Whitepaper


# The Blockchain Paradox: Why Taxation Could be the Killer App

## As Financial Institutions Come on Board, Consumer Confidence in Cryptocurrencies Could Hit Critical Mass

IDG Communications, Inc.

**"Financial institutions realize that the networks that underlie the currencies "are pretty stable; they've never been hacked. The exchanges have been the weak point."**

— David Deputy, Director of Strategic Development and Emerging Markets

Cryptocurrencies are set to go mainstream and the tax man is rejoicing.

After a decade on the fringes, currencies based upon the blockchain protocol are beginning to gain support from major financial institutions and even government regulators. But unlike the open, unregulated and free-floating virtual currencies that that have dominated the landscape for the past decade, these branded and fixed value versions will be issued and protected by the world's most trusted financial and technology organizations. Governments hope they will also create a tax windfall.

Cryptocurrencies have long vexed regulators because transactions are anonymous, making taxes difficult to calculate or collect. The problem has become more serious as use of digital coins has grown. An estimated $1.3 trillion in transactions were conducted with bitcoin alone in 2018, but because there are no regulated intermediaries to collect transaction information, tax reporting is strictly voluntary.

## Change of Heart

For years, financial institutions vilified cryptocurrencies as risky and undependable but have now realized that there is opportunity in addressing those shortcomings. In the process of legitimizing this medium of exchange, they also stand to reap huge productivity benefits and avoid costs such as the $6.4 billion in credit card fraud-related losses financial institutions suffered in 2018.

The shift in attitude has been gathering steam.

+ The Federal Reserve Bank of Boston **published a paper** concluding that cryptocurrency "holds tremendous promise for anyone willing to test its limits."
+ Incoming European Central Bank President Christine Lagarde has advocated for state-backed cryptocurrencies and settlement tokens.
+ Major financial companies are investing in their own stable currencies, including JP Morgan with JPM Coin, and a consortium of large banks that are participating in the Utility Settlement Coin project.
+ Facebook's Libra currency could quickly put digital coins in the hands of more than 2 billion of the social network's members.
+ The International Monetary Fund **recently asserted** that stablecoins, which are a form of cryptocurrency pegged to stable assets, "could bring significant benefits to customers and society: improved efficiency, greater competition, broader financial inclusion, and more innovation."
+ A G7 report investigating the impact of global stablecoins noted they might be more capable of serving as a means of payment and store of value, and they could potentially contribute to the development of global payment arrangements that are faster, cheaper and more inclusive than present arrangements.

Many of the problems that plagued early cryptocurrencies, including theft, failures of the quasi-banks called exchanges, and unpredictable performance, have subsided. Financial institutions realize that the networks that underlie the currencies "are pretty stable; they've never been hacked," says David Deputy, Director of Strategic

Development & Emerging Markets at Vertex, Inc. "The exchanges have been the weak point."

Anyone can set up a cryptocurrency exchange; that's part of the problem. Regulations are spotty or even nonexistent in some countries, a fact that has contributed to dozens of exchange failures over the past eight years. However, that number is declining as dozens of investment-backed startups have attracted more than $1 billion in funding to bring stability to the market. The entry of leading financial institutions could give consumers the confidence that will enable cryptocurrencies to finally flourish.

Those institutions will get plenty of support from tax authorities. In fact, some governments may even make programmatic taxation a precondition for approval of the new breed of stablecoins. This development is somewhat ironic because many early adopters flocked to cryptocurrencies to avoid paying taxes. There will still be options available for them, but established businesses are likely to prefer the security of stable and branded currency.

"You will be able to execute transactions with compliance built in or choose not to be compliant and take on more risk," Deputy says. "The second option will be cheaper but riskier."

Global Debt
**$60 TRILLION**

Global Under-collected Taxes*
**$4 TRILLION**

*Estimated

U.S. Tax Gap
**$500 BILLION**

## Mounting Debt Crisis

Macroeconomic factors favor broader adoption of cryptocurrencies. In short, the world is in a debt crisis. Global debt is nearing $60 trillion and sources of capital are drying up. Central banks in the European Union, Sweden, Denmark, Switzerland and Japan have all experimented with 0% or even negative interest rates to stimulate their economies, and the U.S. Federal Reserve has been under pressure to do the same. Some $15 trillion of government bonds—a quarter of the market—now trade at a negative yield, **according to Deutsche Bank**. That number nearly tripled between October 2018 and August 2019.

Negative interest rates may sound good to consumers, but they create a long-term problem: There's little incentive to lend. Once the stimulus of low interest rates is used up, "there's not a lot of room left to issue debt," Deputy says, "Taxes are going to go up."

Governments have long struggled to collect the taxes that are due to them. **The tax gap**, or the difference between taxes owed and taxes collected, stands at more than $500 billion for the U.S. Internal Revenue Service alone. Some estimates place the global amount of under-collected taxes at $4 trillion.[1] Tax-enabled cryptocurrencies could provide a major boost to collection efforts.

## Enter Blockchain

Cryptocurrencies are based on blockchain, a highly secure open-source software technology that enables trusted transactions to be conducted instantaneously between anonymous parties. Blockchain can do much more than just enable payments. It can be used to verify the authenticity of documents, track supply chain history, store and trade reward tokens, and administer virtual contracts, among other things.

Blockchain is also programmable; a transaction can trigger database updates, email confirmations, reports, and additional transactions. That last capability is what has tax authorities so interested.

