

The 2022 Geography of Cryptocurrency Report

Everything you need to know about crypto adoption around the globe

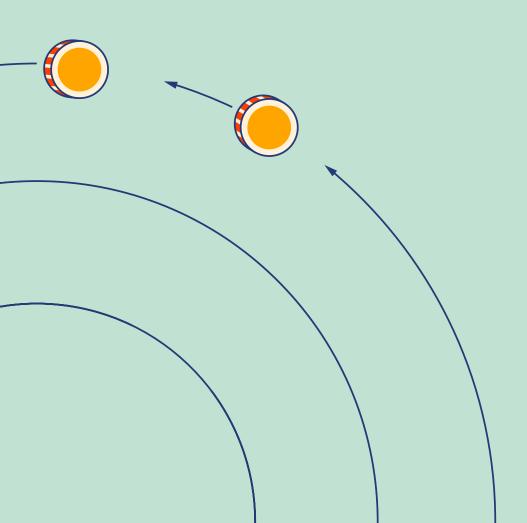


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The 2022 Global Crypto Adoption Index



The 2022 Global Crypto Adoption Index: Emerging markets lead in grassroots adoption, China remains active despite ban, and crypto fundamentals appear healthy

We're excited to share with you Chainalysis' 2022 Global Crypto Adoption Index. For the third consecutive year, we ranked all countries by grassroots cryptocurrency adoption.

What is grassroots adoption of cryptocurrency?

Think of it this way: We could easily rank countries by raw cryptocurrency transaction volume, which would give you a straightforward view of where the most cryptocurrency activity is happening. But that's not what we're interested in. The goal of our index is to measure where the most people are putting the biggest share of their money into cryptocurrency. While institutional activity is important to that, we also want to highlight the countries where individual, non-professional investors are embracing digital assets the most. You can read our methodology below to learn how we do that, then keep scrolling to see the top 20 of our index. You can also go to page 82 of this report to see the full list of country rankings.

Our methodology

Our Global Crypto Adoption Index is made up of five sub-indexes, each of which is based on countries' usage of different types of cryptocurrency services. We rank all 146 countries for which we have sufficient data according to each of those five metrics, take the geometric mean of each country's ranking in all five, and then normalize that final number on a scale of 0 to 1 to give every country a score that determines the overall rankings. The closer the country's final score is to 1, the higher the rank.

In order to calculate our sub-indexes, we estimate countries' cryptocurrency transaction volumes for different services and protocols based on the web traffic patterns of those services' and protocols' websites, with web traffic data provided by Similarweb. Relying on web traffic data means that usage of VPNs and other products that mask online activity could throw off our rankings, but given that our index takes into account hundreds of millions of transactions, VPN usage would need to be extremely widespread to meaningfully skew our data. Experts we interviewed for the report generally

agreed that our index matches their perceptions of the markets they operate in, giving us more confidence in the methodology.

Below, we lay out our five sub-indexes and how they're calculated.

On-chain cryptocurrency value received at centralized exchanges, weighted by purchasing power parity (PPP) per capita

The goal of this sub-index is to rank each country by total cryptocurrency activity occurring on centralized services, and to then weight the rankings to favor countries where that amount is more significant based on the wealth of the average person and value of money generally within the country. We calculate the metric by estimating total cryptocurrency received by users of centralized services in each country, and weighting the on-chain value based on PPP per capita, which is a measure of the country's wealth per resident. The higher the ratio of on-chain value received to PPP per capita, the higher the ranking, meaning that if two countries had equal cryptocurrency value received, the country with the lower PPP per capita would rank ahead.

On-chain retail value received at centralized exchanges, weighted by PPP per capita

The goal of this metric is to measure the activity of non-professional, individual cryptocurrency users at centralized services, based on how much cryptocurrency they're transacting compared to the wealth of the average person. We approximate individuals' cryptocurrency activity by measuring the amount of cryptocurrency moved in retail transactions, which we designate as any transaction for under \$10,000 USD worth of cryptocurrency. We then rank each country according to this metric but weight it to favor countries with a lower PPP per capita.

Peer-to-peer (P2P) exchange trade volume, weighted by PPP per capita and number of internet users

P2P trade volume makes up a significant percentage of all cryptocurrency in emerging markets. For this sub-index, we rank countries by their P2P trade volume and weight it to favor countries with lower PPP per capita and fewer internet users, the goal being to highlight countries where more residents are putting a larger share of their overall wealth into P2P cryptocurrency transactions.

