

Baxter Hines

# Digital Finance



SECURITY TOKENS AND UNLOCKING  
THE REAL POTENTIAL OF BLOCKCHAIN

WILEY



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*Security Tokens and Unlocking the  
Real Potential of Blockchain*

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*For my parents, Anne and Bob Hines*



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The genesis of this book came from my deep belief that digital technologies and the blockchain will profoundly impact the financial industry. My experiences in financial technology, research, and investments led me to conclude that a truly revolutionary event was unfolding and its repercussions would have impacts lasting many years into the future. I knew the changes that would eventually come about were multifaceted, complex, and would require the participation of many outstanding people, organizations, and companies. As a result, I would have to draw not only from my own personal experience but also from the guidance and assistance of others to compile what was necessary to make this project a success. The entirety of this work has truly been a team effort.

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# PREFACE

This is an incredibly exciting moment to be involved in finance. There are more and more signs that digitization will transform the traditional investment business model that exists today into a more modern, fair, transparent, and distributed marketplace. This new paradigm will connect investors directly with opportunities via blockchain-based platforms. Just recently, the first regulated security tokens have gone to market. Regulatory certainty has begun to arrive and technology is matching what is needed for this digital future.

Given the significance of this moment, I took a step back to take stock in how I personally got to where I am. My investment background comes from a deeply conservative point of view. During the first portion of my career, I worked in analyst positions at a conventional brokerage house and then at a retirement system for public school teachers. Afterwards, I spent over a decade as a portfolio manager at a firm whose discipline was always to buy blue-chip dividend-paying stocks. So at first, the idea of “crypto” assets and blockchain tokens seemed foreign and frankly, outright crazy. After first hearing about Bitcoin in early 2011, I cannot recall whether I thought it was a scam or a fad – but I likely thought it was both! Like so many others, I was not on the ground floor of Ethereum or any of the Alt-coins. Despite all this, I found myself fascinated with the technology underlying these new manias and how innovative people continued to take it to another level.

After adopting a much deeper understanding of how the technology works and what it could do, I came to realize the blockchain was so much more than simply Bitcoin – and that blockchain technology was not simply going away. It was clear to me that this technological revolution was only going to get bigger and eventually play a major role in the future of the economy, and finance in particular.

Since its origins in 2009, blockchain technology has been somewhat of a roller-coaster. It is important to recognize, though, that this next step of tokenization is not scary, but rather a process with enormous benefits.

In writing this book, I have kept three major points in mind that I feel will help others come to that realization:

First, we tend not to see the forest for the trees when it comes to this emerging space. Everyone has heard about some problem that has come about since the advent of blockchain: the hacking of Mt. Gox and the subsequent theft of millions of dollars of Bitcoins, the role of cryptocurrency in the drug trade that functioned

over the website Silk Road, or the use of cryptocurrencies to prop up dictators in North Korea or Venezuela, to name a few. It would be unwise, however, to allow these headline-grabbing occurrences to warp our view of the broader picture.

Throughout history, mishaps and unfortunate events tend to happen when new frontiers open up in the world of finance. We're all familiar with the stories of how Willie Sutton, Bonnie and Clyde, or "Public Enemy #1" John Dillinger terrified the country, targeting insecure banks with their robbing sprees. It actually wasn't too long ago when no one in his or her right mind would have given out a credit card number over the internet to make a purchase. I could go on and on listing similar examples from the past.

Many issues affecting blockchain are getting sorted out as the technology matures, just as would be the case in any emerging technology or advancement. As higher standards are applied and as the market embraces regulatory compliance, so too will the public begin to embrace and trust blockchain. There is no doubt that our current financial system is anything but perfect. Name-brand banks are constantly in the news due to involvement in money-laundering scandals. Financial services firms are frequently bested by cybercriminals who hack user information. The last time I checked, the paper dollars and euros in our system are used in the trade of all kinds of illicit activities! In other words, let's not lose perspective, focus on a few bad apples, and forget all the positive attributes and additions to the financial infrastructure which blockchain technology will provide.

Second, blockchain's complexities cause many to give up in trying to wrap their minds around its many facets. They throw the whole concept into the same category as "rocket science" and are waiting for a more concise explanation of how it works. Albert Einstein said, "Everything should be made as simple as possible, but not simpler" and that "If you can't explain something simply, you don't understand it well enough." My goal in writing this book is to help boil the key concepts down to the essentials and not get bogged down in the details.

