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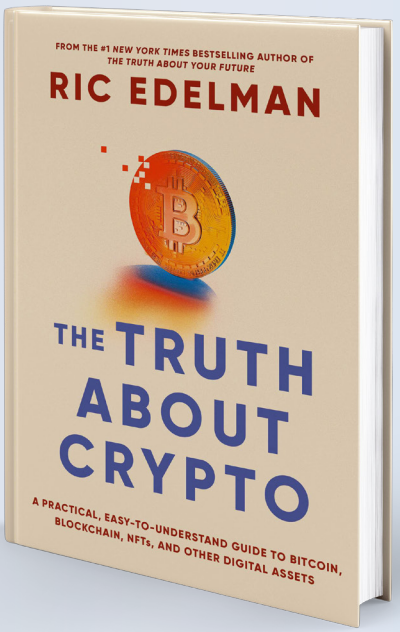

The Truth About Crypto

A Practical, Easy-to-Understand Guide to Bitcoin, Blockchain, NFTs, and Other Digital Assets

By Ric Edelman

Ric Edelman, a New York Times best-selling author, has been providing financial advice to the public for 30 years and is a well-known, successful financial advisor. His television series, The Truth About Money with Ric Edelman, airs on Public Television stations across the country and his syndicated radio program can be heard from coast to coast.

The Newest Frontier in Investment Strategy

John Oliver, in 2018, described cryptocurrency as "everything you don't understand about money combined with everything you don't understand about computers." While many believe that cryptocurrency will revolutionize commerce, many are unsure of what it is. According to Ric Edelman in ***The Truth About Crypto***, the more someone understands about finance, the likelier it is that they will have difficulty understanding cryptocurrency. Nevertheless, more than 90% of the world's banks are developing cryptocurrency and jobs in the field are growing exponentially.

To understand blockchain technology, it is important to understand ledgers. As Edelman explains, a ledger is used by people and businesses to record deposits and withdrawals. This forms the basis of a trust company where people are forced to trust that what they are told is true in order to participate. We live in a trust economy and use what is called a fiat currency. A blockchain, on the other hand, is a ledger in which all people can access the information at the same time, and no person can edit or delete it. This distributed record forms the basis of an authentication economy because all information can be authenticated instantly. No trust is required. This eliminates many middle men including trust attorneys and stock brokers, saving individuals and corporations thousands to millions of dollars.

In short, a block is like a single block or cell in an Excel spreadsheet. When the blocks are linked, they are called a block chain. If a block chain is used, buying a house could be near instantaneous if one block contains an individual's information, another contains the deed to the house, and the third contains the buyer's information. Besides the cost and time savings, block chains provide many benefits to individuals and businesses. According to Edelman, perhaps the greatest benefit of block chains is to those people who do not have bank accounts. Cryptocurrency can help them establish credit and receive and send money. Because of this, it is very beneficial for reducing poverty especially in places with less trustworthy banking systems.

How Do Blockchains Work

In a blockchain, any piece of data from a long document to a bank record is converted to a hash. The hash is "a string of computer code that represents the data." If any of the code is changed, it creates a new hash that is then linked to the original.

The links together constitute what is called the single source of truth. These links are both "secure and unbreakable."

Edelman compares a digital signature for a blockchain to the key to a car. It consists of both a private key and a public key. The private key is given to each individual user, and without it, a person cannot access their digital assets. This is not shared with anyone. A digital signature can be compared to an email account where the private key is the login credentials and the public key is the email address.

Since there is no single Bitcoin ledger, the ledger is distributed across all the nodes, or computers, on the network. Data on the nodes needs to be authenticated. People who authenticate data on the network earn a block reward. This block reward is paid in bitcoins. There is fierce competition for these bitcoins.

Edelman discusses two ways to authenticate data. The first is mining. Mining refers to the complex math equations required to decipher a block. This is also called proof of work. The second method is called Proof of Stake. With this system, people purchase coins, and each coin is like an entry in a raffle. The winner of a particular raffle wins the block reward.

Edelman then discusses the three ways digital assets can be stored. The first is in a hot wallet. This wallet is connected to the internet and could potentially be hacked. The second option is a cold wallet. This is essentially an encrypted flash drive where the wallet is stored. The downfall is that it can be time consuming to transfer coins in a cold wallet to a hot wallet where they can be used. A third option is a warm wallet. In this case, assets are kept in a hot wallet but can only be used per instructions by the owner. Finally, a person could purchase a fund rather than individual assets.

Different Types of Protocols

There are many different blockchains and blockchain currencies. Perhaps the most well known one is the Bitcoin computer network and the bitcoin asset which works on it. Some of these are valuable and worthwhile, and others are mere gimmicks according to Edelman. There are different ways to classify these protocols, but Edelman breaks them up into four different categories, describing each.

Base Layer Protocols: Developers create protocols, coins, and blockchains. In a simple analogy, a blockchain is a highway, the coins or tokens are the cars, and the protocol is the set of rules that govern the whole system.

Second Layer Protocols: Developers want to decentralize systems while adding security and scalability. One way they do this is by adding second layer protocols onto existing Base Layer Protocols. In this manner, "the base layer provides security and decentralization, while the secondary level provides speed and scale."

Financial Products and Services: These are built on top of base layer and second layer protocols.

Non financial Products and Services: These two are built on base and secondary layer protocols and serve the needs of groups such as UNICEF and the World Food Programme.

Money, Currency, and Tokens

Edelman begins this section describing both money and currency and exploring whether digital assets qualify as either. Money has three qualities: store of value (maintains value over time,) unit of account (can be used to describe the value of things,) and medium of exchange ("facilitates the exchange of goods and services".) According to these criteria, bitcoin is money.