On-chain cryptocurrency value received from DeFi protocols, weighted by PPP per capita

DeFi has been one of the fastest-growing areas of cryptocurrency over the last two years. In fact, as we see in the case of DEXes vs. CEXes, decentralized cryptocurrency protocols, which primarily use Ether as opposed to Bitcoin, have at times overtaken centralized services in on-chain transaction volume. Given the importance of DeFi to innovation in cryptocurrency, we wanted our adoption index

to highlight countries where users are concentrating a disproportionately high share of their financial activity in DeFi protocols. For this sub-Index, we rank countries by their DeFi transaction volume, with weighting to favor countries with lower PPP per capita.

On-chain retail value received from DeFi protocols, weighted by PPP per capita

Just as we want our index to incorporate the activity of non-professional, individual cryptocurrency users on centralized services, we want to do the same with DeFi. So, this sub-index ranks each country by DeFi transaction volume carried out in retail-sized transfers, weighted to favor countries with lower PPP per capita.

How our methodology changed this year

The biggest change to our index methodology this year is the addition of two sub-indexes based on DeFi transaction volume, and the modification of two other sub-indexes to include only transaction volume associated with centralized services. We did this for two reasons: First, as we explain above, to highlight countries leading the way in DeFi given its importance to the overall cryptocurrency ecosystem. Second, we wanted to address the issue of DeFi-driven inflation of transaction volume. Deposits to and withdrawals from centralized services show up in on-chain transaction volume, but transactions within those services, such as trades on a centralized exchange, do not. Centralized services track that transaction volume internally, such as in order books for exchanges, meaning we don't have access to it. This is not the case with DeFi protocols. Because DeFi protocols are non-custodial and simply route cryptocurrency between private wallets, all DeFi transactions show up on-chain. That means that if you're using on-chain data, DeFi protocol transaction volumes will receive a bump that volumes associated with centralized services don't receive. In the context of this index, that could lead to us artificially favoring countries with higher DeFi adoption over ones with more activity on centralized services, even if the amount of real transaction activity is the same.

In order to address this, we decided to measure each country's CeFi and DeFi transaction volumes separately — both in total and at the retail level — and use them as equal components of the Global Crypto Adoption Index. This way, every country's transaction volume is compared more accurately, and we can be transparent about which countries see more transaction volume in the DeFi ecosystem.

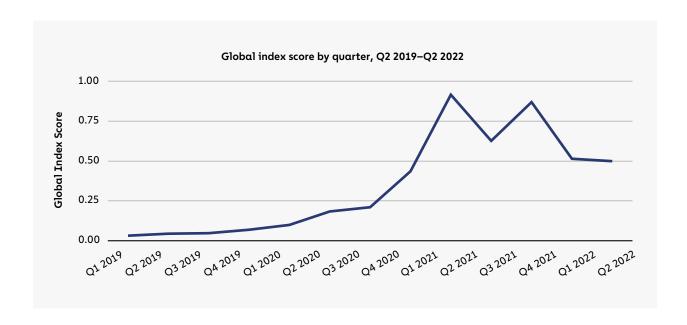
The 2022 Global Crypto Adoption Index Top 20

Country	Overall index ranking	Centralized service value received ranking	Retail centralized service value received ranking	P2P exchange trade volume ranking	DeFi value received ranking	Retail DeFi value received ranking
Vietnam	1	5	5	2	7	6
Philippines	2	4	4	66	13	5
Ukraine	3	6	6	39	10	14
India	4	1	1	82	1	1
United States	5	3	3	111	3	2
Pakistan	6	10	10	50	22	16
Brazil	7	7	7	113	8	7
Thailand	8	12	12	61	5	3
Russia	9	8	8	109	11	12
China	10	2	2	144	6	4
Nigeria	11	18	18	17	20	17
Turkey	12	9	9	121	19	15
Argentina	13	13	13	26	21	25
Morocco	14	19	19	21	33	18
Colombia	15	23	23	10	27	29
Nepal	16	17	17	19	34	41
United Kingdom	17	14	14	71	12	11
Ecuador	18	37	37	6	45	56
Κεηγα	19	43	43	5	9	34
Indonesia	20	16	16	129	18	13

Key takeaways from the 2022 Crypto Adoption Index

Overall adoption slows worldwide in bear market, but remains above pre-bull market levels

Our data shows that global adoption has leveled off in the last year after growing consistently since mid-2019. We look at this trend in the chart below, where we apply our index methodology globally by summing all 154 countries' Global Crypto Adoption Index scores quarterly, from Q2 2019 to the present, and re-index that number again to show adoption growth over time across the world.



Global adoption of cryptocurrency reached its current all-time high in Q2 2021. Since then, adoption has moved in waves – it fell in Q3, which saw crypto price declines, rebounded in Q4 when we saw prices rebound to new all-time highs, and has fallen in each of the last two quarters as we've entered a bear market. Still, it's important to note that global adoption remains well above its pre-bull market 2019 levels.

