Instead of triggering a revolution in finance, bitcoin has become a speculative investment vehicle, as Thomas Moser of the Swiss National Bank says in an interview with finews.com. The original vision had involved something else.

_Thomas Moser, bitcoin is on everyone’s lips at the moment – what is your relationship with the cryptocurrency?_

I came across bitcoin rather by chance in 2013, when central banks were still hardly concerned with the subject. I saw that there was something exciting developing here in terms of the idea and the concept, and I started reading into it.

_What do you recommend to an interested investor who wants to understand bitcoin? Where should he start?_

The first thing I read was Satoshi Nakamoto’s white paper – for me, that’s still one of the best papers out there on bitcoin. But getting the detailed technical knowledge took quite an effort.

_Did you also buy a bitcoin?_

At the time, I wanted to buy 10 francs worth of bitcoin to better understand how the currency worked. There was a café in Zurich in 2013 that accepted bitcoin as payment. But according to our internal guidelines, I would have had to wait for a holding period of several months. I didn’t really think that made sense for a cup of coffee.

**Bitcoin gained its importance not in daily use, but as an investment vehicle.**

Since cryptocurrencies often have high price volatility, they are primarily used as a speculative investment opportunity and fulfill the functions of money only to a very limited extent. Bitcoin has also moved away from its original vision in other respects. Bitcoin was supposed to enable a new financial system without intermediaries and central counterparties. The motto was: everyone can be their own bank.

«Many do not want to be their own bank at all»

However, it has become apparent that many do not want to be their own bank at all and are
very happy to use the services of intermediaries and central counterparties. Those who invest in bitcoin today will rarely download the protocol and run a full-fledged node on the blockchain. There are also no private miners at all anymore. Mining farms are now fully commercialized businesses.

Most investors buy bitcoin through a centralized trading platform and have the bitcoins stored by a wallet provider. You don't need to understand how bitcoin works to do this. Instead of traditional banks, new intermediaries are simply emerging in this alternative financial system. And like all intermediaries, these offer what the majority of users want: convenience – easy purchase, secure storage, attractive apps.

**This rapid development, to what can it best be compared?**

The internet. In 1989, if you wanted to use the internet, you had to know something about IT, and to create a website, you had to know how to program. As the internet began to be used by the masses in the mid-1990s, it became easier and easier to use, and new intermediaries appeared.

«The blockchain is not powerful enough in its current form»

Today, it is a piece of cake to operate. If digital currencies and blockchain become a mass product, we could see a similar development.

**Where are we in the development of the blockchain?**

We're pretty much at the beginning of mass adoption, probably about where the internet was around 1990 before development really took off. The technology is not yet mature enough for mass adoption.

**What's the problem?**

The blockchain is not powerful enough in its current form. The reason lies in the original vision of bitcoin, where strong decentralization is achieved at the expense of efficiency. The blockchain wants to do without intermediaries. However, this brings scaling problems. At about seven transactions per second, the current bitcoin system is simply too slow. By comparison,
credit card company systems can perform about 10,000 transactions per second.

Second, the blockchain should be censorship-resistant, meaning that it cannot be manipulated or shut down by a single participant. To achieve this, each participant (node) must have a complete copy of the jointly managed account book stored locally. However, this means that every single transaction must be recorded at each of the approximately 10,000 nodes from Tokyo to Moscow.

«Bitcoin's innovation performance is proof that distributed ledgers work on the open network»

However, the series of information inevitably becomes longer and longer and each node needs more and more memory. This is not really efficient but serves the purpose of censorship resistance and decentralization. On top of that, the consensus mechanism used to reconcile data between nodes consumes a lot of energy.

**So what does this mean for bitcoin?**

It is important to understand that these aspects of bitcoin are not bugs, but features of the system. They are the costs of heavy decentralization.

Bitcoin's innovation performance is proof that distributed ledgers work on the open network. For closed networks, people already had a good understanding of how to synchronize information across all participating nodes in a decentralized way, but not for open networks. Bitcoin solved this with its special consensus mechanism (proof-of-work).

The high computing power associated with proof-of-work prevents a participant from simply making many copies of its node and exerting excessive influence on the consensus because that would be prohibitively expensive due to the high energy consumption. From this perspective, the high energy consumption is precisely an inherent security feature of bitcoin, not a bug.

**What happens to these features with the development of the blockchain?**

Companies such as Ethereum are currently trying to increase the low number of transactions
per second with a major upgrade by subdividing the blockchain and adjusting the consensus mechanism.

«The mass of users is not interested in ideology»

In the meantime, however, there are also enterprise blockchains such as Corda from the R3 consortium or the Hyperledger Fabric from Linux. These are intended for business purposes and have much better performance. However, such blockchains are closed systems with a limited number of nodes, all of which are clearly identifiable. There is no need for an elaborate consensus mechanism for this.

Is anything lost as a result?

The strong decentralization is lost, that is, the original vision of the bitcoin blockchain. But with the internet, the evolution was similar. In the beginning, the founders emphasized the value of a decentralized peer-to-peer system. But even that system was increasingly replaced by a more hierarchical, centralized architecture because it made it easier to meet scaling and user needs. The mass of users is not interested in ideology. They seek simplicity and want to use new services easily.

Sound a bit disillusioned?

The original idea behind blockchain, that each individual can be their own bank, is fading into the background. Today, the aim is to maximize performance and convenience.

«Whether blockchain will really be needed for a system, infrastructure, or product in the future is an open question»

However, this does not mean that there will not be strong changes. Blockchain will probably not change and decentralize the whole of society, but in the long run, it can have a big impact on the way business processes are run.
What impact will the blockchain have on our everyday lives?

That is of course still difficult to assess, which is also what makes the topic so interesting. The SNB is dealing with the topic from the perspective of its statutory tasks, particularly in connection with cash supply and cashless payment transactions.

However, whether blockchain will really be needed for a system, infrastructure, or product in the future is an open question. That is why there is also an interest in allowing fintechs to compete in this ecosystem whose products are not based on the blockchain.

With the fintech license, we allow companies to participate directly in SIC (Swiss Interbank Clearing) and have a settlement account with us. Fintechs can thus distribute their services independently of the banking system.

Thomas Moser has been an alternate member of the governing board of the Swiss National Bank (SNB) since the beginning of 2010. He is responsible for the operational management of the Money Market and Foreign Exchange, Asset Management, Banking Operations, and Information Technology divisions, as well as for the Financial Market Analysis unit and the Singapore branch office.

Moser is a member of the managing committee of the Swiss Institute of Banking and Finance at the University of St Gallen and a member of the advisory board of the Swiss International Finance Forum SIFF. He holds a doctorate in economics from the University of Zurich.

In 1999, he joined the SNB as a senior economist in the International Monetary Relations unit. From early May 2006 to the end of 2009, he was executive director of the IMF constituency in Washington headed by Switzerland.