Staking Cryptocurrency: The Stakes are High!

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What is ‘staking’ on a digital asset network and why does it provide returns over time? Staking is not new – the first implementation of it was with Peercoin back in 20121. What is new is the scale and number of networks that provide staking rewards for those who help run these networks. This article gives a quick explainer on what staking is, how it works and what kinds of returns people receive from staking at the moment.

Like a term deposit – but different

Staking is like a term or fixed deposit at a bank. With a term or fixed deposit, you deposit your money at a bank for a period of time. There’s usually a minimum deposit. At the end of the deposit period you receive your principal back with interest. With staking, you deposit your cryptocurrency in a node that is part of a network. That node helps run the network as it validates new transactions - this is why they are called ‘validator nodes’. In return for doing this validation, the node is rewarded with cryptocurrency. When you decide to withdraw your cryptocurrency from the node you receive the original amount plus the accrued rewards.

The key difference between the two is that, with a term deposit, the bank is lending out your money in return for an interest rate. You receive a portion of this interest rate at the end. With staking, there is no lending occurring. The cryptocurrency is held on the node the entire time.

So where does the cryptocurrency reward come from?

Staking is a consequence of the way that some digital asset networks come to agreement on the correct order of transactions on a distributed ledger (‘blockchain’). This method of coming to agreement is called a consensus mechanism. There are many different types of consensus mechanisms, each with their own strengths and weaknesses.

You may have heard of the consensus mechanism used with bitcoin. Called ‘proof of work’, it is the way that new bitcoins are created (‘mined’). Mining computers use electricity to solve difficult math problems so as to create new blocks on the bitcoin network. Nodes on the network check that this work has been done, that it is correct, then validate the new block. In return for doing this intensive computational work, this ‘proof of work’, the miners are rewarded with newly created bitcoin. If the work is not correct, the nodes reject the false block and the miner incurs the cost of expended electricity.

By contrast, under ‘proof of stake’, there is less computational work being done. Instead, validator nodes on the network (remember – these are the ones with a stake in the network) are chosen at random to create new blocks on the distributed database. The probability of being chosen is usually higher if more cryptocurrency has been staked. When selected to create a new block, the node compiles a set of transactions and signs them with a private key. Other validator nodes on the network check that this is all correct and, if so, the node is rewarded with newly minted cryptocurrency. If the work is not correct – then the node usually2 incurs a penalty (called ‘slashing’), which results in some or all of the stake being forfeited.

Proof of stake is used to form consensus on the Solana, Cardano and Polkadot networks. Ethereum is in the process of transitioning from ‘proof of work’ to ‘proof of stake’. People can stake ether right now, however, they are unable to unlock their stake until after the transition to ‘proof of stake’ occurs. This is likely to occur sometime later in 2022.

There are many different implementations of ‘proof of stake’3. The monetary policy ('tokenomics') of the networks also varies, which influences. This can be seen in the varied staking rewards that one can receive at present: Solana (6%), Cardano (5%), Polkadot (14%) and Ethereum (4.5%)4. These rewards are variable over time.

The stakes are high!

Staking rewards are just one of many ways in which investors can generate a return from digital assets. Staking is also a reflection of the way that the investment cases for different digital asset varies across what is now a diverisfied digital asset ecosystem. Over time it will be interesting to see how these returns change – and which implementations of the proof of stake consensus mechanism end up most successful.

1 https://www.peercoin.net/

2 The Solana network does not impose slashing at present.

3 For a quick primer see: https://www.gemini.com/cryptopedia/proof-of-stake-delegated-proof-of-stake-consensus-mechanism

4 Approximate returns on 8/4/22. See: https://www.stakingrewards.com/

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