The data suggests that many of those attracted by rising prices in 2020 and 2021 stuck around, and continue to invest a significant chunk of their assets in digital assets. That also aligns with our previous research showing that cryptocurrency markets have been surprisingly resilient through recent declines. Big, long-term cryptocurrency holders have continued to hold through the bear market, and so while their portfolios have lost value, those losses aren't locked in yet because they haven't sold— the on-chain data suggests those holders are optimistic the market will bounce back, which keeps market fundamentals relatively healthy.

Emerging markets dominate the Global Crypto Adoption Index

One trend we noted last year has only gotten stronger this year: Emerging markets dominate the index. The World Bank categorizes countries into one of four categories based on income levels and overall economic development: high income, upper middle income, lower middle income, and low income. Using that framework, we find that the middle two categories dominate the top of our index. Out of our top 20 ranked countries:

- Ten are lower middle income: Vietnam, Philippines, Ukraine, India, Pakistan, Nigeria, Morocco, Nepal, Kenya, and Indonesia
- Eight are upper middle income: Brazil, Thailand, Russia, China, Turkey, Argentina, Colombia, and Ecuador
- Two are high income: United States and United Kingdom

As we explore later in the report, users in lower middle and upper middle income countries often rely on cryptocurrency to send remittances, preserve their savings in times of fiat currency volatility, and fulfill other financial needs unique to their economies. These countries also tend to lean on Bitcoin and stablecoins more than other countries. Over the coming years, it'll be interesting to see what solutions the cryptocurrency industry can build to increase adoption in high and low income countries.

Vietnam holds on to top spot, U.S. jumps to fifth, China back in top ten

There are also a few individual countries whose rankings stand out to us.

For the second consecutive year, Vietnam is ranked first in cryptocurrency adoption. A look at the sub-rankings shows that Vietnam shows extremely high purchasing power and population-adjusted adoption across centralized, DeFi, and P2P cryptocurrency tools. Other sources have also noted Vietnam's love of cryptocurrency. Polling done in 2020 found that 21% of Vietnamese consumers reported using or owning cryptocurrency, second only to Nigeria at 32%, and the adoption rate has likely only grown since then. Reports from local media suggest that cryptocurrency-based gaming, including games following the play to earn (P2E) and move to earn (M2E) models, are particularly popular in the Southeast Asian country. That goes not just for users, but builders too, as the top-grossing P2E game Axie Infinity is based in Ho Chi Minh City, with its success inspiring more crypto gaming startups to find success in Vietnam.

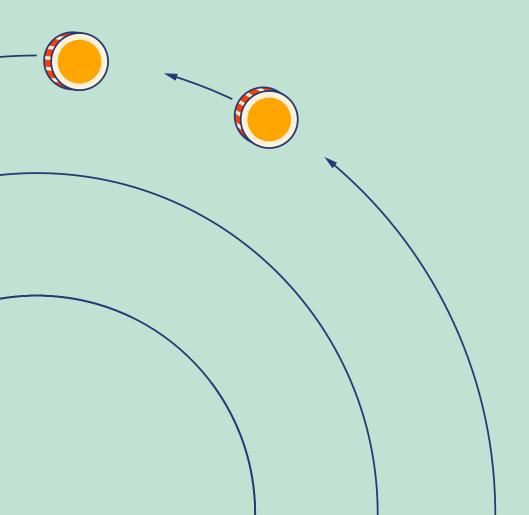
The United States moved up to fifth in our index rankings from eighth in 2021 and sixth in 2020. The U.S. ranks in the top three of each sub-index, with the exception of population and purchasing power-adjusted P2P exchange usage, where it ranks much lower at 111th. This isn't surprising, as our research shows that P2P exchange usage tends to be highest in countries with low purchasing power. Perhaps most interesting is the fact that the United States is by far the highest-ranked developed

market country on our index, and one of only two to make the top 20 along with the UK. We'll explore reasons for this later in our section on North America.

