

# Bridging the digital gap: How tax fits into cryptocurrencies and blockchain development

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The world is on the cusp of a major tax revolution as cryptocurrencies and online distributed ledger technologies, such as blockchain, push financial systems from the physical world to online. Amelia Schwanke speaks to the experts in a roundtable discussion about the tax implications and usage of digital currencies and blockchain.



The potential uses for blockchain go beyond the capabilities of what our financial systems can support today. In a futuristic sense, blockchain could revolutionise how tax is calculated with real-time transactions that everyone, including governments, taxpayers and their advisers, could have live access to. This would allow governments to charge tax immediately and may eventually eliminate the compliance and audit issues that all parties face. However, it is only 2017 and we are a long way from this futuristic world. Today, we are building the foundations to support this with industry stakeholders investing in research and growth to bridge the gap between where technology is now and its full potential.

The two core talking points for tax professionals of emerging technology is the taxation of virtual currencies, such as Bitcoin, and how blockchain, the online ledger for these currencies, can help with tax. As a breakdown, the following are the central tax matters industries will have to consider and work on:

- Digitalisation of tax issues like nexus characterisation for identity and location;
- Real time tax compliance – making money smart; and
- Levying indirect, transactional, and withholding taxes, as well as accounting for private equity in real time across burst rates of around 14,000 transactions per second.

These issues are difficult to overcome without a solid basis, however. For example, depending on the jurisdiction, the transaction is deemed as either a commodity, as currency, or as a reward token. In certain jurisdictions, you may not even be able to buy something like blockchain. The US, for instance, deems Bitcoin as a commodity, which means hedge funds cannot buy into it.

"It's a confusing landscape and therefore tax is difficult," says Alex Batlin, global head of emerging business and technology and global blockchain lead at BNY Mellon. Batlin sights the start-up Libra that offers accounting services for capital gains for Bitcoin traders as an example of an emerging solution that is providing a preview into functions that will be accessible in the near future.

It is an interesting space that could change at any moment. For instance, "if you classify this as security, all of the sudden a whole new set of tax rules will start to apply to this, if it's just a reward scheme it doesn't," Batlin says, and it is these types of challenges that are being put forward at the moment.

Developing and building ways to strengthen the capabilities of digital currencies and blockchain are becoming embedded into the workflows of numerous businesses with many investing in research programmes to understand and experiment with the technological capabilities.

Making money smart, for instance, is about creating smart contracts that carve out tax impacts and remit on-chain to the government in real time. These capabilities are what is getting everyone excited – although it is important to remember that it is only the beginning.

But how did we get here and why is developing this technology a slow burner?

At a time when centralised structures, authorities and regulations were being rejected worldwide in favour of distributed localism in the political, economic, and now technological realms, a decentralised technology arose. A month after the Lehman Brothers crash in September 2008, Bitcoin was released by the pseudonym Satoshi Nakamoto in reaction to economic events. Those who created Bitcoin were anti-establishment and wanted to build an alternative platform that would be difficult to monetise. Now, however, the new generation of cryptocurrencies – such as Ethereum, Litecoin, Dash and Monero – are working with regulated structures and are becoming accepted forms of transactions.

This led to the birth of blockchain, the technology that enables the existence of cryptocurrency. It first appeared on the dark web and was only accessible to selected individuals (through what is known as private keys). As it gained in popularity, it became accessible through the mainstream internet.

It is now used more openly by those engaged in cryptocurrency transactions as an online ledger for transactions. However, the transaction data remains private because the cryptocurrencies are in a digital format that uses encryption techniques. The way blockchain works is that once a transaction is lodged online, 'miners' are able to verify the transfer of funds (the links) creating the 'chain', which then makes each 'block' of the 'chain' secure.

When financial institutions began to explore the possibilities of blockchain, they had to find ways to harness the technology in their existing systems and business models. Blockchain was essentially designed to securely cut out the middleman by setting up a block of peer-to-peer transactions. Therefore, when private and consortium (partly private) blockchains were suggested the decentralised aim of the technology was neutralised.

Some view blockchain as a movement, therefore, and not a technology, whereas others may disagree and say it is about risk mitigation. However, it is essentially the combination of economics and technology that undoubtedly creates challenges.

Stephen Brown, partner of financial services tax at Mazars, described the status of blockchain technology as being a bit like the internet in the 70s. "It is at that level of development so it is going to get a lot bigger,



The possibility of blockchain and cryptocurrencies moving the financial market out of the physical world and online is becoming tangible

a lot quicker, and a lot better, there's a huge amount of resources going into trying to make blockchain something that people can use not just in trading but in insurance in terms of claims, etc."

