

## Bitcoin – what's behind the hype?

Many investors are just as fascinated as they are confused by cryptocurrencies. Thus, the first part of this study provides a reasonably understandable introduction to the complex topic of Bitcoin & Co, in which we focus mainly on questions of relevance to investors. In the second part, we take a closer look at the world of cryptocurrencies for those who would like more in-depth insight into the subject matter.

Due to their enormous price gains in the recent past, cryptocurrencies – above all, Bitcoin – are currently being touted as the monetary equivalent of the Holy Grail. But what is Bitcoin, and how does the frequently mentioned "blockchain" work? Should investors get involved in this comparatively young asset class, and what are the related risks?

### A brief retrospective

The history of Bitcoin is shrouded in mystery. On 31 October 2008, shortly after the collapse of investment bank Lehman Brothers, an e-mail sent to a list of cryptologists includes an attachment: a policy paper entitled "Bitcoin: A Peer-to-Peer Electronic Cash System". The nine-page document describes the technical and economic fundamentals of today's Bitcoin and is considered the progenitor of today's cryptocurrencies. The author, under the pseudonym Satoshi Nakamoto (which has yet to be attributed to any specific person), criticises the fact that paper money is based on trust and middlemen. He pleads the case for an electronic currency that is based on cryptological evidence and does not require intermediaries (such as banks or custodians).

The idea is taken up by numerous enthusiastic programmers and a small Bitcoin community ensues. At the beginning of 2009, the first Bitcoin is exchanged and in February 2010 the first Bitcoin exchange goes online. In May 2011, the price of Bitcoin – fuelled by the first media reports – climbs to roughly USD 6.00. In 2013, the first Bitcoin ATMs are installed in the USA and a growing number of companies start to accept it as a means of payment. Today, around four years later, Bitcoin is traded on dozens of online exchanges – at the stratospheric price of almost USD 4,000 – and its acceptance as legal tender has gradually gained recognition. Bitcoin can be used to pay for taxis in New York, travel (Expedia) or even precious metals (JM Bullion) in addition to numerous smaller online merchants. In March 2017, Japan classified Bitcoin as legal tender and even the Residents Registration Office in the small Swiss provincial town of Zug now accepts the cryptocurrency as a means of payment for smaller fees. These examples illustrate that Bitcoin – contrary to widely held scepticism – has taken its place as a means of payment not only in the shadow economy, but also in completely legal areas.

### How Bitcoin functions – or the allure of real (not fiat) money

Cryptocurrencies function in a completely different way than traditional currencies. Rather than leaving it up to central banks to massage the money supply, the creation of this "digital currency" is accomplished by means of a sophisticated technical process. The advantages for investors are obvious: the arbitrary circulation of this money is not possible; instead, it depends solely on the effort of so-called "miners", thus the maximum supply is limited. Given that the central banks have expanded their money supply almost a whim in recent years as part of their efforts to combat the financial crisis, cryptocurrencies are particularly alluring to investors who fear that a giant wave of currency devaluation will be the ultimate outcome. The second advantage is safekeeping, and this is where the so-called blockchain technology comes into play. Instead of being stored in a central depository, Bitcoin ownership rights are anonymised and stored decentrally on the Internet at a multitude of locations.

### How can I invest Bitcoin?

There are now a variety of ways to invest in Bitcoin. Here, we distinguish between direct investment (direct acquisition of Bitcoin) and indirect investment by means of financial products.

#### Direct investments

For those who wish to own Bitcoin outright or make payments and transfers with the cryptocurrency, a direct form of investment is advisable. To hold physical Bitcoins, you can purchase them on an online exchange, "mine" them yourself, or buy them at Bitcoin automats (e. g. at an SBB ticket vending machine). Then, your holdings can be transferred to a so-called "wallet". Although many online exchanges now also offer limited wallet functionality, a dedicated wallet can be worthwhile. Here, a differentiation is made between "hot" and "cold" wallets. While the former are directly interconnected with the Internet, the latter remain offline. Hot wallets can take the form of web wallets, mobile wallets, desktop wallets or entire Bitcoin "clients" such as Bitcoin Core. Cold wallets offer a much higher degree of security: they include hardware wallets such as Trezor, but also paper wallets where the private and public keys are printed on paper.