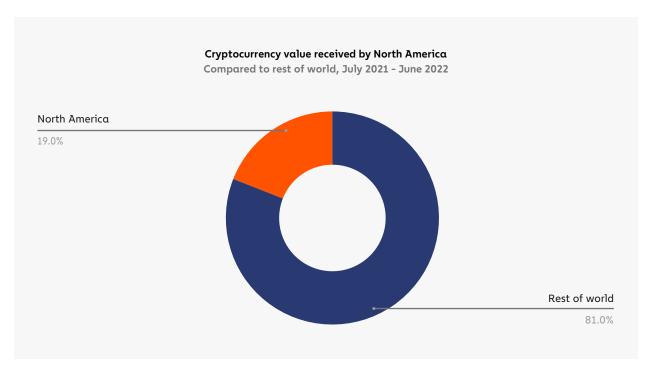
Finally, China re-entered the top ten of our index this year after placing 13th in 2021. Our sub-indexes show that China is especially strong in usage of centralized services, placing second overall for purchasing power-adjusted transaction volume at both the overall and retail levels. This is especially interesting given the Chinese government's crackdown on cryptocurrency activity, which includes a ban on all cryptocurrency trading announced in September 2021. Our data suggests that while the ban initially caused a large dropoff in crypto activity, China's market has bounced back in recent months, suggesting that the ban is perhaps ineffective or loosely enforced.

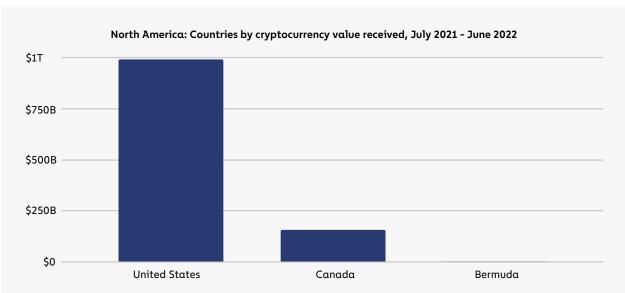
Bear markets can't wipe out bull market adoption

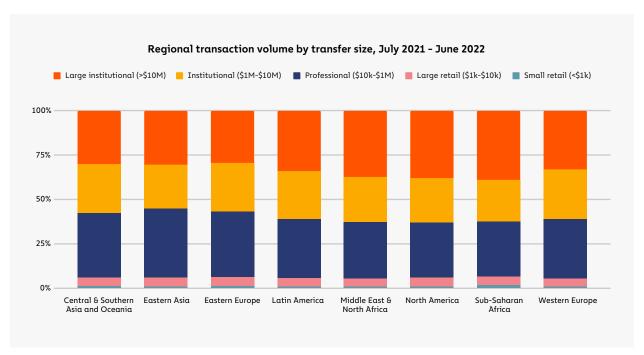
As we noted above, while growth has become more sporadic with the onset of the latest bear market, global adoption remains well above the levels that preceded the 2020 bull market. The data suggests that a critical mass of new users who put capital into cryptocurrency during periods of price growth tend to stay even when prices decline, allowing the ecosystem to consistently grow on net across market cycles. One reason for this could be the value that users in emerging markets get from cryptocurrency. These countries dominate the adoption index, in large part because cryptocurrency provides unique, tangible benefits to people living in unstable economic conditions. We'll explore these dynamics more in the full report.

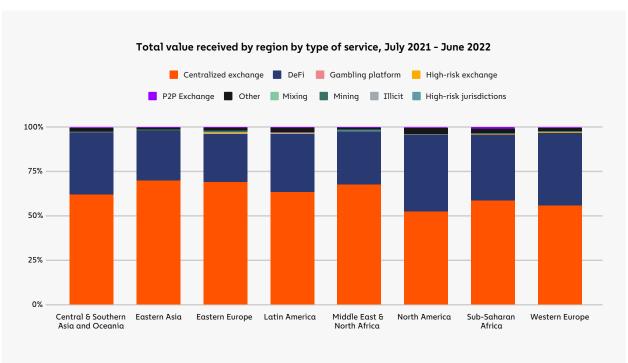


North America's cryptocurrency activity summarized



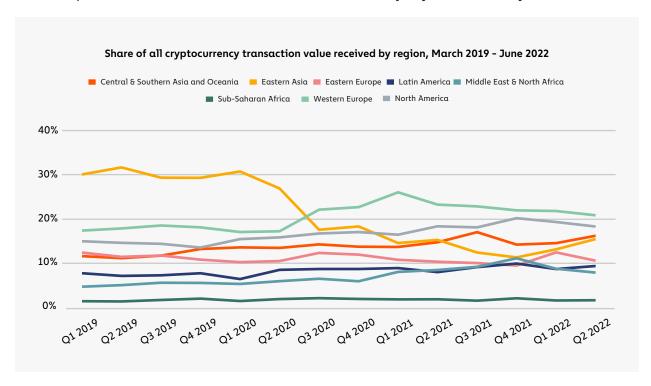






DeFi-driven cryptocurrency markets in North America were strong but volatile over the last year

North America is the second-biggest cryptocurrency market we study with \$1.15 trillion worth of cryptocurrency received between July 2021 and June 2022, representing 19% of global activity during that time period. The United States accounted for the vast majority of that activity.



