www.pwc.co.uk

How blockchain technology could improve the tax system

Experts in technology and tax from the private and public sectors come together to explore blockchain's potential

February 2017

pwc

Foreword

Blockchain technology – a distributed ledger that allows anything of value to be traded securely, transparently and without the risk of tampering – could be just what the world of tax is waiting for. It has the ability to deliver real-time, reliable information to a wide group of people, and create a system where both taxpayers and tax authorities have equal confidence in the veracity of the data collected. It could make it easier for people to pay tax and for governments to narrow the tax gap.

But it's a long road from theory to practice. At PwC we believe blockchain will have a significant impact on tax but it will also bring challenges, and the earlier discussions begin the better. For this reason we brought together experts from technology, government and the corporate world to discuss the implications. It's part of our Paying for Tomorrow programme on the future of tax.

The debate was fascinating and wide-ranging, and this paper pulls together the highlights.

So could blockchain narrow the tax gap and restore trust in the tax system? It would be naive to think it the silver bullet, but it would be a mistake to underestimate the potential impact.

The attributes of blockchain, such as providing provenance, traceability and transparency of transactions, match priorities for the modern tax system.

One thing's clear – unless the tax profession starts exploring the potential, there will be no potential. There is a risk no one takes responsibility for the exploration and experimentation that's required, or for understanding the wider implications for those of us working in tax of the adoption of blockchain in everyday use.

Recommendation

We would like to see a Government supported working group established to identify a few key areas for initial exploration and, potentially, controlled pilots. This isn't about solving everything at once, but making small steps which little by little could make a difference.

Mark Schofield
Global and UK Leader, tax reporting and strategy

There's a growing buzz of excitement around blockchain and its potential to transform business. But what could it do for the world of tax? We brought together some of the UK's leading blockchain experts with tax specialists from the private and public sector to explore the benefits.

Key conclusions

- While blockchain is not the cure all for the tax system, it could be applied in a number of areas to reduce the administrative burden and collect tax at a lower cost, helping to narrow the tax gap
- Blockchain could cut costs and add value within a business, between businesses, between businesses and consumers, and between businesses and governments
- There is a need for experimentation and courage to try different applications
- Possible usages for further discussion and exploration include:
  - Tracking where and when VAT has been paid, and in doing so reduce VAT fraud
  - Helping multinational companies provide a consistent data set for multiple tax authorities
  - Giving tax authorities and other regulators more confidence in the data supplied to them
  - Verifying judgements and assumptions involved in establishing the profit global businesses make in different jurisdictions
  - Giving more visibility to micro transactions such as those done by individuals as part of the sharing economy

The experts

Mark Schofield	Global and UK Leader for Tax Reporting and Strategy, PwC
John Steveni	UK Tax Digital leader, PwC
Patrick Spens	PwC's Blockchain leader and member of the Whitechapel Think Tank steering group
Anat Elhalal	Lead Technologist, Digital Catapult
Janine Juggins	SVP, Global Tax, Unilever
Chris McCandless	Tax Director, Barclays
Pierre Jansson	Head of Tax (EMEA), Huawei Technologies
Charlotte Hopwood	Policy Lead for Fintech, Shadow Banking and the Bank Levy, HMRC
Ian Broadhurst	Senior Policy Manager and Head of VAT International, HMRC
Dympna Kelly	Senior Policy Advisor, HMRC
Scott Huxford	Policy and Technical Advisor in Corporation Tax, International and Stamps, HMRC
Seamus Cushley	Fintech and Digital director at PwC and former VP at Bitnet Technologies
Teresa Owusu-Adjei	Financial Services Tax Partner, PwC
Justin Blackburn	Tax Reporting and Strategy partner, PwC

About blockchain

The potential benefits of blockchain to business are well-documented. Whereas the Internet revolutionised the way information is exchanged, blockchain is transforming the way we exchange value.

To exchange value digitally, such as currency or deeds, third parties are needed to establish trust. Blockchain removes this need for a middle man by providing a secure, distributed ledger of transactions in a network.

As well as tracing transactions and verifying information, blockchain can embed business logic into a transaction, through the use of smart contracts (computer code which automates the 'if this happens, then do that' element of written contracts).

Examples of blockchain in action including tracking diamonds through the supply-chain and timestamping clinical trials to create proof of existence.

Blockchain: The benefits

Blockchain's core attributes mean that it has significant potential for use in tax:

- Transparency – blockchain provides provenance, traceability and transparency of transactions
- Control – access to permissioned networks is restricted to identified users
- Security – the digital ledger cannot be altered or tampered with once the data is entered. Fraud is less likely and easier to spot
- Real-time information – when information is updated, it's updated for everyone in the network at the same time

Data and transparency

With demand for data increasing from tax authorities around the world, a key focus of the discussion was how blockchain could help organisations with the scale of data required.