Third, people become discouraged when they hear that the once-promised "next big thing" in blockchain gets leap frogged by the "new, next big thing." The pace of development is incredible with almost daily stories of exciting, breakthrough improvements. Some of the best minds from both Wall Street and Silicon Valley are now focused on making the most out of this new technology and the opportunities it presents. That is one thing that won't change.

I'll be the first to tell you I don't have a crystal ball. It is difficult to keep up with the ever-changing environment of technology, cost, and regulation in this market. If I had tried to write out a game-plan predicting how this industry would unfold, then this book would be out of date before its publication.

Instead, my objective is to provide a framework for the potential of what blockchain and security tokens can do within the financial industry. It also will give the reader an understanding of what factors and attributes to look for in determining which projects are most likely to thrive in this new environment.

It seems inevitable that one day all investable assets will be tokenized and that we will see an unbelievable amount of wealth transferred onto the blockchain. There will likely be a time when security tokens are globally traded, and in theory, anyone who has an internet connection and is within the regulatory limits will be able to access and exchange them. This will result in capital market access being democratized, not only for large institutions or the wealthiest classes, but for any investor around the world. One of the most exciting parts about all of this is that everyone can get involved!

Baxter Hines  
April 2020



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# INTRODUCTION

- Blockchain will spearhead the next generation of financial market infrastructure.
- Security tokens are a digitized form of traditional ownership certificates.
- Blockchain and security tokens will disrupt the investment industry by providing cheaper and faster financial market solutions.

## Opening Remarks – The Big Picture

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Our financial system is on the verge of a massive transformation. The current infrastructure involves complex webs of services, exchanges, and institutions intended to provide an efficient, steady linkage between market participants. Under today's regime, centralization has been the most effective way to trust that all transactions – and the system as a whole – will function reliably and properly. Large organizations, whether they be central banks, multinational brokerage houses, or other financial intermediaries, control the gateways through which money flows around the world; society allows this because these firms have the size, brands, products, and personnel we deem trustworthy. But there is a heavy toll exacted in exchange for a thin veil of confidence afforded by these old-school methods of accounting and verification. This approach is bloated and bogged down by antiquated designs, inadequate integration, bureaucratic stall, and the human tendency to stick with the familiar. The architecture is inadequate for today's needs and inhibits the optimal functioning of a modern globalized economy. A major overhaul to improve efficiencies and drive down costs is long overdue.

Blockchain technology is the solution to spearhead the next generation of financial market infrastructure. Blockchain solves the problem of how to transfer value and information without having to rely on a single thirdparty. Blockchain uses mathematical laws, accounting principles, and governance mechanisms to ensure trust and transparency unparalleled to what our current systems provide today. Cryptocurrencies like Bitcoin introduced the world to blockchain technology and showed how it has the potential to create a reliable, immutable, and auditable system of payments that do not require intermediaries. Cryptocurrency was just the first step and paved the way for the upcoming digital transformation.

Security tokens are the next milestone for the financial markets. In simple terms, security tokens offer investors a digitized form of a traditional ownership certificate, providing title of a regulated financial instrument combined with the agility and speed of blockchain. But there is so much more that security tokens can provide other than just proving ownership of title. The “digital wrapper” creates huge excitement because it will power a new era with widespread ramifications and possibilities for both investors and issuers globally. Not only will security tokens allow both old and new players to offer creative and original products and services but they will also bring about the cost savings and efficiencies made possible by digitization. Through process integration and superior design, security tokens will facilitate greater and wider access to new investor bases and new geographies that would otherwise be difficult to achieve.

The tokenization of securities is still in its early years of both development and adoption – mainly due to the complexities and uncertainties around regulatory compliance. Indeed, the transition to tokenization will not be easy. Security tokens are far more complicated than that of the cryptocurrencies on the market today. As a result, they will require more sophisticated applications for their creation, trading, and maintaining. Leading-edge technology companies are racing to build a new interconnected financial infrastructure on top of the blockchain to ensure tokens are safe, compliant, and more cost effective than the paper alternatives we deal in today. Regulatory bodies are watching closely and will move cautiously on what they allow – and the speed at which they move – so as to safeguard the public’s interests.