North America has been the second-most active cryptocurrency region since Eastern Asia's dropoff in mid-2020, and recently, DeFi has been a huge booster of activity in the region. Between July 2021 and June 2022, DeFi has accounted for 37% of all North American cryptocurrency transaction volume — more than any other region. Western Europe is second at 31%, while other regions like Sub-Saharan Africa have as little as 13% of activity coming from DeFi.

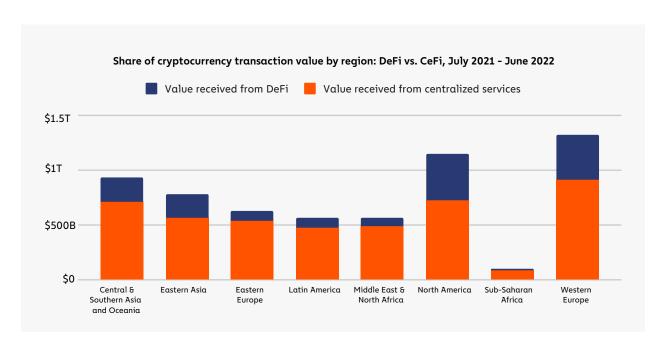
DeFi is still where many of the most cutting edge cryptocurrency projects are built, and these tend to catch on first in North America and Western Europe. In order to learn more about this dynamic, we spoke with Matt Van Buskirk, who led compliance at Circle and currently is Co-founder and Co-CEO of crypto-friendly compliance startup Hummingbird. "There are big concentrations of developer talent and academic interest in hubs like New York and London, so you see a lot of blockchain projects from those areas," said Matt. "I'm advising people building great projects in places like

Latin America, but it's harder for them to find talent and funding without coming to somewhere like Silicon Valley."

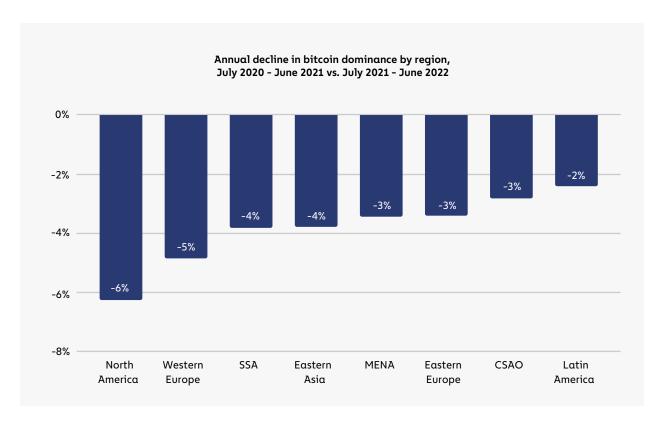
In addition, many DeFi use cases, such as yield farming and trading of new tokens on DEXes, are highly speculative, which will naturally attract investors who have either built up solid crypto holdings already or otherwise have money to play with. You're more likely to find those investors in developed markets of North America and Western Europe, and less so in emerging markets.

At the moment though, the bear market appears to have dampened North America's crypto markets, both DeFi and CeFi, just as it has in other regions. Let's dive more into what the last year looked like for cryptocurrency usage in North America.

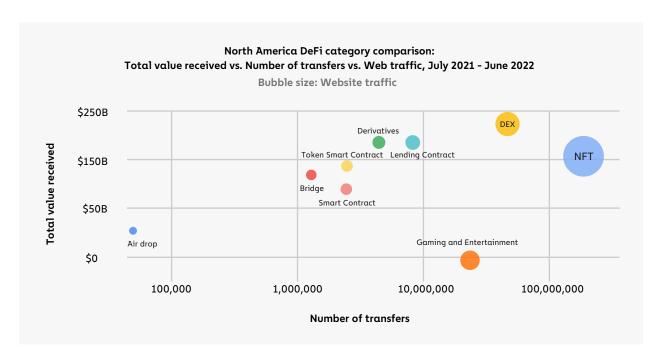
How DeFi domination shapes the ebbs and flows of North America's crypto markets



North America has adopted DeFi more than any other region, which has also had the knock-on effect of making it the region where Bitcoin's dominance has decreased most over the last year.