Basically, longer-term investments should rather be kept in a cold wallet, whereas hot Bitcoin wallets offer rapid accessibility.

#### Indirect investments (related financial products)

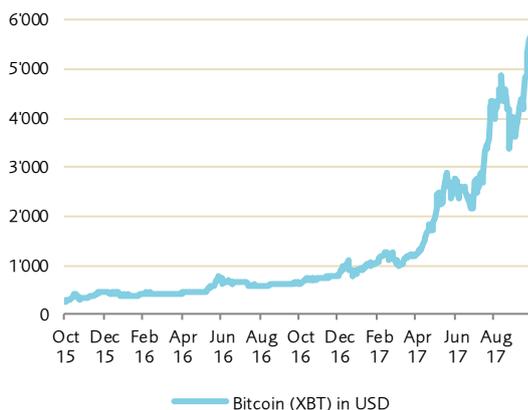
Financial products on Bitcoin are hardly in keeping with the spirit of the inventor. Or as Christian Mäder of Bitcoin News puts it: "Buying a Bitcoin certificate or an ETF instead of a Bitcoin is like printing an e-mail and sending it by fax." Although the thrust of that objection can hardly be parried, financial products on Bitcoin can indeed make sense for certain investors. These

instruments provide quick and easy access to Bitcoin without the need for the investor to deal with technicalities or the nature of the process.

Bitcoin Investment Trust is the best-known investment vehicle of its kind and has a market capitalisation of over USD 1 billion. However, due to its structure as a trust, it is not available to many investors. Passive ETFs on Bitcoin – for instance, the Winklevoss ETF in the USA or the Swiss counterpart (for professional investors only) contemplated by Zug-based Crypto Fund AG – have been preannounced for quite some time now. However, both funds have yet to be launched due to reservations on the part of the regulatory authorities.

Owing to its issue size and trading volume, the Bitcoin Tracker product of Bank Vontobel (see "Quirks of financial investments", below) is a true success story. But especially in regard to structured products, there is still a counterparty risk that flies in the face of the idea behind blockchains.

Bitcoin price in USD



Source: VP Bank, coinmarketcap.com

### Indirect exposure through equities

Ultimately, there is also the possibility to invest in stocks that profit from the Bitcoin boom. Graphic card manufacturers like Nvidia, or Advanced Micro Devices (AMD) with its Radeon chips, stand to be the beneficiaries here because they supply the necessary hardware for Bitcoin "mining". However, by merely owning these stocks, investors further distance themselves from the real purpose and basic idea of the digital currency.

### Bitcoin certainly harbours risks:

The advantages of cryptocurrencies are obvious: Due to their decentralised storage and the comparatively secure blockchain, subsequent manipulation of the data is virtually impossible at present. Moreover, the direct means of transacting Bitcoin without the need for external intermediaries also enables cost-efficient processing. But aside from these obvious benefits, Bitcoin trading and the associated network also entail numerous risks.

### Theft or loss

Physical Bitcoins can be stolen or destroyed. Online exchanges as well as wallets that are connected to the Internet can become targets of a hack attack.

### Regulatory uncertainty

The legal status of cryptocurrencies has yet to be clarified, and this is the cause of enormous uncertainties. Recently, though, many regulators have expressed criticism, as bitcoins can be misused to disguise money flows (money laundering) and circumvent capital movement controls (China). They could also be a thorn in the side of the central banks: after all, the latter need a monopoly on money supply in order to pursue an effective monetary policy.

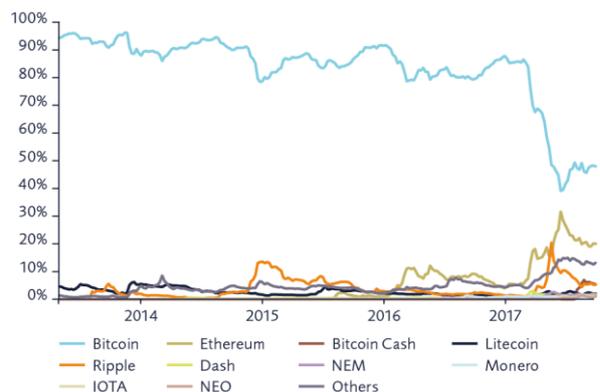
### Liquidity / volatility

Compared to the volumes seen on other exchanges, the liquidity of cryptocurrencies is extremely low. This makes their prices particularly susceptible to correction in the event of an external shock (prohibition, new technology, hack attack). Furthermore, there are no hard and fast trading rules.