Despite years of automated improvements, tax reporting and reconciliation is still an arduous and people-intensive process. Regulations change every year and government mandates often aren't standardized. Tax professionals must cope with a variety of formats, interfaces, timelines, criteria, definitions, and dispute procedures, often across a multitude of systems and shared service centers. Data protection is also a concern in a world in which data moves seamlessly across public clouds.

Given all this complexity, it's understandable that tax authorities look with envy at credit card companies, which automatically extract fees from the transactions they process. Cryptocurrencies could enable governments to do the same thing.

**Many experts believe that virtual currencies' potential to close the tax gap and impact the debt crisis is significant. About 2 billion people—or one-quarter of the Earth's population—have no bank accounts.**

## Transparent Payments

Blockchain-based currency could be programmed to generate tax reports and even direct payments to tax authorities. The amounts and types of reports could be programmatically adjusted to the type of transaction, type of tax, local tax laws and other variables. Payments could even be automatically logged in the payer's tax records.

Many experts believe that virtual currencies' potential to close the tax gap and impact the debt crisis is significant. About 2 billion people—or one-quarter of the Earth's population—have no bank accounts. Most rely entirely on cash transactions, which are difficult to track and inherently risky. Cryptocurrencies can offer protection and convenience in exchange for automated tax payments.

The first transactions to be taxed will probably be in the realm of e-commerce. Online purchases are now already taxed in most countries, so the speed, anonymity and auditability of cryptocurrency transactions will benefit both buyers and sellers with little impact on their wallets. Meanwhile, governments will be able to get to get their cut of each transaction—without delay.

The biggest beneficiaries of these new digital coins will be law-abiding citizens who want to pay what they owe. While corporations are sometimes perceived as failing to pay their share, "assuming it's true, it's a drop in the bucket," Deputy says. "Consumer transaction taxes are far larger." For example, most member countries of the European Union charge value-added taxes of more than 20% (and some as high as 27%).

Compliant cryptocurrencies will enable governments to recoup billions or even trillions of dollars now lost due to underreporting and fraud. Improving tax collection efficiency could enable these countries to freeze or even lower tax rates while paying down debt and stimulating the economy.

## Business Appeal

Businesses will have some of the strongest incentives to adopt government or private authorized cryptocurrencies for commerce.

+ U.S. businesses alone **spent $147 billion** on tax compliance in 2016, the most recent year for which figures are available. Automated tax collection could save significantly on paperwork and reduce the workforce needed for tax calculation and payments.
+ Companies in regulated industries can program reporting into transactions to provide immediate certainty of compliance, thereby reducing risk and regulatory overhead.
+ Overall costs will be reduced by removing intermediaries like banks, credit agencies, and payment processors from transactions.
+ Supply chains will gain efficiency, visibility and liquidity, since blockchain transactions can track and verify ownership from the raw materials stage through to delivery of finished products. **Trust Your Supplier** is an example of a consortium that is doing this. It uses blockchain to all but eliminate errors, duplication and fraud while cutting onboard times for new suppliers by up to 80%.
+ Payments will be faster, more automated, and more compliant.
+ Fraud costs can be all but eliminated.
+ Organizations can benefit from the anonymity of blockchain-based transactions while retaining the security of working with trusted financial institutions.

Industry consortia are already working to bring the security and reliability of traditional payments systems to virtual currency. One example is the Sovrin Alliance, a partnership of technology, fintech, and digital currency firms that has launched a dedicated **Compliance and Payments Task Force** to develop a "specialized governance framework for digital value exchange that incorporates the same risk and regulatory safeguards for secure payments as those required of traditional financial institutions." Many other standards groups are working to enhance the stability and robustness of the blockchain.

## Peaceful Coexistence

As noted earlier, compliant blockchains will complement—but not replace—unregulated blockchains. Regulated blockchains will be costlier but safer. With a market opportunity estimated in the trillions of dollars, both can flourish. "We'll be in a hybrid world for a while with all kinds of payment mechanisms," Deputy says.

The arrival of safe, convenient and compliant cryptocurrencies should accelerate adoption by reducing both consumer and business uncertainty. Deputy expects acceptance will move forward two to three times as fast as the commercial internet did in its early days. "The pace is going to surprise people," he says.

Regardless of their adoption plans, business owners and tax professionals need to become familiar with the mechanics of cryptocurrencies. Vertex, Inc. pioneered transaction tax technology and is helping its more than 4,500 customers navigate the transition.

To keep up on to date on the latest news and analysis, visit **Vertex's technology blogs.**

To explore solutions, engage with **Vertex Innovation Labs.**

## End Notes

1. Global Estimates based upon research paper "Tax Gap in the Global Economy" by Konrad Raczkowskiand Bogdan Mróz, which covers 35 countries. Figures then extrapolated to globe and grossed upon from 2015 to 2017 GDP.

### About Vertex

**Vertex Inc.** is a leading tax technology provider that connects great people and partners to deliver the world's most trusted tax solutions for businesses to transact, comply and grow with confidence. Vertex provides cloud-based and on-premise solutions that can be tailored to specific industries for every major line of indirect tax, including sales and consumer use, value added and payroll. Headquartered in Pennsylvania, and with offices worldwide, Vertex is a privately held company that employs over 1,000 professionals and serves companies across the globe.

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