The group agreed that an ongoing challenge for tax functions is accessing the full spectrum of information from across their business that could be relevant to tax. Organisations now have the ability to collect and collate enormous amounts of data but the tax function is rarely involved in that process. As a result, tax functions can be consulted too late on issues and decisions that have tax implications.

Blockchain could help address this problem as it allows information to be captured from many perspectives – information that's reliable because it's been verified by everyone using it.

"Blockchain could allow us to capture information from many perspectives. The result is more detail, more visibility, more useful information and more certainty"

As well as helping businesses to capture and share information – both internally and with outside parties such as suppliers – some participants questioned whether blockchain could assist tax authorities in exchanging information between jurisdictions.

Verifying transfer pricing

The technology experts in the room emphasised that blockchain suits transactions. With this in mind, the tax specialists felt that blockchain could be applied to transactional taxes, such as VAT, withholding tax, stamp duties and insurance premium taxes. They also questioned whether the technology could help with transfer pricing. For example, could it codify the judgments made when establishing how profits are attributed to different parts of a business? It was agreed there was nothing to stop this being done from a technology perspective.

Others questioned whether blockchain could help in the battle against double taxation – one panellist said if blockchain could make life easier on that point alone, they would happily embrace it.

Could blockchain transform tax entirely?

A point that the discussion returned to several times was the current state of the tax system, and whether the advent of blockchain was the catalyst needed to transform the system fundamentally.

Blockchain has emerged at a time when many in the tax world are thinking about whether the current tax system – which was designed for the days when physical goods were traded, bought and sold – is still fit for purpose in the modern, digital era.

The rise of the sharing economy, digital business and new business models have caused many people to think again about the tax system. Does it still make sense for tax authorities to collect tax as they always have done in the past? In a transaction-based world should the tax system adapt to follow suit? But where is value created, and how should it be taxed?

No-one pretends to have the answers to this – and as one participant pointed out, this is a question for tax policy rather than technology. Blockchain is a possible enabler – it's not a solution in itself. But there are exciting possibilities ahead. It was agreed that Blockchain could change the way that tax is collected – as one participant argued, the responsibility for collecting sales or income tax could, conceivably, shift entirely from tax authorities to participants in the sharing economy.

"Blockchain is a possible enabler – but it's not a solution in itself"

Blockchain, error and fraud

While a blockchain is tamperproof, the group recognised that this doesn't stop false information entering the blockchain at the start. But everyone agreed no system can prevent fraudulent behaviour entirely.

"If you put rubbish into the system, you'll get rubbish out"

However, blockchain makes fraud and errors far easier to detect because the system provides clear and transparent information about transactions and items in the network. Participants highlighted that this could be particularly useful in tracking if and where VAT has been paid, and in doing so reduce VAT fraud.

Blockchain could also help to drive behavioural change because of the risks and consequences of non-compliance. It's more likely that you'll be caught and forever excluded from the blockchain network.

The group emphasised that while the vast majority of tax payers are compliant, many do not understand their tax obligations, particularly micro businesses and individuals. It was felt blockchain could make compliance easier, and at the same time give tax authorities visibility of micro transactions.

In these ways, it is likely blockchain could help reduce the tax gap to some extent.

How close are we to a blockchain world?

While there was a healthy air of scepticism over blockchain, many at the discussion felt that the digitisation of tax was inevitable. Society demands personalisation, argued one participant, and eventually there will be demand for a more personal approach to tax. The youngest generation – the generation that has never used a chequebook – will lead the way, as will smaller companies who aren't held back by expensive legacy systems.

What does blockchain mean for tax authorities?

Blockchain is likely to be of value to tax authorities and to regulators because it provides accurate information that can be shared, and may allow earlier collection and oversight of transaction related taxes. However, one participant argued that we should be wary of automatically assuming that blockchain will add value to the tax world. A tax authority, for example, would need to obtain information from every taxpayer. Mandating digital data from say every VAT trader in the country, even those that don't own a computer and keep their receipts in a plastic bag, will be an enormous step.

"From a tax authority's point of view, nothing is more important than compliance when it comes to blockchain"

For this reason, blockchain's application to tax is likely be driven by what it can give to business and what business can do with the technology.

What's next for blockchain?

It's unlikely that tax is the main priority when businesses think about blockchain; the focus is blockchain's potential to reduce transactional costs – but if it also results in a more streamlined, efficient and effective tax function, that would be a significant bonus.