## Blockchain roundtable

As new technologies emerge, so do experts in the field. *International Tax Review's* Amelia Schwanke speaks to some of its key figures about blockchain, crypto-economics and the challenges and benefits that these technologies present to tax:

- David Deputy, director of strategic development and emerging markets at Vertex in Philadelphia, US;
- Michael Meisler, partner of financial services and banking and capital markets at EY in New York, US;
- Kseniya Osipova, legal consultant at Deloitte in Moscow, Russia, who is a part of Russia's cryptocurrencies foundation; and
- Joyce Shen, global director of emerging technology partnerships and investments at Thomson Reuters in New York, US.



## The development of blockchain

**Amelia Schwanke:** What are some of the core talking points surrounding the growth of blockchain?

**David Deputy:** There is essentially a lack of trust in the corporate world [which has led to the emergence of cryptocurrencies and blockchain]. You have corporations that do not trust governments, governments who do not trust corporations, and you have small governments who do not trust the big governments. There is a lack of trust all around.

The outcome [from a two-day blockchain seminar on how tax is being affected by this technology] was that right now private ledgers were probably the most influential to the domain but there was a recognition that the technology is moving very fast and that soon it would move from the private to the public domain.

**Michael Meisler:** Our impressions at EY would be consistent with what you just heard. We have many clients, mostly on the corporate side but certainly outside of that as well, that are looking at proof-of-concept situations right now. This is not necessarily exclusively focused on tax, but it is certainly looking at the potential uses of blockchain. As for our involvement to date on a global basis, we are starting to have some discussions – not only in private-counter parties, but we are starting to have some conversations with government bodies as well who are interested in the technology and what it can bring. But all of this is at a very early stage and we are really just looking to get the proof of concept in terms of how the use of blockchain might give more transparency to parties who conceptually have a lack of trust with each other.

**Kseniya Osipova:** I do agree with David and Michael on these things about trust and the decentralisation we are seeing in the market. Every week we have some sort of meeting with our clients to discuss this topic, so mostly financial organisations are interested in this sphere. We help banks and their clients mainly, for example, the deal between S7 Airlines and Alfa Bank, which was the first smart contract in Russia related to blockchain. We can see that blockchain has the potential to make financial institution business faster and more effective, and Michael just talked about government authorities that are interested in blockchain and that is the same in Russia.

**Joyce Shen:** I think people have seen the value of blockchain and the type of infrastructure software that can effectively, efficiently and securely record processes for transactional level information and, at the

same time, using the distributed nature to be able to orchestrate complex workflows for peer-to-peer networks.

I think the value is proven in terms of the blockchain technology itself with respect to how it is different and what some of the implications are of the information that is recorded in real-time and the information that is only accessible to those using the blockchain environment that have private or public keys. If you look at the world of corporate finance tax reporting and so forth, you report tax retroactively. As this is prior activity, you have to gather that information and report specifics to that jurisdiction. Now, the information and data recorded on the private blockchain leaves the questions: how do you externalise the data from private blockchain information to the various functions that are required today to report into their compliance regulatory tax requirements?

I think the other area is user identity: private blockchain vs public blockchain. In a public blockchain space, I think we will ask the question: how will Bitcoin be taxed? That is the big question with respect to how to categorise Bitcoin as an asset, what kind of asset it is, and what is the user identity behind that transaction. In the private blockchain space, it is more a question about where does the ledger reside and how the regulator will determine which jurisdiction will apply to a virtual ledger.



Emerging technologies like blockchain are pathing the way for a digital future, which is changing the way businesses look at the world

## **Taxing virtual currencies: The tax challenges that blockchain presents to businesses**

**Amelia Schwanke:** The tax ramifications of blockchain seem to present a variety of problems that tax professionals have had to grapple with already. What are the core tax issues?

**David Deputy:** The first point that needs to be made is that we need to have transparency between the pace of technology and the pace of regulatory change. Technology is known exceptionally for its increasing speed and there are now 40,000 developers on Ethereum, so it is moving very fast. In comparison, the regulations were written years ago and there is a consensus that a multi-stakeholder process takes years to move forward with anything. We are right in the middle of the BEPS initiative, which is the global tax reorganisation that the OECD has initiated, so just look at the timeframe for that and you can get an idea of how slow regulation has moved. We have this disparity that has to be dealt with and it is showing itself in the digital currencies too. I think that is an interesting question, but we have accounting standards and tax standards so it is a classification issue of complexity but not really a foundational issue.