### Increasing competition / technological progress

Although the amount of outstanding Bitcoin is limited, new currencies absorb investors' money. New, technologically superior and more flexible currencies like Ether (Ethereum) are rapidly capturing market shares at the expense of Bitcoin. In view of the enormous diversity, it is impossible to identify today which currency will ultimately prevail. Moreover, the quantum computer, which is being investigated by the big manufacturers, calls into question the cryptological security of Bitcoin at least in the long run.

Market share of Bitcoin



www.coinmarketcap.com

Further risks are posed by the limited transaction processing capacity, the finite nature of Bitcoin and the questionable environmental balance. Before investing in cryptocurrencies, it is even more important to assess the risks than with other invest-

ments. We therefore recommend that interested readers take a close look at the full analysis of these risks on page 4.

### Central banks and Cryptocurrencies

Anonymous money transfers that no longer require a central intermediary are a signature feature of modern cryptocurrencies such as Bitcoin & Co. The proliferation of these new, alternative means of payment threatens the existing monetary monopoly of the central banks. Consequently, classical monetary policy tools such as money supply management stand to lose their clout. Numerous central banks are currently evaluating projects that would combine the benefits of cryptocurrencies (e.g. greater anonymity), peer-to-peer transactions (e.g. no need for intermediaries) and/or decentralised blockchain technology, but do so without causing monetary sovereignty to be lost in the process. Fedcoin, Cadcoin and the Swedish eKrona are several examples of these concepts for central bank cryptocurrencies (CBCCs). Although most are just flights of fancy on the part of central bankers, "official" digital currencies could increasingly supersede cash money. The advantages: a blockchain allows the transaction history of each currency movement to be tracked without gaps, the currency could be traded electronically, and, as opposed to the situation today with "folding money", interest rate decisions would also have an effect on the electronic currency.

### The next market hype: ICOs & token sales

Many financial institutions and fund providers are trying to jump on the already rolling bandwagon by offering new ETFs, structured products and Bitcoin accounts.

The euphoria surrounding Bitcoin has also drawn many parasites into the crypto-space. Initial currency offerings (ICOs) and token sales are currently popping up like mushrooms. ICOs or token offering are comparable to an initial public offering (IPO) of a company's shares. Depending on the arrangements, the investor acquires the right to use the subsequent services of the project or participates directly by seeing the value of the investment increase.

These new currencies have names like Tezzies, Atoms or Basic Attention Tokens. Dozens of other ICOs are currently in the crowdfunding phase. Even Paris Hilton and former boxing pro Floyd Mayweather are touting new cryptocurrencies or novel marketplaces. In contrast to the highly regulated processes involved in an IPO, ICOs are barely scrutinised by the authorities. A so-called whitepaper is sufficient, in which the young companies explain their business model – usually in a rather upbeat tone.

For start-ups, the idea of collecting money through an ICO is not unattractive, seeing as they benefit from the current hype surrounding digital currencies, avoid tedious and lengthy negotiations with business angels or the supervisory authorities, and

have already secured their first customers by selling tokens or currencies. The justified question remains, though, as to why it is actually necessary to have hundreds of new digital currencies, which can only be used in a single marketplace, if comprehensive digital currencies such as Bitcoin or Ether already exist. There is reason to suspect that many companies are exploiting the prevailing dynamic and ultimately also the low interest rate environment to flog their ICOs so they can accumulate as much funding as possible in short order. While the US Securities and Exchange Commission (SEC) is still rather complacent in its warnings against the recent ICO wave, ICOs and token sales have already been banned in China.

### Trading idea: Don't be misled by the hype

Opinions are divided on cryptocurrencies, above all Bitcoin, and their benefits. Jamie Dimon, CEO of J. P. Morgan Chase & Co., considers Bitcoin to be nothing more than a fraud and has threatened to fire employees if they invest the bank's money in cryptocurrencies. Harvard researcher Dennis Porto, on the other hand, is confident that Bitcoin will appreciate to more than USD 100,000 over the next five years.