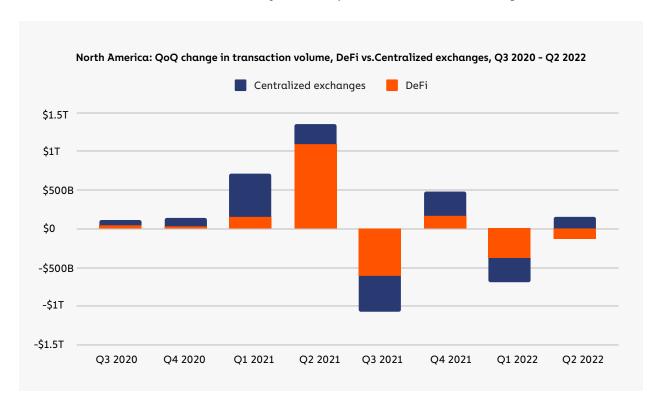
DeFi is a rather broad term though. What specific use cases are leading DeFi adoption in North America?

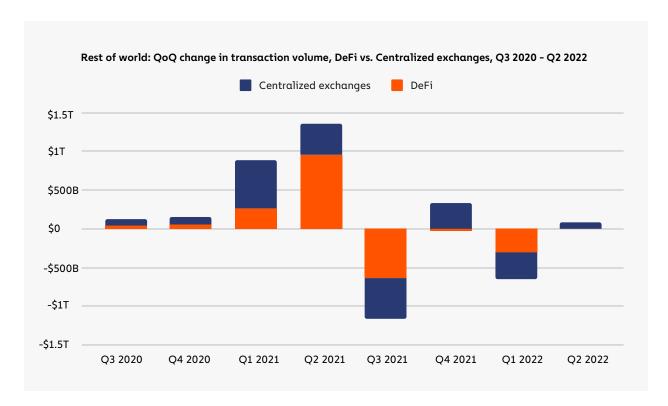


Web traffic data source: Similarweb

The answer depends on how you look at things. DEXes lead in total value received, but lag well behind NFTs in website traffic and number of individual transfers. One could draw the conclusion that NFTs are leading grassroots adoption, and as we've explored before, have been a leading draw for users new to cryptocurrency. DEXes, on the other hand, with their bigger transfer sizes and higher transaction volume, appear to get more usage from professional and even institutional users.

North America's disproportionate embrace of DeFi has led its cryptocurrency market to behave differently than the rest of the world's over the last year, often with more extreme swings in activity. Check out the charts below, which show quarterly changes in overall transaction volume for North America and the rest of the world, broken down by DeFi compared to centralized exchanges.



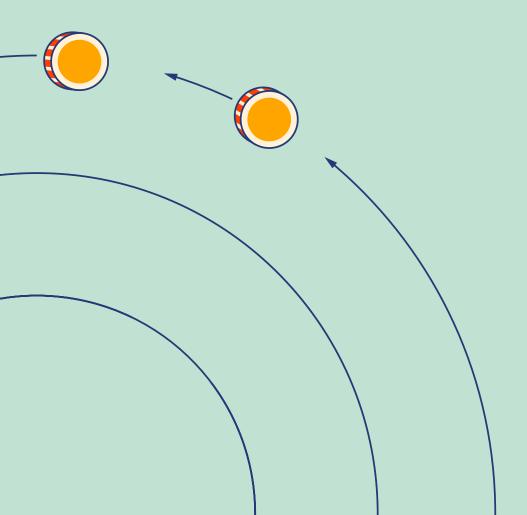


We can see that in most quarters, North America's activity changed at a greater rate than that of the rest of the world, largely due to swings in DeFi usage. At times, the effect was enough for North America's transaction volume to move in the opposite direction of the rest of the world's. For instance, in Q2 2022, the rest of the world saw an uptick in overall transaction volume, led by centralized services. North America also saw an uptick in activity on centralized services, but that uptick was wiped out by a huge drop in DeFi activity. Overall, the data suggests that when the market was strong in the second half of 2021 and money was pouring in, transaction volume grew even more in North America because the region's investors were more drawn to high-yield opportunities in DeFi. Likewise, during the market decline in 2022, North American investors were more eager to pull back from a DeFi sector they perceived as risky, meaning activity fell further.

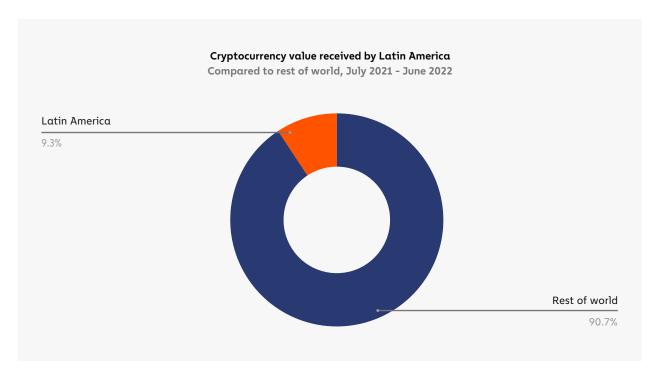
What's next for North America?

