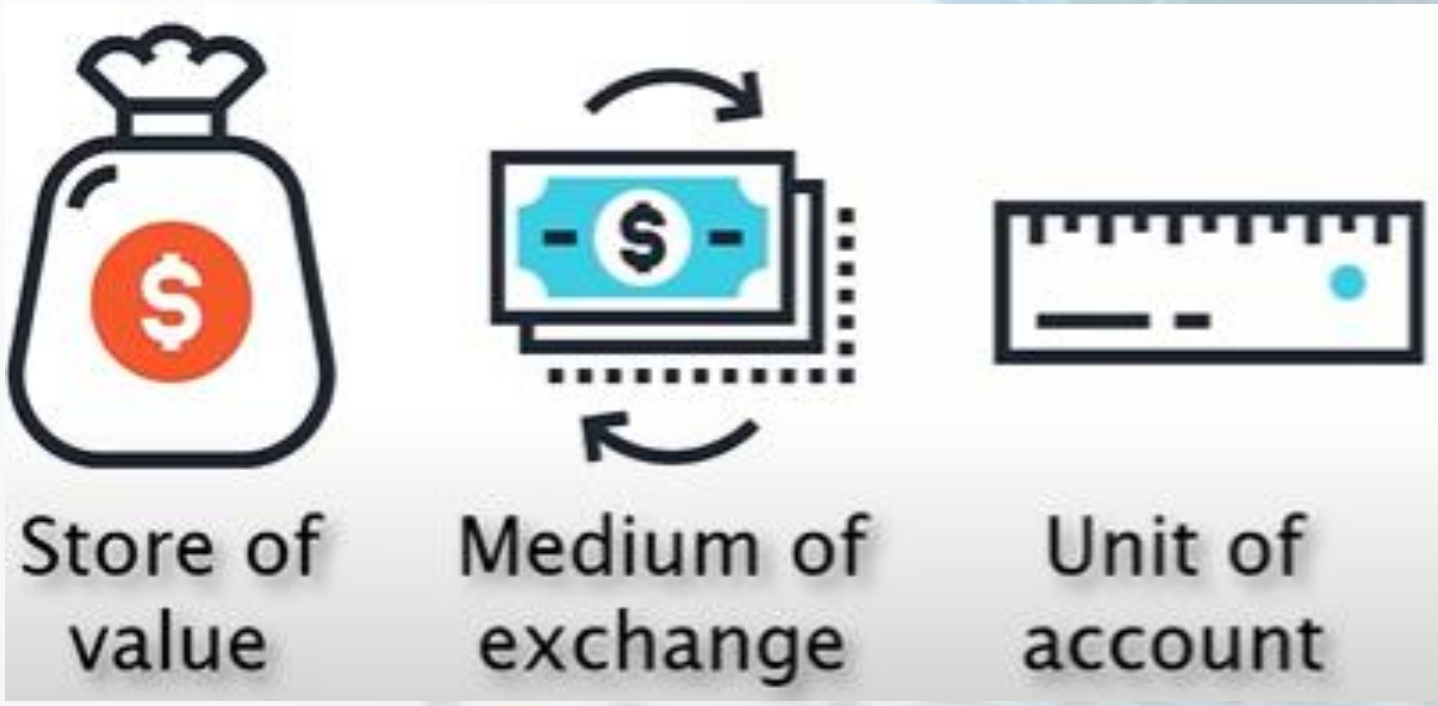
STABLECOINS

Functions of Money

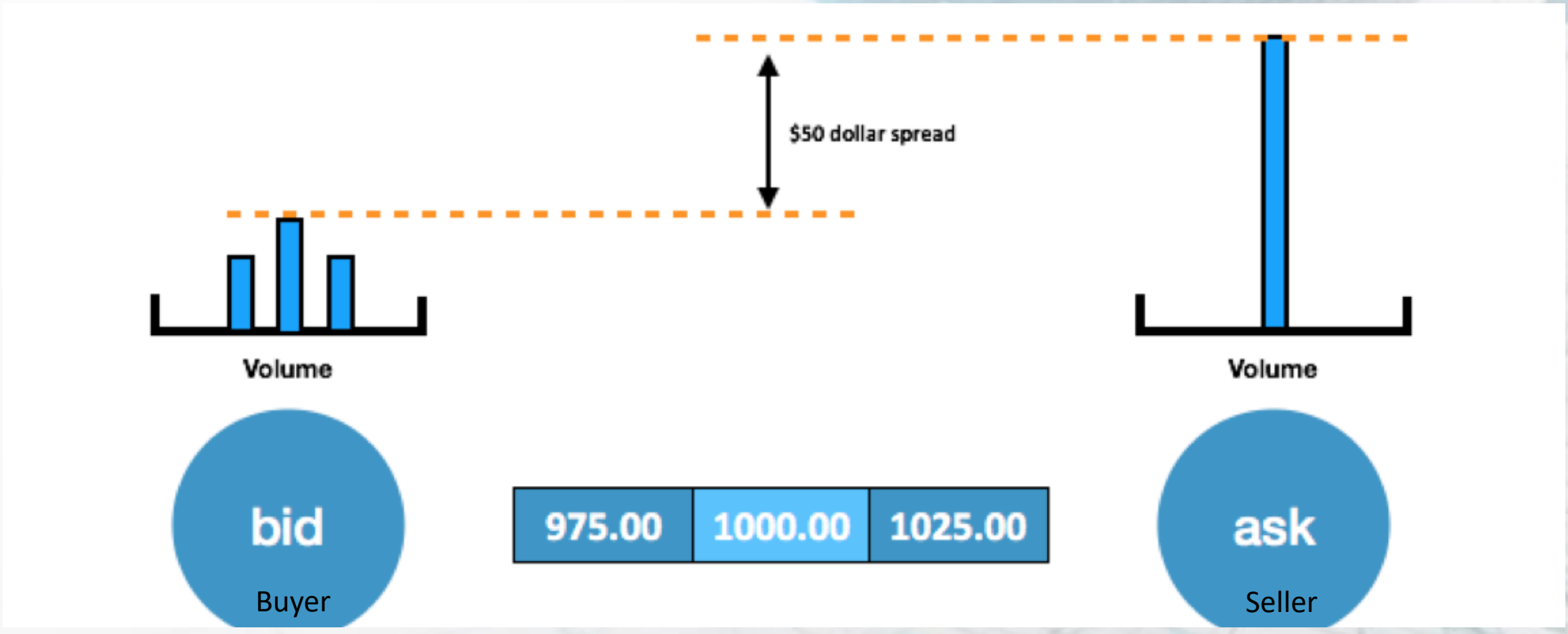


Hanyecz is the first person to use bitcoin in a commercial transaction.