The digitization of finance and security tokens is showing an incredible amount of promise. There are conceivably hundreds of trillions of dollars of assets worldwide whose value could be transformed and unlocked by the blockchain. The financial industry now has the products, the leadership, the systems, and the vision needed to make this potential a reality. Many stakeholders realize that there is something very big starting to unfold. Thought leaders and financial entrepreneurs are coming to accept that most assets can be digitized. Soon, the trading and ownership of digital assets will explode, and adoption will take hold. The ability to alter the liquidity, integrity, and cost effectiveness of a security will be the driving forces of this trend. The future and its potential are massive, and the growth will take place over many, many years.

The world is moving in a direction where blockchain will have a significant impact on how the markets interact. Players in the industry will need to have a broad comprehension of how the technology works, what it can affect, and what consequences it may have on business. The purpose of this book is to explain these concepts in a way for everyone to understand. Given that blockchain and security tokens have so much to offer, one of the biggest ironies is that education of the general public may very well be the greatest hurdle to going mainstream. Hopefully by the time you finish this book, you can safely say you have made it past that obstacle.

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## Disruption of Investment Industry

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“The biggest opportunity set we can think of over the next decade.”

Bob Grifeld, former CEO NASDAQ, discussing blockchain’s potential<sup>1</sup>

So if blockchain and security tokens are so much better, cheaper, and faster than what we deal with today, does this mean “out with the old and in with the new?” Not exactly. This new way of doing things may not immediately replace lines of business currently seen in the financial space but will more likely provide powerful tools to help the overall industry grow and become more efficient. In short, the new technology will force change so that current systems must evolve.

Today, technology companies are rebuilding the financial infrastructure on top of here the blockchain, thereby creating a more efficient and interconnected financial fabric. This has led to the removal of many financial institutions from investment transactions in a way that is generally advantageous to investors and issuers. In the near future, there will likely be widespread attempts at disintermediation in which new companies and offerings will seek to disrupt the status quo by replacing the facilitators involved in many traditional business transactions with blockchain applications and services. These new ways of doing things are likely to usurp, disrupt and overtake the legacy competition.

Very much like the way the internet changed the financial services industry in the late 1990s, digital solutions will create new sales opportunities, new capabilities and new markets to tap. This innovative method of doing things will likely lead to cheaper, faster, and likely safer outcomes. Many of the services provided today will be very similar in their outcomes but will just be made better. Take the example of how the internet changed the way we buy an airplane ticket. Back in the day, if you wanted to travel from Washington, D.C to Berlin, you would contact your local travel agent and she would contact the appropriate airlines, search prices and get back to you with options. The tickets you bought would eventually be mailed to you. Today of course, you simply visit the website of an airline or go to an online travel booking site to do this. The internet merely made improvements – albeit significant improvements – to the old system. It created a faster and cheaper way of conducting business as usual. Likewise, as the internet opened up whole new realms of possibility, so too will blockchain.

Through the use of blockchain, security tokens are creating huge excitement because they can combine the best of the latest technologies with all of the investor protections and regulations that we find in traditional securities today. To cite just a few things that will be enhanced:

- Soon you may be able to move digital securities around the world 24 hours a day, seven days a week.

- Compliance systems will be embedded into securities and automated such that people can trade from jurisdiction to jurisdiction, without fear of running afoul of local regulators.
- Companies will be able to communicate with their investors all at once with just a click of a button. Corporate actions such as dividend payments, proxy voting, and rights offerings will be sent from the issuer directly to the investor.
- Investors will be able to trade in lucrative, often established, opportunities that lack liquidity today. For example, venture capital and private equity investments are often unavailable because of their lack of tradability and need for large ticket size. Security tokens offer avenues to alter that investor profile.

### How Blockchain Will Disrupt the Financial Industry



While the removal of intermediaries and the automation of processes will generally be seen as advantageous to the economy and society as a whole, those who control the financial markets and their gateways will not go away quietly. Anyone who has been in business long enough knows the difficulty of disrupting the status quo. There are many entrenched constituencies who have strong incentives to resist change. Big businesses will scramble to keep things going their way. Regulators and legislators will look to ensure proper measures are in place to reduce risks and disruptions as the groundwork for blockchain is being implemented. As I discuss later in this book, it is essential to have guidance from both lawmakers and the large, most respected entities in the industry. Yet changes are coming and the technology isn't going away. As a result, initial resistance will be more of a speedbump than a barrier in seeing these possibilities unfold.