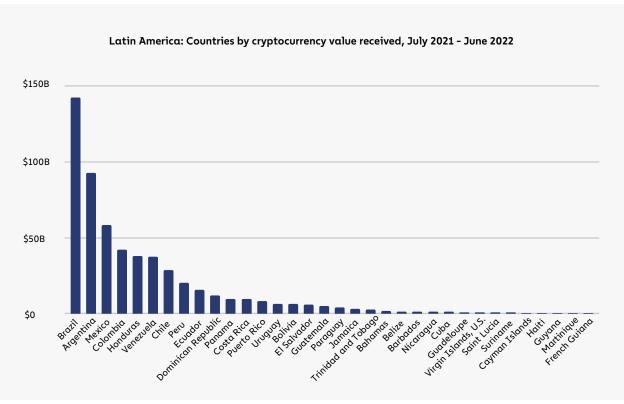
Regardless of the volatility and risk in DeFi, the most prominent DeFi protocols have thus far survived the bear market and continue to attract robust investment. The question now becomes: What will be the next big new innovation in cryptocurrency? If previous trends hold, it'll likely see greatest initial adoption in North America and Western Europe.

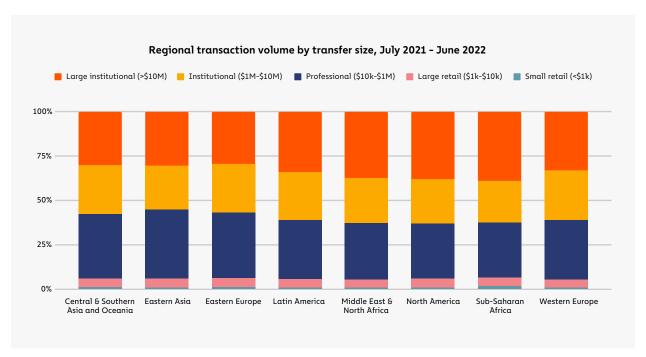
It's also possible that those new projects will be less speculative. Matt Van Buskirk told us more. "With the drop in the market, we're seeing more projects trying to tackle the real, infrastructural pain points in the financial sector and elsewhere," he said. "Mortgages, identity verification, tokenization of physical assets — I think we'll see blockchain-based primitives around those things."

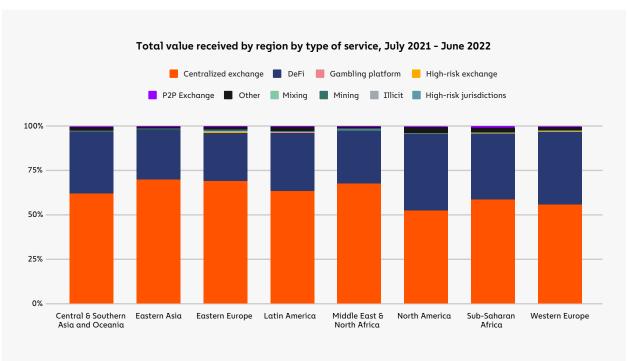


Latin America's cryptocurrency activity summarized









Latin America's key crypto adoption drivers: storing value, sending remittances, and seeking alpha

Latin America is the seventh largest cryptocurrency market we study this year, with citizens of Latin American countries receiving \$562.0 billion in crypto from July 2021 to June 2022. This represents a 40% growth over last year's total. Latin America is also home to five of the top thirty countries in this year's crypto index: Brazil (7), Argentina (13), Colombia (15), Ecuador (18), and Mexico (28).

In our analysis of Latin America's on-chain activity, we identified three key use-cases driving crypto adoption:

- · Storing value
- · Sending remittances
- · Seeking alpha

Let's take a closer look at these three drivers – and the Latin American countries where each use case is most prevalent.

Storing value

In April, the International Monetary Fund found that the combined inflation rate of the five largest Latin America's economies (or the "LA5") – Brazil, Chile, Colombia, Mexico, and Peru – had surpassed 8% – a 15-year high. Four months later they updated this estimate to 12.1% – a 25-year high. Meanwhile, in countries like Venezuela and Argentina, the state of affairs is even worse. These two countries face year-on-year inflation rates of 114% and 79%, respectively, meaning that their fiat currencies have lost around half of their value within the last twelve months.

The last time inflation reached such a height across Latin America, Bitcoin had not yet been invented. While Bitcoin hasn't yet proven to be the inflation hedge many believed it would be, stablecoins – cryptocurrencies that are designed to stay pegged to the price of fiat currencies like USD – are a favorite in the most inflation-ravaged countries in the region. In fact, recent survey data suggests that more than a third of Latin American consumers already use stablecoins to make everyday purchases.