The concept of cryptocurrencies and, in particular, decentralised blockchain technology is revolutionary. With the blockchain, many existing financial intermediaries such as custodians and depositaries can be largely dispensed with. The fact that numerous financial institutions such as UBS rely heavily on the blockchain for their Utility Settlement Coin (USC) shows that the potential for a new decentralised and secure technology is particularly high in the financial industry. But Bitcoin is not synonymous with blockchain. Bitcoin continues to be a cryptocurrency with enormous uncertainties and risks. The current headlines focus on the price gains in recent months and have a one-sided effect. A glance at the number of Google search queries on the terms "Bitcoin", "Bitcoin price" and "Bitcoin value" explains more than 90% of the Bitcoin price development. Thus it can be stated with certainty that the price increase is being driven primarily by market psychology. Bitcoin has been unwittingly turned into a speculative object, even though its intended purpose lies in the preservation of value. ICOs, tokens and ultimately Bitcoin are being hyped to the extreme at present, and we advise investors to exercise restraint. As interesting as the concept of cryptocurrencies may be, there are considerable risks. Especially since the regulations are being fudged to the extreme here, the potential for considerable setbacks is evident. Interested investors should wait for a cooling of the market and more regulatory clarity before entering the market. Until then, the cryptocurrency market is likely to continue to serve as a playground for speculators.

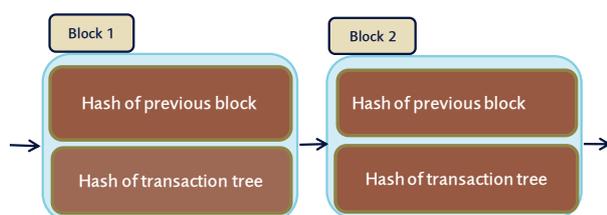
## Background – behind the scene

In this second section of our study, we start by explaining the technical functioning of Bitcoin. And since the risks are of particular importance, we analyse them in detail. With indirect financial investments, the devil can be in the details. We then conclude our analysis with an appraisal of the general economic impact of cryptocurrencies.

### How Bitcoin functions

To understand the functionality of Bitcoin, one needs to be familiar with terms like blockchain, miner, nodes, keys, hashes and wallets; however, this is not all too complicated. Although we focus on Bitcoin to explain the basic workings, most other cryptocurrencies function in a similar manner. Perhaps the most important term in this regard is "blockchain". As the name implies, this is a series of data blocks containing the individual Bitcoin transactions (approx. 2,000 transactions). Each data block includes a unique cryptographic check digit (block hash / SHA-256 algorithm) from the previous block. The linkage of the individual data blocks protects each block from subsequent changes, since even the smallest manipulation of a transaction would change all subsequent blocks and the entirety of the block hashes would have to be recalculated. So in a nutshell, the blockchain forms a decentralised, stored transaction repository, which is protected against subsequent changes by means of encryption and seamless linkage and does not require traditional intermediaries.

Schematic diagram of a blockchain:



Source: VP Bank depiction

Bitcoin prospectors, so-called "miners", play a particularly important role in this system. Mining pools such as AntPool or BTC.TOP are responsible for the time-consuming calculation of hash values through the use of huge computer systems (mining farms). If you as a miner have correctly calculated a hash value of a block, you will receive a reward in the form of newly created Bitcoins. The reward, currently 12.5 Bitcoins, is halved every 210,000 blocks. This halving of the reward limits the number of Bitcoins ever available to 21 million.

To avoid having all Bitcoins mined in just one go, the difficulty of the hash calculation is adjusted every 2016 blocks, so that on average only every 10 minutes is a new block submitted by the

miners. The degree of difficulty depends on the overall computing power of the Bitcoin network and generally increases continuously. This somewhat cumbersome procedure (proof-of-work) ensures that not all 21 million bitcoins can be dug-up immediately. Bitcoin miners process transactions into data blocks and receive compensation in the form of newly created Bitcoins and are thus the driving force behind the creation of money in the Bitcoin system. The backbone of the decentralised peer-to-peer Bitcoin system is formed by so-called "full nodes". Full nodes are computers in the Bitcoin network that check transactions and blocks for validity. Each full node stores the complete blockchain and disseminates it to other nodes. But how does a Bitcoin transaction actually work? To be able to transfer Bitcoins at all, one first needs a wallet with an address and a corresponding private key. The private key, an alphanumeric code, gives the owner the power to dispose over the Bitcoins. It goes without saying that the private key should therefore be kept in a very safe place.