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## Blockchain could potentially mark the end of corporates needing tax advisers to file their tax returns

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I think the foundational issues are on the indirect side. This has the potential to be a system mediator – to be more of a foundation to how we think the whole system is set up. As Amelia said, it is making money smart. The potential exists but whether it is real or not remains to be seen, not only to compute the tax effect in business transactions in real-time at the point of transaction, but also to remit immediately by divvying up the cash flow through the micro-transaction capability of the digital currency. That being said, the recognition is the combination of technology and human behaviour.

If you look at the crypto-economic consensus model, which is implemented in both Bitcoin and Ethereum, you recognise that it is a lot about human behaviour. Also, it's economics – economic drive and crypto-economics. In other words, it is the utility versus the benefit and what is in it for each of the players. Often, that is framed in a security context today.

Blockchain is not a new technology. It is really a combination of a lot of existing technology, like gained theory and crypto-economics, which makes it interesting. When we take blockchain and combine it with big data and artificial intelligence it allows you to reimagine the way in which funds make the economy and how we keep track of that money. It may be more influential in the trust era to how that money is distributed.

**Michael Meisler:** You started spurring the question in the context that regulation is not keeping pace with the technology, and that is a fair point. However, I think that as tax professionals we faced new asset classes before and emerging technology before and in all cases we dealt with clients dealing with Bitcoins even before the IRS [US Internal Revenue Service] came out with its guidance. Interestingly, we pretty much came up with the same answer that the IRS guidance got to and it is easy to see when new technology comes out and when new asset classes emerge.

What we really need to do as tax professionals is link to the principles that we already have. If we can link to a bricks and mortar world in the past, we can deal with what we have today and wait for the need for evolution. If you look at Bitcoin, and in particular the conclusion in the US, it concluded that in the absence of better guidance Bitcoin effectively constitutes as property and once we categorise something as property we have a whole history of laws that tell us how to tax property. There are issues that arise from that, which once we establish a baseline for everyone to work with, can continue to evolve over time.

So, if Bitcoin is not seen as a currency for whatever the reason may be, it might just be that it's not broadly accepted enough from the IRS's perspective at this point. It could be that when you look at the legislative history to examine what it considers to be a currency we just have not crossed that threshold yet. If there is a need to bring it into a different category then, at some point, the regulation should eventually catch up with that.

When you look at the total value of the market cap, with Bitcoin being the largest cryptocurrency out there at this point, it is still relatively small in the grand scheme of things. Until we hit a point where the transactions that are involved rise to a level that more is necessary – as the technology will continue to evolve, as users and use cases will continue to evolve – I would expect that over time as the need arises the regulatory environment will evolve with that.

**Kseniya Osipova:** Bitcoin has had a difficult history here in Russia. It started when our state authorities took a hostile position and named Bitcoin an illegal activity. If you brought Bitcoins, or made a payment with them, it was considered an illegal activity and in Russia you are not allowed to collect tax from illegal activity. It was a grey area in the beginning, but last year in October the Russian tax service issued a letter that stated operations with Bitcoins and other cryptocurrencies are regarded as foreign currency operations. It was not a letter about taxation, but as Michael has just said, we can use the general principles and give our opinion on how to pay taxes from the ones that you have received in Bitcoins.

**Joyce Shen:** Thomson Reuters focus on institutional customers so we have not really done anything with Bitcoin specifically. But as Michael talked about, the IRS is categorising Bitcoin as a property, and if you contrast that with what China is doing – which we all know is where the miners are and where there are significant transactions, and given that it is a country with a lot of corruption people may use Bitcoin across the country for an activity. As such, you can understand that the Chinese government is taking a more proactive stand in exploring digital currencies as part of a national currency because they want to see the activity and the payments to form their own opinion from a central bank and tax authority

perspective on know-how to manage it. From a blockchain perspective, it is a technology that will support the workflow and improve the work we do today. However, it does have implications as to whether it is a regulator, a service provider, or a data provider, and if it is able to effectively extract information that is being recorded on a private information ledger and still feed into the existing reporting process. When I say 'existing reporting process', there are still requirements that companies must declare on their tax forms. It is just a question of how you extract information from an environment that potentially has new technology enabling it.

## **Developing, governing, and utilising distributor ledger technologies**

**Amelia Schwanke:** With virtual currencies not having any legal foundations, how can regulatory bodies govern it to utilise its capabilities?

**David Deputy:** The US sustainable development goals set forth an agenda for going from billions to trillions in aid. The G20 hangs down from it a communique that directed what they call a platform for cooperation on tax where the UN, the IMF, and the World Bank get together and do something about levelling the playing field for the developing economy. At the same time, they also directed the tax organisations to create a pro-growth tax policy, which they translated into certainty in cooperation with the business community through the business advisory council. You have two-sides to the coin: you have levelling the playing field (where you have trillions in developing the economy); and you have pro-growth tax policies (which are a developed economy issue). So the questions become: can this technology help in both of those realms? Can it help with growth, productivity, jobs, and so forth?