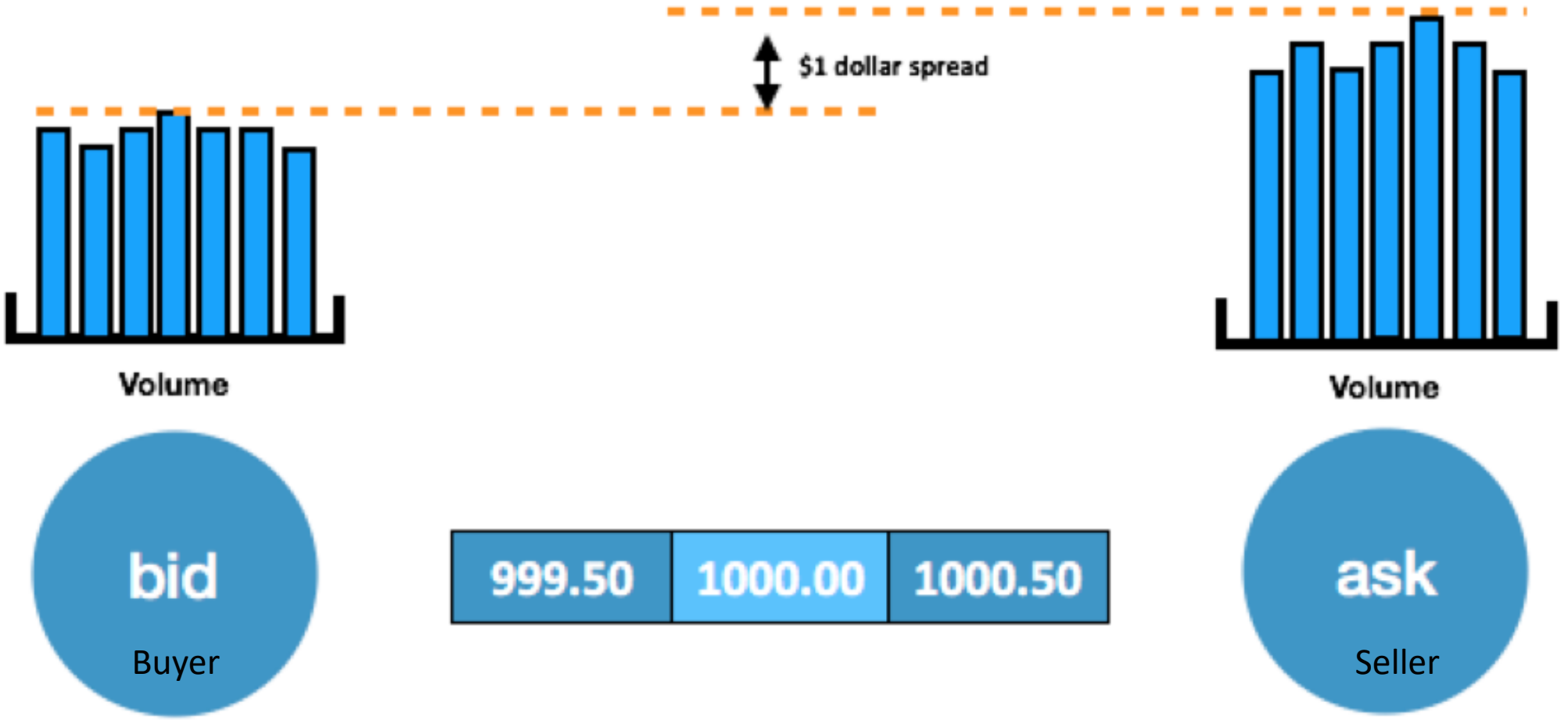
In May 22, 2010, **Laszlo Hanyecz** agreed to pay 10,000 Bitcoins for two delivered Papa John's pizzas.

What will be say to this Market?

SMALL MARKET CAP
=
HIGH VOLATILITY



What will be say to this Market?



Why we need Stablecoin?