Edelman says, "currency is the physical representation of money." According to most of the criteria, bitcoin is currency as it is durable (survives repeated use,) portable, divisible, uniform, and has a limited supply. Currency also has to have acceptability meaning that most people accept it in exchange for goods and services. Many but not all places accept bitcoin, so there is debate over its acceptability. As such, people have to decide for themselves whether they consider bitcoin currency.

He then moves on to discuss tokens. "Tokens are small digital representations of something intangible." An example of a token is the token subway users used to use to ride the train. There are multiple different types of tokens available:

Utility Tokens: A start up company may earn money to create their products by selling tokens. These tokens represent a promise of a product once the product is manufactured. The risk is that the company could fold and no product will ever be made.

Security Tokens: These are "an online representation of a real, physical asset." An example of this can be found in the real estate market. Since real estate is so expensive and illiquid, an owner of a building can sell tokens which each represent a share of the property. This could be done by owners of billion dollar office buildings as well as individual homeowners.

Governance Tokens: With governance tokens, people have a say in a blockchain. One token could equal one vote in key decisions.

Non-Fungible Tokens (NFTs): A dollar bill is fungible because one dollar bill is equal to any other dollar bill. Non-Fungible Tokens are not interchangeable. There are many examples of non-fungible tokens. Sports leagues have created trading cards; art has sold digital copies, and video games have created avatars.

Value of Bitcoin

Experts disagree over the value of bitcoin. Edelman asserts that bitcoin may have no intrinsic value, but that does not mean that it does not have a price. It is easy to find financially successful people who do not value bitcoin and who insist on staying away from it. Much of this is because they are basing their decisions on factors that do not apply to bitcoin because bitcoin does not have any revenues.

To determine the value of bitcoin, according to Edelman, we

> . . . bitcoin may have no intrinsic value, but that does not mean that it does not have a price."

have to look to other methods. One method attempts to determine how effective it is as money; another evaluates it based upon how fast it can switch hands, and a third values it based upon the number of users in a network. Dozens of more methods exist.

Some may question whether it is too late to purchase bitcoin. Afterall, its price has already risen 87,000,000%. Edelman addresses this concern stating that clearly this is not replicable, but it is still able to rise significantly. That does not mean there are no risks involved. Edelman asserts that digital assets could fail for any number of reasons including market manipulation, business or commercial failure of a product in the marketplace, technological obsolescence if newer and better technology is created, a decrease in consumer/inventory demand, regulatory intervention, advances in quantum computing that could allow the networks to be breached, rogue custodians who do not protect assets, lost passwords, compromised wallets, hijacked SIM cards, typos that accidentally get rid of all acquired assets, as well as everyday scams.

Edelman begins his section on investments discussing Modern Portfolio Theory. According to this theory, adding a non correlated risky asset to a primary risky asset in a portfolio reduces the overall risk. Likewise, adding a third even riskier asset that is not correlated to the other two can reduce the overall risk at a particular time but improve its overall returns. Bitcoin is risky and not very closely correlated with other more traditional investments. As such, Edelman says, "adding digital assets to your portfolio can help you obtain higher returns while actually lowering your investment risk."

Traditionally, assets could be divided between cash, stocks, bonds, and real estate. Digital assets now make up a fifth category. Edelman states that with stocks, a large investment (60%-100%) is needed to make it worth it. Digital assets are so risky, however, that a small percentage is optimal. The percentage is determined by both a person's knowledge of digital assets and their level of risk, but 1% is sufficient for growth. A 2018 Yale study suggests that even if an investor predicts "bitcoin will outperform other asset classes by 100% a year, you should invest only 6.1% of your portfolio in bitcoin."

Once an investor purchases digital assets, they must determine how to manage them. As with more traditional investments, Edelman does not recommend market timing (buying and selling in the short term depending on prices.) A longer term investment yields better results. If a person wants to minimize the risk of investing all their money in one day, he explains the benefits of dollar cost averaging, or taking the total amount to be invested and investing it at regular intervals instead of all at one time. Edelman reminds investors that it is important to occasionally rebalance assets to ensure that the percentages remain the same.

Regulating, Taxation, and Compliance

There are four major issues when it comes to regulating digital assets. Edelman lists these as jurisdiction, terminology, anonymity, and dispute resolution. Regulators have to devise answers to these issues. There are three different approaches countries take. Encouraging countries allow digital assets to flourish; permissive countries refrain from interfering too much until they figure out what to do, and strict countries ban certain assets or are hostile to people who own such assets.

Digital assets are property. Edelman says, "[l]ong-standing tax principles involving property apply to this new asset class." The IRS has increased its enforcement efforts. There are three stages of the digital access ownership life cycle. These are purchasing, holding, and disposing. The rules governing taxes are determined by multiple different factors, and the laws change, so Edelman reminds the reader that it is important for any investor to know the applicable tax laws for their transactions. Investors need to keep detailed records and remember that rules do not always apply to digital assets in the same ways they do to other assets. Rules do apply, however.

There is a lot to learn about cryptocurrency in regards to what it is, how to purchase it, how to determine its tax rate, and how to regulate it. Ric Edelman's book provides a basic introduction for the interested investor. In addition to the overview, the book also contains numerous tables listing options and resources to help the reader make wise decisions in regards to whether and how to invest their money in digital assets. Because laws and options are constantly changing, it is important for investors to seek the most up to date information and to find trusted professionals to help them.

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