Cryptocurrencies

How they work and what risks are associated with them

Police and Swiss Crime Prevention –
an office supported by the cantonal
ministries of justice and police,
in co-operation with the University of
Lucerne and “eBanking – but secure!”

Digital currencies and means of payment such as Bitcoin, Etherum, Tether are attracting considerable attention right now. In some ways they are already part of our daily lives. But what is it that these digital currencies promise, and what do you need to know?

"The root problem with conventional currency is all the trust that's required to make it work."

Satoshi Nakamoto,
Bitcoin inventor,
white paper (2008)

Points to note when investing in and using cryptocurrencies:

- Cryptocurrencies are very volatile. Huge price fluctuations within very short periods of time are quite normal.
- There are thousands of different cryptocurrencies. Don't go investing just blindly, but do your research, thoroughly read up on a currency and the identity of the issuer beforehand, and ask your bank.
- Apply a healthy scepticism especially with offers that seem very lucrative. They tend to pop up on social media like Facebook, YouTube, Twitter, etc.
- Keep your crypto wallet code in a very safe place, and be extremely careful. Should you lose your access code, the money will be gone for good, too.

In general:

- If an offer appears to promise a quick profit, remember that things that seem too good to be true generally are. Fast money goes hand in hand with enormous risk. Don't believe the hype.
- Only invest your own savings in amounts that you can afford to lose.

Thousands of cryptocurrencies vie for users' attention with great promises as to their security, simplicity, transparency and profits to be made. The headlines, however, often paint a different picture. Exorbitant price fluctuations and cryptocurrencies' frequent use by cybercriminals tarnish their image. So what is behind this new kind of money?

What are cryptocurrencies?

Cryptocurrency is the term used to describe a digital currency based on unalterable principles of mathematics and cryptographics (the science of encryption) through all stages from generation via storage to exchange. With this basis, they do not require regulation by any higher institution. However, this also means that there is nobody to intervene if mistakes are made in their handling.

Cryptocurrencies do not have any real or intrinsic value. Rather, they are virtual assets with a value determined solely by supply and demand. It therefore takes only minor swings in market sentiment to trigger price fluctuations that can be very substantial.

Cryptocurrencies are "mined", stored and exchanged in decentralised networks based on blockchain technology. In the process, blockchain functions as a distributed ledger, maintained in a distributed, non-hierarchical computer network. One defining characteristic of cryptocurrencies is that they are not generally issued by any dedicated institution. This allows them to be used for direct online payments without any third party such as a bank.

The biggest and best-known cryptocurrency is Bitcoin.

Based on blockchain technology

The smooth working and security of a cryptocurrency is ensured by blockchain technology. As the name suggests, blockchain is a chain of interconnected blocks in which transactions are filed. The chains lengthen as more transactions are recorded. These interconnected blocks are also known as ledgers. They are not administered centrally,

but via a distributed network of thousands of computers. Every newly generated block must be verified and confirmed by every node, making it almost impossible to commit fraud.

No opportunity without risk

In addition to their opportunities and advantages, cryptocurrencies also hold risks. One of the greatest is the confusing number of different cryptocurrencies in circulation, and the enormous price volatility to which they are prone.

You should therefore be careful and think hard about which (crypto) currencies to invest in. Before investing it is well worth using independent sources to check the current price history against real currencies.

My wallet, my responsibility!

Cryptocurrencies are stored digitally in "wallets", protected by access codes. Your access code is the only way to get to the assets stored in the wallet. If you lose your access code, your money is gone, too.

Protect your crypto wallet by:

- Preferably using an offline hardware wallet
- Storing your wallet ID and access codes carefully in a very safe place – perhaps offline, written down and kept in a safe

Glossary

Cryptography	The science of encryption for the purpose of secretly transmitting and storing information.
Blockchain	A series of interconnected blocks of information secured by cryptographic means. The best-known blockchain application is Bitcoin, with blockchain providing the fraud-proof ledger containing all transactions.
Crypto mining Mining	During the process of crypto mining, the units (coins) of a cryptocurrency (e. g. Bitcoin) are generated and new transactions verified. Since cryptocurrencies are generally not issued by a dedicated institution, crypto miners are needed to record, verify and register all transactions.
Crypto wallet Wallet	Cryptocurrencies are stored digitally in “wallets”, protected by access codes.

Further information: **www.ebas.ch/cryptocurrency**

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This leaflet was created in co-operation with the **University of Lucerne** and **"eBanking – but secure!"**

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