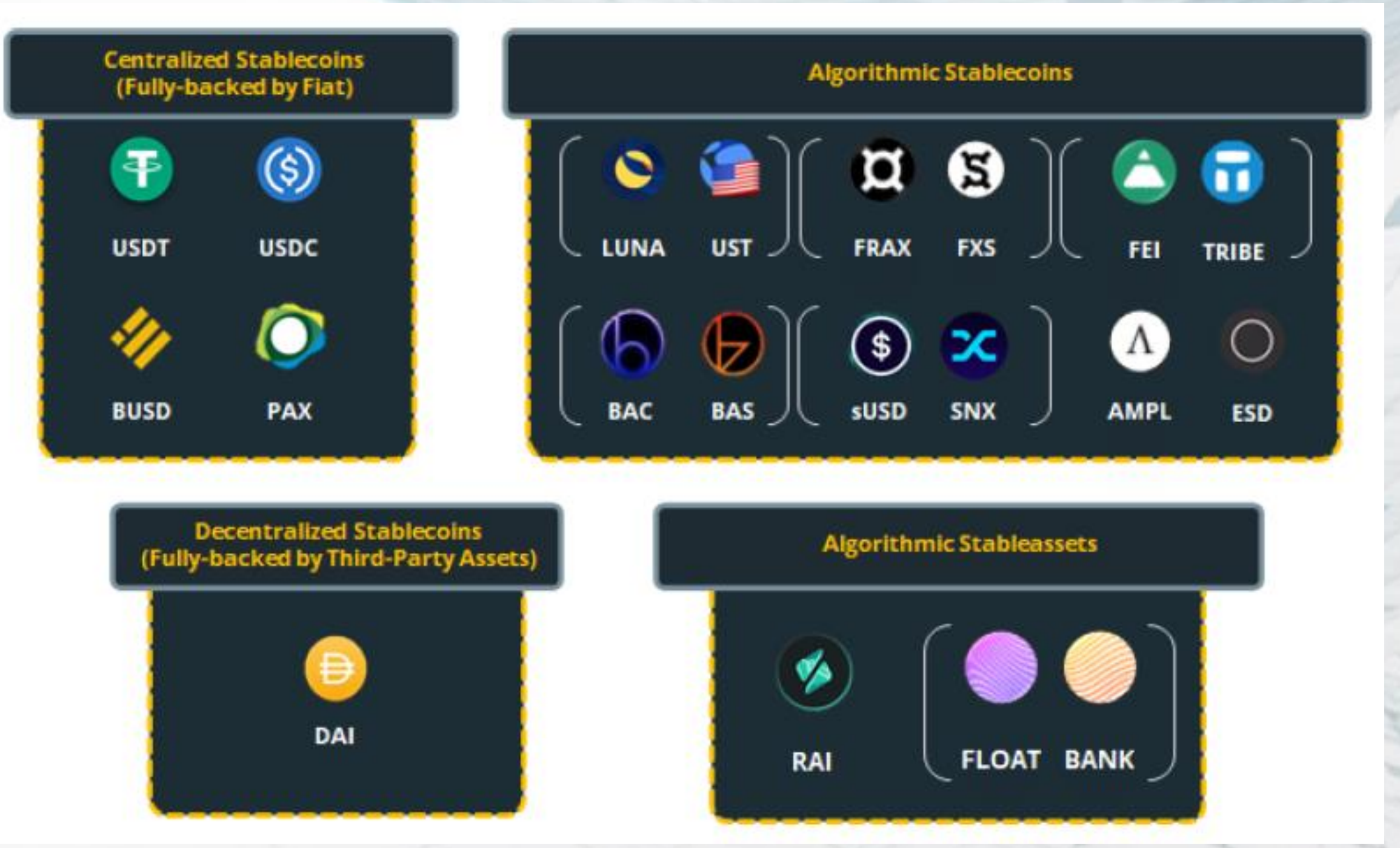
- The prices of cryptocurrencies are extremely volatile.
- In order to mitigate this volatility, stablecoins pegged to other stableassets such as the USD were created.
- Stablecoins help users hedge against this price volatility and allow for a reliable medium of exchange.
- Stablecoins have since quickly evolved to be a vital component of DeFi that is pivotal to this modular ecosystem.
- There are 81 stablecoins currently listed on CoinGecko.
- The top 5 stablecoins have a market capitalization totaling over $190 billion as of 3rd Apr 2022. (1st Apr 2021 it was 60$)

https://www.coingecko.com/en/stablecoins

#	Coin		Price	24h Volume	Exchanges	Market Capitalization	30d	Last 30 Days Circulation
1	Tether	USDT	$1.00	$61,463,358,729	347	$82,363,415,111	3.4%	
2	USD Coin	USDC	$1.00	$3,661,210,207	282	$51,695,402,300	-3.2%	
3	Binance USD	BUSD	$1.00	$4,916,478,156	103	$17,739,294,313	-2.3%	
4	TerraUSD	UST	$0.999751	$850,865,976	43	$16,539,618,699	23.4%	
5	Dai	DAI	$1.00	$291,913,313	189	$9,092,711,231	-1.2%	

Type of Stablecoin

- We will be looking into USD-pegged stablecoins in this course
- Not all stablecoins are the same as they employ different mechanisms to keep their peg against USD.
- There are three types of stablecoins
  - Fiat-collateralized,
  - Crypto-collateralized, and
  - Algorithmic stablecoins.
- Most stablecoins use the fiat-collateralized system to maintain their USD peg.