If one wishes to transfer the Bitcoins, a recipient's address and one's own private key are necessary. The private key is used to sign the transaction and the Bitcoin system (miners & nodes) can now verify that the transaction was indeed conducted by the current owner of the Bitcoins.

Once approved, the transaction is recorded in a block, added to the blockchain and stored locally on all full nodes. With each additional block, the transaction becomes more secure.

### Risks:

#### Theft or loss

Bitcoins can be stolen or destroyed. The case of Mt. Gox is the most famous as well as the largest theft in the history of Bitcoin. Following this mysterious heist, the then market leader in Bitcoin trading had to declare bankruptcy. And despite technological advances, additional hack attacks were subsequently mounted on other online exchanges.

Basically, any wallet connected to the Internet can become the target of an attack and the private key can be stolen. So-called cold wallets offer much greater protection, but here too a hardware defect can occur or printouts of paper wallets can be misplaced. Once the private key is gone, the Bitcoins are lost as well.

#### Regulations and legal treatment

The legal status of cryptocurrencies varies from country to country. Generally speaking, though, these new digital currencies are considered to be almost or totally unregulated. But in light of the current hype surrounding Bitcoin & Co., this could soon change. Both the US Securities and Exchange Commission and the British FCA (Financial Conduct Authority) have already warned against the risks of the recent wave of initial coin offerings (ICOs, which are roughly the same as IPO of securities).

The Peoples Bank of China has totally banned the acceptance of money via ICOs and there is already speculation that Bitcoin could suffer a similar fate in the Middle Kingdom. The critical stance many regulators take towards Bitcoin is not entirely unfounded. According to a study by the University of Kentucky, many Bitcoin transactions have a criminal background. For example, they are commonly used as a means of payment in the Darknet, as well as for concealing money flows (money laundering) and circumventing capital movement controls (e.g. in China). The recent price fireworks in response to events in Japan (official recognition as legal tender) and China (prohibition of ICOs) illustrate how sensitive Bitcoin can be to regulatory changes.

#### Liquidity / volatility

By definition, the supply of Bitcoin is limited – only miners can increase the amount in circulation, and this only to a certain extent. The market is largely driven by demand. If demand increases, as is the case at present, sharply rising prices are the result – and vice versa. Bitcoin does not have a regulating central bank or trading breaks as in other financial markets. If the current euphoric mood turns negative due to an external shock (prohibition, new technology, hack attack), this can have catastrophic consequences for the price, especially since market liquidity is relatively limited.

This past August, some 158,000 Bitcoins were traded daily. At an average price of USD 3,800, this corresponds roughly to IBM's daily trading volume (approx. USD 600 million). However, the liquidity is spread over numerous exchanges, some of which may have prices that deviate significantly from each other.

#### Increasing competition / technological change

The market for digital currencies is highly competitive. Currently there are over 1,000 alternatives to Bitcoin and dozens of others are about to be launched. New currencies such as Ether, Ripple, Dash and Litecoin are grabbing market share at an almost shocking pace. At the beginning of the year (2017), Bitcoin's market share (market capitalisation) was still 90%. Meanwhile, the reading has fallen to a current level below 50%.

In many areas, the newcomers are more progressive and flexible than the pioneer Bitcoin. For example, Ethereum can integrate so-called Smart Contracts (virtual, automated contracts), and this opens up completely new business models. The computation- and thus electricity-intensive mining process, which at Bitcoin is based on the proof-of-work method, is also increasingly being conducted more energy-efficiently with newer currencies. There is a major risk that novel, more modern cryptocurrencies will gradually outstrip Bitcoin.

But it is currently impossible to identify which of these digital currencies will win out in the long run, given the enormous diversity of the situation.