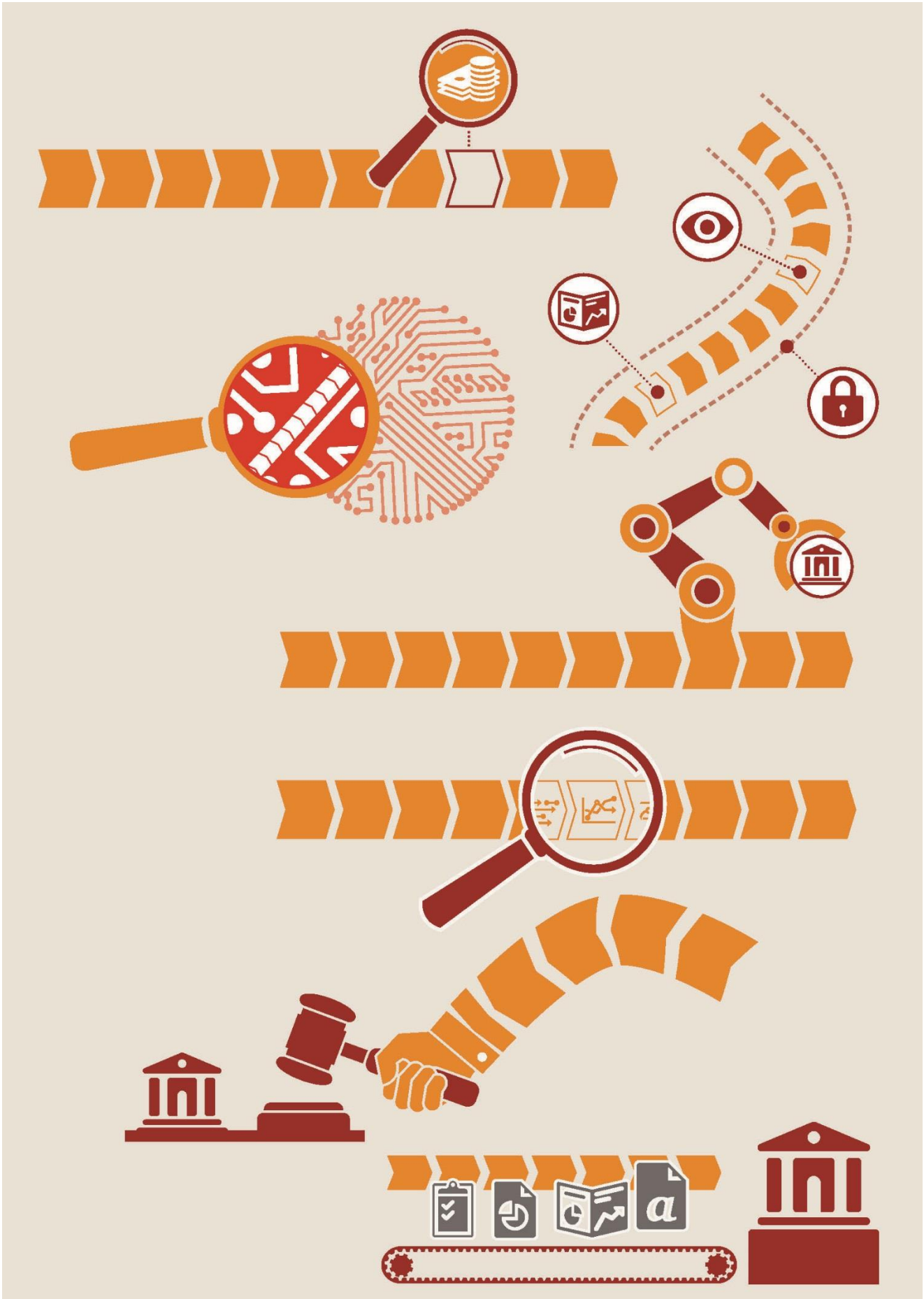
"We need to start small and look for the human problems that need to be solved"

It was felt the tax profession could learn important lessons from the FinTech sector. FinTechs are successful because they look for a problem that customers have, and then a way to solve it. Building an entirely new tax system around blockchain is not realistic – we need to start small and look for the human problems that need to be solved.

We're in the very early stages of understanding what blockchain can do for business, for consumers and for the world of tax. The panel recognised the need to learn and to experiment; we need to be comfortable in a world where we don't necessarily get everything right first time.

"There's a lot that blockchain can do – the big prize is a leap in productivity"

It's clear from our experience with clients so far and from this roundtable discussion that there's a lot that blockchain could do for the tax world. But it will be a very gradual revolution unless we put the time and effort into testing applications. Blockchain and tax are very compatible if people take the risks to see how.



This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. We accept no liability (including for negligence) to anyone else in connection with this document, and it may not be provided to anyone else.

© 2016 PricewaterhouseCoopers LLP. All rights reserved. In this document, “PwC” refers to the UK member firm, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details.

161205-171727-LL-OS