Centralized Stablecoins
(Fully-backed by Fiat)
USDT
USDC
BUSD
PAX
Algorithmic Stablecoins
LUNA
UST
FRAX
FXS
FEI
TRIBE
BAC
BAS
sUSD
SNX
AMPL
ESD
Decentralized Stablecoins
(Fully-backed by Third-Party Assets)
DAI
Algorithmic Stableassets
RAI
FLOAT
BANK

1. Fiat-collateralized

- By far the largest class of stablecoins are fiat collateralized.
- These are backed by an off-chain reserve of the target asset.
- Custodied by an external entity or group of entities that undergo routine audits to verify the collateral's existence.
- Largest fiat-collateralized stablecoin is Tether(USDT) with a market capitalization of $82 billion, making it the third largest cryptocurrency behind Bitcoin and Ethereum.
- Tether also has the highest trading volume of any cryptocurrency but is not audited.
- The second largest is USDC and its holdings of USD are regularly audited.
- USDC is redeemable 1:1 for USD and vice versa for no fee on Coinbase's exchange.
- USDT and USDC are very popular to integrate into DeFi protocols as demand for stablecoin investment opportunities is high.
- There is an inherent risk to these tokens, however, as they are centrally controlled and maintain the right to blacklist accounts.

2. Crypto-Collateralized

- They are backed by an over collateralized amount of another cryptocurrency.
- Their value can be hard or soft pegged to the underlying asset depending on the mechanism.
- With a market capitalization of over $9 billion, the most popular crypto-collateralized stablecoin is DAI, created by MakerDAO and and backed by ETH and other crypto assets.
- It is soft pegged with economic mechanisms that incentivize supply and demand to drive the price to $1.
- Another popular crypto-collateralized Stablecoin is sUSD, which is hard pegged to $1 through the Synthetix network token (SNX) exchange functionality.
- Crypto-collateralized stablecoins have the advantages of decentralization and secured collateral.
- The drawback is that their scalability is limited.
- To mint more of the stablecoin, a user must necessarily back the issuance by an overcollateralized debt position.

3. Non-collateralized / Algorithmic Stablecoin

- Not backed by any underlying asset and using algorithmic expansion and supply contraction to shift the price to the peg.
- The token holders in the platform receive the increase in supply when demand increases.
- When demand decreases and the price slips below the peg, these platforms issue bonds of some form, which entitle the holder to future expansionary supply before the token holders receive their share.
- This mechanism works almost identically to the central bank associated with fiat currencies, with the caveat that these platforms have an explicit goal of pegging the price rather than funding government spending or other economic goals.
- A noteworthy early example of an algorithmic stablecoin is Basis, which had to close due to regulatory hurdles.
- Current examples of algorithmic stablecoins include Ampleforth (AMPL) and Empty Set Dollar (ESD).
- The **drawback** to non-collateralized stablecoins is that they have a lack of inherent underlying value backing the exchange of their token.
- In contractions, this can lead to "bank runs," in which many holders are left with large sums of the token that are no longer worth the peg price.

Tether (USDT)

- Tether (USDT) pegs itself to $1 by maintaining reserves of $1 per Tether token minted.
- While Tether is the largest and most widely used USD stablecoin with daily trading volumes averaging approximately $61 billion in 3rd Apr 2022.
- Tether reserves are kept in financial institutions with little oversight, thus users will have to trust Tether as an entity to actually have the reserve amounts that they claim.
- Tether is therefore a **centralized, fiat-collateralized stablecoin**.
- Tether dominates the stablecoin market with approximately 68% of the market share

DAI (DAI)

- DAI is collateralized using cryptocurrencies such as Ethereum (ETH).
- Its value is pegged to $1 through protocols voted on by a decentralized autonomous organization and smart contracts.
- At any given time, users can easily validate that the collateral used to generate DAI exists.
- DAI is thus a **decentralized, crypto-collateralized stablecoin**.
- DAI token grew 592.3 per cent from its earlier market capital of $1.3 billion to currently $9 billion
- DAI is the native stablecoin used most widely in the DeFi ecosystem. It is one of the preferred USD stablecoin used in DeFi trading, lending, etc

What is Maker?