The quantum computer is yet another challenge for Bitcoin. Especially Google, Microsoft and IBM have been attempting for quite some time to produce the first quantum computers. The initial results were presented this year: under certain laboratory

conditions, a quantum computer is about 100 million times faster than its binary peers. For Bitcoin, a quantum computer would definitely be a problem. The decryption of the important hashing algorithm (SHA-256), a central component of Bitcoin technology, would be decipherable for a quantum computer very quickly.

#### Limited transaction processing

One of the biggest shortcomings of Bitcoin is its limited processing capacity. An average transaction in Bitcoin requires about 250 bytes in a single block, i.e. the blockchain. At present, the block size in the classic Bitcoin network is still limited to 1 megabyte (MB) per block. So purely mathematically, a maximum of 4000 transactions can be accommodated in one block. Bitcoin determines the degree of difficulty in such a way that a new block is created every 10 minutes. This means that only around 7 transactions can be processed per second. For a worldwide payment system, this value is totally inadequate and ultimately hinders the spread of Bitcoin as a globally accepted payment system. By comparison, credit card provider Visa processed around 1,700 transactions per second already in 2010. So quite obviously one consequence of this very lethargic processing rate is an order traffic jam.

It follows that this sluggishness limits the use of Bitcoin as a payment system where order confirmations are needed quickly (for example in the retail trade). The solution to the problem would be technically easy to implement, but consensus building in the Bitcoin community is very difficult. Changing the transaction format (Segwit) has enabled the blocks to be slightly trimmed, so that more transactions can be placed in one block. But the planned increase of the block size to 2 megabytes (Segwit2x) in November of this year has provoked a rift in the community. A further split of the Bitcoin blockchain (Hard Fork), as was already undertaken in September with "Bitcoin Cash", seems to be a probable scenario. Each split of the existing blockchain ultimately leads to a further currency unit, which weakens the original Bitcoin. Investors must therefore always stay informed as to whether the newly split currency will also find its way into their wallet and whether it can be traded on an exchange.

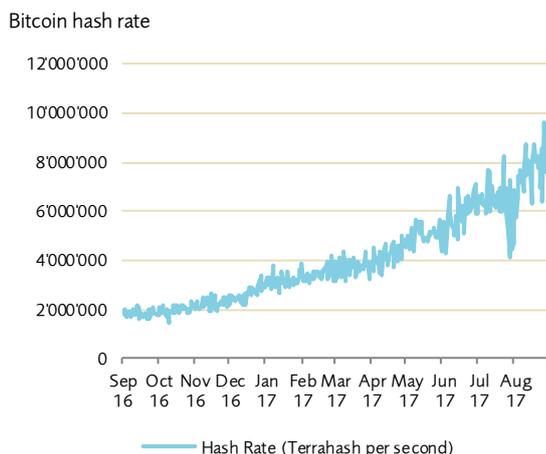
#### The finite nature of Bitcoin:

The quantity of available Bitcoins is finite and limited in the source code to 21 million units. This is often cited by supporters as a tremendous advantage that can effectively prevent a creeping monetary devaluation. The creation of money at Bitcoin is accomplished via the mining mechanism. Presently, a miner receives compensation of 12.5 Bitcoins for each valid block. This compensation is halved every 210,000 blocks. The halving is expected to start in June 2020 and the last Bitcoin will probably be created in 2140. There is nothing wrong with this finiteness of Bitcoin. However, in this process, the miners – who are the enablers of Bitcoin transactions in the first place – will be rewarded with ever-fewer Bitcoins, even though the computational effort involved will tend to increase. This can in fact make

the effort for many miners no longer worthwhile and lead to a concentration on only a few mining providers or to an increase in the added transaction costs.

### Power consumption and the environment

The validation of Bitcoin transactions (mining) and the necessary proof-of-work process is pure madness from an ecological standpoint. Currently, the Bitcoin network racks-up around 8 million terra hashes per second. A classic miniature device like the Antminer S9 requires about 0.098 watts per gigahash/s. So a somewhat simplified calculation reveals that Bitcoin's network requires around 800 megawatts of electricity. This is roughly twice the output of Switzerland's Mühleberg nuclear power plant and would be enough to supply more than 500,000 American households.



