralized government…but now we are talking about the potential of a government regulating a system that was designed to get away from regulations…. do you see the US government not stepping in as this type of crypto currency increases?

Response from Professor Yermack, NYU Stern: It turns out that the ultimate customer for this technology is the central bank itself! There are many central banks…it looks like China, as soon as next year, may be the first major economy to launch the first crypto-Renminbi … I think they are reacting to their utter inability to regulate this any other way than to control it and own it themselves. The US has been very frustrated partly due to turf wars among their own regulators. I think the US will be the last to do this because we export hard currency… it is the last export we have that is very valuable. I think you will increasingly see the cooption of the technology into the structure of sovereign governments through national stock exchanges who understand the value of it, partly for faster clearance and settlement, but mostly for the surveillance. The Chinese government is very worried about …losing the ability to see and control what people are doing. Along with middle class unemployment, you have to worry about the 'Big Brother' scenario where the central bank chair becomes more powerful than the Prime Minister because they force everyone onto a national blockchain where they can see and control everything. This may come sooner than you think … I am worried about it for very diff reasons than middle class unemployment".

Response from Charles Hwang: To me, I think regulation would be great in this space. Our regulators are slow in this space, they do understand the idea of regulatory arbitrage where companies can move their operations anywhere else if this becomes unfriendly and we could lose a massive amount of talent moving to other countries. The entire ICO market should be regulated … consumers should be protected. Unfortunately, not everyone is educated in this space…regulators are there to protect investors. We don't have education for investors around this space … is our definition of an accredited investor archaic?"

Response from Joyce Chen: "There is specific problem that China is trying to solve using blockchain and if you look at the use cases the government has put out…it is a very specific problem and it is not meaningful for other countries as there are other infrastructure in place. Cryto-assets are not that big compared to everything else … it is not that much money relative to the capital market".

Response from Beth Paul: "In the US, we have a stable currency, I can transact in seconds and it is not that expensive, whereas bitcoin is clunky, it takes me at least 10 minutes to transact so it is not that useful. (However) blockchain itself is very useful in lots of different ways and the SEC has already started to regulate (ICO's) because they are considered securities under a legal definition; there is an S1 document there so just like everything else, it is a little 'buyer beware' you have to do your homework, you can win or lose, just like a stock. But something like bitcoin, there is no company behind it so there is not a person to regulate, so the SEC can only think about regulation as it relates to funds but not the actual bitcoin".

Summary

Despite the differing opinions of how significant the future change will be, the roundtable was a clear call for the audience to prepare for inevitable change. As Albert Einstein once said, "The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking." Our thanks to the Ross Institute for sponsoring this enlightening discussion.

Citations:

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