- Maker is a smart-contract platform that runs on the Ethereum blockchain and **has two tokens**:
  - DAI (both algorithmically pegged to $1) and
  - Maker (MKR) Its governance token

- **Dai (DAI)** was launched in November 2019 and is also known as Multi-Collateral DAI.
- It is currently backed by a basket of third-party assets such as Ether (ETH), Basic Attention Token (BAT), USDC and Wrapped Bitcoin (wBTC).
- More types of collateral are continuously added based on community proposals.

MKR

- **Maker (MKR)** is Maker's governance token,
- and users can use it to vote for improvements on the Maker platform via the Maker Improvement Proposals.
- Maker is a type of organization known as a Decentralized Autonomous Organization (DAO).

How does Maker Govern the System?

- MKR holders have voting rights proportional to the amount of MKR tokens they own in the DAO and can vote on parameters governing the Maker Protocol.
- The parameters that the MKR holders vote on are vital in keeping the ecosystem healthy, which in turn helps ensure that DAI remains pegged to $1.
- We will briefly go through three key parameters which you will need to know in the DAI stablecoin ecosystem:

I. Collateral Ratio

- Amount of DAI that can be minted is dependent on the collateral ratio.

For example:

  - Wrapped Bitcoin (wBTC) collateral ratio = 150%
  - Basic Attention Token (BAT) collateral ratio = 150%

- Therefore, a collateral ratio of 150% means that in order to mint $100, you need to deposit a minimum of $150 worth of wBTC or BAT.

II. Stability Fee

- Maker's fluctuating stability fees are **designed to maintain DAI's dollar peg**, as when collateralized debt position (CDP) holders mint more DAI than the market demands, the stable token's price could fall below $1.
- Increasing the stability fee pushes up the cost of borrowing DAI, reducing demand for minting the token
- It is equivalent to the ‘interest rate’ which you are required to pay along with the principal debt of the vault.
- The stability fee for each Vault type changes as a result of the decisions of MKR token holders who govern the protocol.
- These decisions are based on the recommendation of Maker’s internal risk teams who perform risk assessments on collaterals used in the system.

For example: the current stability fee for BAT is 6.0% as of April 2021.
https://makerdao.world/en/learn/vaults/stability-fees/

III. DAI Savings Rate (DSR)

- The DAI Savings Rate (DSR) is the interest earned by holding DAI over time. It also acts as a monetary tool to influence the demand of DAI. The DSR rate is set at 0.01% as of April 2021.

Motivations to Issue DAI:

- Why would you want to lock up a higher value of collateral such as ETH only to issue DAI with a lower value? You could have sold your assets directly to USD instead.

There are three possible cases:

I. You need cash now and you have an asset that you believe will be worth more in the future.

- In this case, you could hold your asset in the Maker vault and get the money now by issuing DAI.

II. You need cash now but do not want to risk triggering a taxable event when selling your asset.

- Instead, you will draw the loans by issuing DAI.