Source: VP Bank, Blockchaininfo.info

"Vice" magazine calculates that about 1.5 US households could be supplied with electric power for an entire day with the amount of energy consumed for a single Bitcoin transaction. This enormous drain is highly problematic in view of the global drive for greater energy efficiency. The main culprit here is the "proof-of-work" system that Bitcoin uses, according to which each Bitcoin miner has to make countless computations until he has calculated a valid hash and can submit the block. Consequently, many Bitcoin miners have settled in places with low electricity prices, for example in China (70% of the miners) and Iceland (geothermal energy).

### Quirks of financial investments

The Bank Vontobel Bitcoin Tracker certificate, which has been available for quite some time, shows that financial products of this nature are not exactly easy to handle. The split of the blockchain (hard fork) into Bitcoin and Bitcoin Cash last August forced Vontobel to give its Bitcoin investors additional Bitcoin Cash certificates with highly restricted liquidity. If in November, due to the Segwit2x matter, the blockchain would again be forked, the original certificate holders would have three differ-

ent certificates in their custody accounts, two of which would only be tradable to a limited degree. The same applies to the newly introduced Bitcoin accounts of Swissquote and Falcon Privat Bank.

Investors who nonetheless do not shy away from the risks of Bitcoin, but have little interest in the technical ins and outs, should rely on existing financial products such as those offered by Vontobel. For technically inclined investors who wish to delve deeper into the functionality of Bitcoin and perhaps make transfers with it, a direct investment with limited capital investment may be worth the risk.

### Bitcoin from an economic viewpoint

The issuance of money is reserved solely for the state. Hence the Swiss franc is legal tender in Switzerland, and the euro in the euro zone. The word "legal" alone shows that the state has sovereignty here. At the behest of their government, the respective central banks assume control of the domestic monetary system. Ideally, the central bank is accorded institutional, functional, financial and staffing independence. And it is precisely herein that critics see the weakness of our monetary system. Their basic complaint: in actual practice, the central banks are not at all independent and would prefer to inflate-away national debt. The so-called "Austrian School" of economic theory, thought up by Carl Menger (1840 - 1921), provided a hypothetical underpinning for criticism of the fiat (i.e. paper) money system. One of the most famous representatives of this school of thought was Friedrich August von Hayek (1899 - 1992), who went so far as to advocate the denationalisation of the monetary system and competition between currencies. The latter would ultimately lead to the most stable currency coming out on top, or so Hayek's core hypothesis says.

Bitcoin certainly comes very close to what Hayek wanted. But it, too, has weaknesses. Although an inflationary effect is theoretically limited due to the maximum supply of 21 million units, the currency has "other sore points". It is exactly this quantity limitation that can become a boomerang in the attempt to manage a crisis. In the critical phase of 2008 and 2009, the central banks were able to provide additional liquidity and thus prevent even worse from happening, precisely because the money supply was not constant. Bitcoin's "scarcity" and the lack of liquidity are reflected in a correspondingly high degree of volatility, i.e. the cryptocurrency's price is susceptible to dramatic fluctuations – which in turn makes it essentially impossible to use Bitcoin for daily purposes. For example, a retailer who accepts Bitcoin and then wants to exchange it into USD can be subject to a USD 1500 price fluctuation within the space of just a few business days. Hence its commercial uselessness – there is no reliable basis for calculation. The result: Bitcoin becomes a white elephant that is practically doomed to extinction for lack of utility. When assessing cryptocurrencies, one should also bear in mind that Bitcoin, like paper money, has no intrinsic value. It is merely virtual money that is not backed by any hard asset such as gold. Hence the value of Bitcoin is arbitrary.

Even in times of hyperinflation, an official currency still has a minimal residual value because it is legal tender and therefore retains a certain exchange value. It should also not be forgotten that, due to its lack of "legal tender" status, Bitcoin could also be prohibited at any time.

In summary, it can be said that Bitcoin is only of limited use as a substitute for our existing money system. When analysed in detail, the virtual currency shows blatant shortcomings. Further deliberations in the Austrian School therefore posit that the money entering the free market should always be a metal- or commodity-backed currency. In a free competition environment, people would always prefer covered currencies to uncovered ones. Newly issued, uncovered money has no value without state coercion. And as there is no possibility of value determination, the intrinsic value of that money is close to zero – hence the potential for total loss also with Bitcoin.

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