# Critics see risk in 'algorithmic' stablecoins

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A new type of digital asset called an algorithmic stablecoin is gaining steam among crypto-enthusiasts—and drawing steam among critics, who warn its risks are in plain sight.

Algorithmic stablecoins use market incentives, controlled by the algorithms that give the cryptocurrency its name, to maintain a stable price against a currency such as the dollar, rather than backing the price

with assets like cash or Treasury securities, as other stablecoins do.

An algorithmic stablecoin called TerraUSD is now the third-largest stablecoin by market value, according to sites that track such value. It is not backed by dollars but instead uses a complex arbitrage system to maintain the price. According to some experts, that makes it inherently fragile.

"The risk is obvious," said Vivian Fang, professor of accounting at the University of Minnesota's Carlson School of Management. "If you have $100 to back up 100 tokens, then we know if anything goes terribly wrong then we should be able to get $100. But with the algorithmic stablecoins, you can't be so confident."

These assets are growing quickly, though they're still a small slice of the stablecoin pie, Fang said.

"I have my fear about this algorithmic stablecoin because, one, it's not backed by a reserve, so I don't know where that confidence comes from," Fang said. "Computers cannot always guarantee that the market works."

## How it works

Ryan Clements, assistant law professor at the University of Calgary, said the idea behind algorithmic stablecoins is the same as the more typical variety: to keep the coins at a constant $1.

But the way that's accomplished is entirely different.

"The idea behind an algorithmic stablecoin is that you create an economic incentive with another token in order to maintain its stability," Clements said in an interview.

Take the TerraUSD coin, for example. The price of the coin—launched by Singapore-based Terraform Labs and built on its own blockchain—could fluctuate according to how many people want it and how much of it is available.

But there are two tokens involved in Terra's blockchain: TerraUSD, the stablecoin, and Luna, a so-called governance token. The relationship between the two is meant to keep TerraUSD's dollar value stable.

If the price of the stablecoin rises above $1 based on investor demand, a Luna holder can swap $1 worth of Luna for that coin, making a profit from the higher price. Conversely, when the coin drops, traders can then make a profit by swapping it for $1 worth of Luna. This reduces the supply, raising its price.

Terra originally relied entirely on this two-coin system but has recently added Bitcoin reserves as a backstop to support its algorithmic model. Do Kwon, the founder of Terraform Labs, tweeted in March that TerraUSD would be backed with $10 billion in Bitcoin reserves.

At issue is what supports this arbitrage system.

The stablecoin is maintained through incentives and supported by demand from within the Terra decentralized finance ecosystem, including an "Anchor Protocol." This is a program that allows users to lend out their coins and get a nearly 20 percent return. Borrowing demand and income from "staking," which rewards coin owners for holding their crypto on the Terra network, generates the interest to the lenders, Clements said.

The system is complex.

"There are currently no regulated standards for disclosures on DeFi

borrowing and staking platforms like Anchor," Clements said.

Terra is betting that the use of a "network" of financial applications that use stablecoins and Luna will drive demand, Clements wrote in a paper before Terra began buying Bitcoin. He said that assumption of demand is far from certain. Relying on perpetual interest or motivated actors for sustainability looks like "standing dominos," he said in the paper.

"I think this acquisition of Bitcoin supports the contentions in my paper that the arbitrage dynamic alone is insufficient to maintain a peg because why else would Terra have purchased Bitcoin as a reserve if they thought their original model was stable enough?" he said.

Terraform Labs didn't comment.

## Regulators and lawmakers

Regulators recommended Congress move urgently to install safeguards for stablecoins. Some in Congress have taken heed, drafting legislation that in some cases would require stablecoins to be backed entirely by cash.

There could be securities law implications for the financial technology firms designing these types of coins, Securities and Exchange Commission member Hester Peirce, a Republican, said in an interview. Regulators need to bear in mind that room for experimentation, as well as the failures of some ventures, are all right.

"The issue is to make sure that you can achieve the regulatory objectives that you're trying to achieve while still allowing for this experimentation, so that should be the goal," Peirce said.

As a first step, there should be a roundtable on stablecoins involving the

public and regulators allowing for a conversation on what protections make sense, including a focus specifically on algorithmic stablecoins, Peirce said.

Sen. Cynthia Lummis, R-Wyo., who is working with Sen. Kirsten Gillibrand, D-N.Y., on a digital asset regulation bill, said algorithmic stablecoins shouldn't be regulated because "we don't fully understand their impact on our financial system."

"They are fundamentally different than other stablecoins, mainly because they do not have as strong of a connection to the traditional financial industry," Lummis said in an email. "There may come a time where that need for regulation changes, but we shouldn't start with a heavy hand."

Senate Banking Chair Sherrod Brown, D-Ohio, is concerned about the lack of consumer protections in digital asset markets, including algorithmic stablecoins, his office said in an email.

"He is committed to ensuring that these products don't hurt families and our economy," the office said.

Stablecoins should have some level of regulation, Mark Cuban, a prominent investor and owner of the Dallas Mavericks NBA franchise, said in an email. In particular, they should be defined as "pegged" or "algorithmic," with each having rules associated with that definition, Cuban said.

"Pegged should be defined as a 1 for 1 to whatever asset it is pegged to, whether Dollar, Euro, or Bananas, with limited flexibility in the choice of assets available," Cuban said. "And that peg should be fully transparent and publicly disclosed in detail."