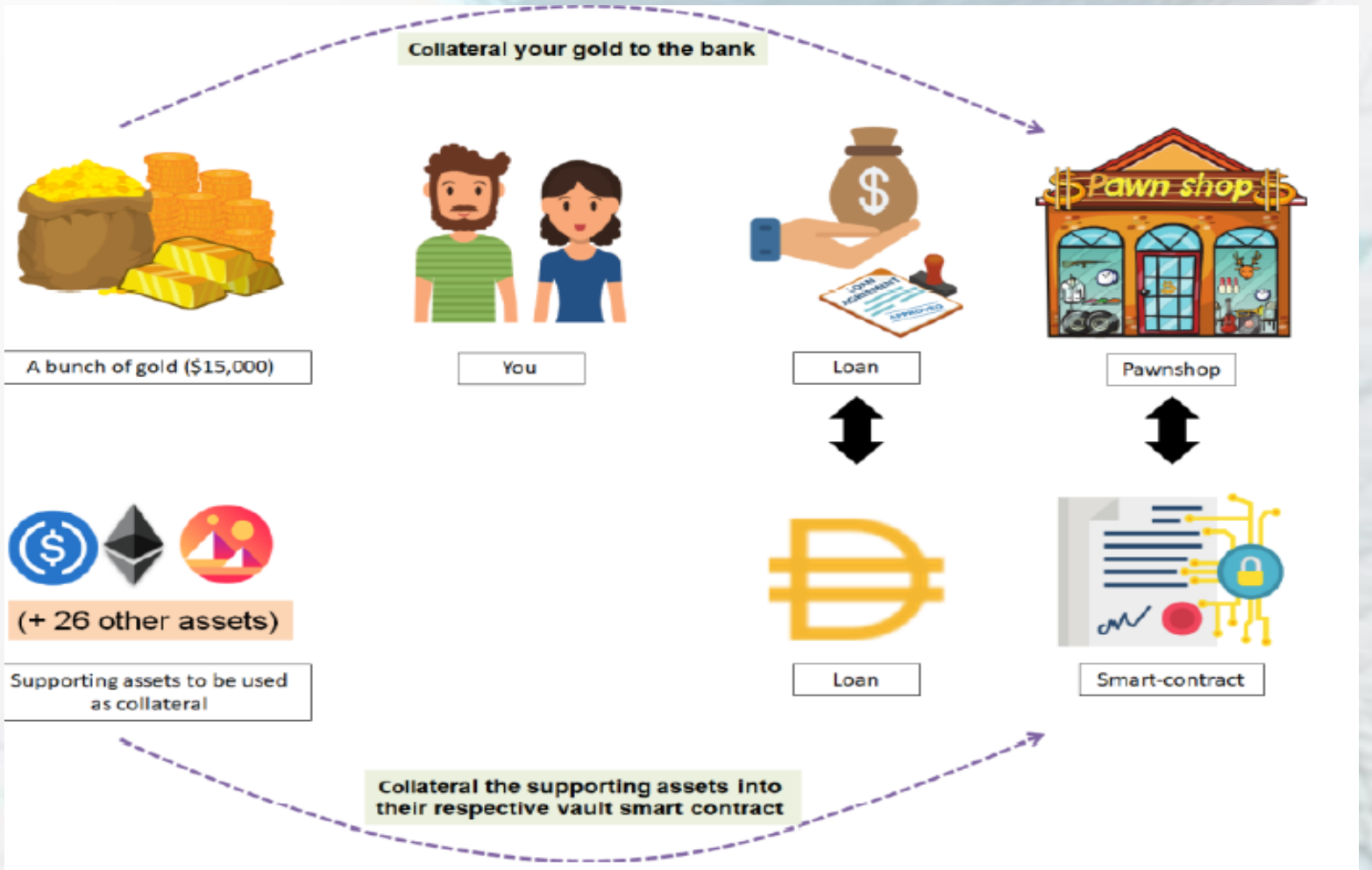
III. Investment Leverage

- You are able to conduct investment leverage on your assets given that you believe the value of your assets would go up.

How do I get my hands on some Dai (DAI)?

There are two ways you can get your hands on some Dai (DAI):

1. Minting DAI



- On the Maker platform (www.oasis.app), you can borrow DAI by putting your ETH into the vault.
- You should not draw out the maximum of 100 DAI that you are allowed to but leave some buffer in the event that ETH price decreases.
- It is advisable to give a wider gap to ensure your collateral ratio always remains above 150%.
- This ensures that your vault will not be liquidated and charged the 13% liquidation penalty in the event that ETH falls in price and your collateral ratio falls below 150%.

2. Trading DAI

- Once DAI is created, you can send it anywhere you want.
- Some users may send their DAI to cryptocurrency exchanges.
- You may also buy DAI from these secondary markets without the need to mint them.
- Buying DAI this way is easier as you do not need to lock up collateral and do not have to worry about the collateral ratio and stability fee.
- We will keep this section brief - you can check out CoinGecko for the list of exchanges that trades DAI.

Black Swan Event

- Is an unpredictable and extreme event that may cause severe consequences.
- In the case where Maker's collateral has a significant drop in price, an Emergency Shutdown will be triggered.
- It is a process used as a last resort to settle the Maker Platform by shutting the system down.
- The process is to ensure the holders of DAI holders and Vault users receive the net value of assets they are entitled to.
- In March 2020 (also known as Black Thursday), an Emergency Shutdown was almost triggered, where the price of ETH dropped by 50% within 24 hours.