I am going to go from that high level down to where the action will happen in the next year and that is going to be in emerging economies like Africa, Latin America, and Central Asia. I think we will see a lot of innovation coming out of these small governments who are able to take a risk. They have the opportunity to leapfrog the pre-existing systems. Right now, you have criteria where you need an issue, as Joyce said, like a workflow issue, a multi-party agreement, or a consensus issue. Otherwise, there are other technologies that can do it better, cheaper, faster and are more proven. The transparency that this provides cannot be an issue and, it does not need to be official, but there needs to be an audit trail.

Over time, I think you are going to have the assumption that if it is on the blockchain, everyone is aware and gets a full copy of the data and that is the biggest impediment. Even if it is encrypted and you cannot see it, the fact that it exists is a concern. There is definitely a number of challenges, but I am confident that the action is going to be in the developing economies. Often, it is going to involve taking a risk because they have the opportunity to do so, but we are working with a lot of them to make sure that this technology not only helps but also helps them provide transparency to make sure that the money raised goes to the right place.

**Michael Meisler:** I think that a lot of this comes up a little premature. Countries are continuing to consider what the impact of this is on their economies and how big a problem this really is for them at this point. I think that until country-by-country regulators decide what the magnitude of the problem is for them and how it impacts their economy, we are going to be in a situation where the regulators are playing catch up. I do not have a vision of a regulatory regime coming ahead of understanding what the scope of the problem is for them.

I think at the core of what you are asking is, we would need to see a fundamental change in how taxes are calculated. If you look at the general compliance process beyond transaction-based taxes like VAT, payroll taxes, etc., you would look at how blockchain might revolutionise the tax compliance process for taxpayers. But there is still a lot of work to get from where we are today to that future state, and I don't know how you would then take into account losses that might occur along the way. There are many issues to deal with in terms of how to make that equitable for taxpayers and the government, but it would fundamentally change how we do things today. The bridge between where we are today and how you get there is the puzzle that we are going to be struggling with for the next five to 10 years.

**Kseniya Osipova:** The example with this idea of horizontal control is one of the key use cases for tax. For example, if we talk about electronic signatures today in Russia, we have infrastructures for special third party operators that give you these electronic signatures that you can use to sign the documents to give to the tax authorities. If we just remove this third party and give the ID, and use it with all our operations, we can track them in blockchain. It would have great potential for tax authorities so they would be able to see all the operations of the entity to understand the possible tax that they can collect. This has potential for tax simplification, but at this moment, I cannot give you a clearer picture. Initial coin offering is also a new blockchain-based instrument that enables one to purchase shares of companies.

This instrument is a challenge for current regulation but a great opportunity for companies and shareholders and it is a good example of how our economy may evolve and how consultants shall consider the new reality, change and adapt their services for it.

**Joyce Shen:** I think we have spoken about two things: one is the tax implications with respect to Bitcoin; and then tax compliance for blockchain-based enterprise systems in the intuitional world. I think in both cases, the regulators are actively involved in understanding both activities and architectures and structures of how the systems work and how people are using them today. I think there is recognition across the board of regulators that there are some fundamental values of blockchain as a technology. One is digitisation of assets, where understanding the properties that people own – especially in an emerging market where there is lack of transparency, lack of infrastructure, and prone to corruption. It is something that the government is looking to use to help them understand the reporting of tax. The second implication of the digitisation of assets that I think is related to tax is the sustainable goals from the UN. Blockchain is not a panacea for every single workflow and all kinds of data. It is specifically useful for transactional information and the components that make up a workflow. To enable this economic activity to happen, we will still require many existing activities – whether it is from a compliance, transparency, or internal risk management perspective.



The mechanisms that make up cryptocurrencies such as Bitcoin are now being explored by regulatory bodies to build a centralised framework

## Exciting times ahead for tax

The size and speed at which technologies are emerging continue to create a number of challenges, and those related to blockchain and cryptocurrencies will continue to provide thought-provoking discussions.

Fundamentally, blockchain is a manifestation of three things: crypto-economics, crypto-technology and crypto-politics. A collaborative effort between governments and private enterprises could provide the solution to regulate this decentralised structure in a way that will achieve global goals of greater transparency and resiliency across the markets. Eventually, the flexibility that blockchain and cryptocurrencies could bring to existing systems would allow money to become programmable and taxable in real time.

Looking ahead, the potential uses for these technologies in financial markets and the regulatory benefits surrounding it have the potential to revolutionise how governments and taxpayers conduct their business

and pay their taxes. It could potentially mark the end of corporates needing tax advisers to file their tax returns.