Below, we discuss how citizens of the two of the most inflation-impacted Latin American countries use stablecoins to modernize the way they save.

Spotlight: Venezuela

Venezuela is unranked in this year's index, as reliable and recent estimates of its PPP per capita were unavailable. However, if we use the World Bank's 2014 estimate as a proxy, Venezuela would rank 11th overall.

Given Venezuela's sharp downturn in the eight years since and growing crypto adoption, they could rank higher. Its national currency, the Bolivar, has depreciated by more than 100,000% from December 2014 to September 2022. Venezuela is also, despite its incredible fiat currency devaluation, still a growing crypto market in U.S. dollar terms. Last year, Venezuelans received \$28.3 billion worth of cryptocurrency. This year, they received \$37.4 billion, up 32%.

Much of this transaction activity is stablecoin-related. 34% of all small retail transaction volume in Venezuela consisted of stablecoin trades – more than any other country in Latin America. This aligns well with the store-of-value thesis behind Venezuela's grassroots adoption of crypto.

This economic precarity also helps explain Venezuelans' affinity for play-to-earn blockchain games, a few of which have (briefly) yielded economic returns that outpace Venezuela's monthly minimum wage. As a result, Venezuela has the second most Axie Infinity players of any country this year, right after the Philippines, which placed 2nd in this year's adoption index. Brazil, the next most active Latin American play-to-earn community, has the fifth largest Axie Infinity playerbase.

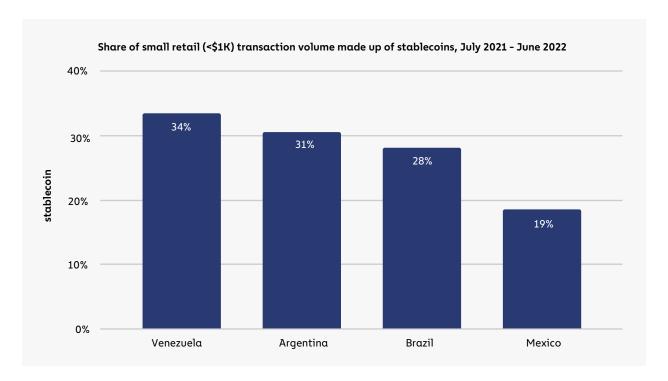
Spotlight: Argentina

Argentina has had an inflation problem for much of the twentieth and twenty-first centuries. During the Latin American debt crisis of the 1980s, when the conflict was especially acute, Argentina's inflation rate briefly eclipsed 3,000%. For that reason, explained Rodolfo Andragnes, Founder of ONG Bitcoin Argentina, "Argentinians have gotten used to buying U.S. dollars and literally storing them under the mattress." It's also why almost every high-level purchase is paid for in USD. "To buy a house, you go with 400,000 physical dollars, and you pay for the house. There are no 30 year loans or anything like that."

But Argentina's government enforces strict capital controls that make it hard to accumulate savings. Citizens with bank accounts can only swap enough Pesos at the official rate — 140 pesos per dollar — to save \$200 per month. And on the black market, where much of the country's exchange trading is actually done, the unofficial rate or 'Dólar Blue' is around 270 pesos per dollar. This has forced many Argentinians to get creative about how they save.

One popular solution: stablecoins. Why? Because "psychologically, Argentinians are using crypto for safety," said Sebastian Serrano, CEO of Argentina-based crypto payments company Ripio. "That's why you see so much use of stablecoins — because it's a good digital alternative to storing physical dollars."

On-chain data suggests that this use-case is popular, especially in Venezuela and Argentina.



More than 31% of Argentina's small retail-sized crypto transaction volume comes from the sale of stablecoins, compared to just 26% of Brazil's and 18% of Mexico's. These stablecoins – USDT, USDC, and USDD especially – have become popular in Argentina for three simple reasons:

- 1. They are pegged to the U.S. Dollar, which is many Argentinians' preferred currency;
- 2. They are digital, and therefore easy to access on multiple devices; and
- **3. There are no purchase limits**, meaning that Argentinians can convert any amount of pesos into stablecoins.

While Argentinians may not get a better fiat-to-stablecoin exchange rate than the dólar blue, it at least engenders some sense of stability once converted.

An alternative economy – and community

One welcome byproduct of Argentina's long-standing economic instability is that it has become one of the most active communities in blockchain in all of Latin America. "We have a big amount of people working in cryptocurrency and being paid in cryptocurrency, too," said Andragnes. This is especially true in Buenos Aires, where many of the crypto industry's biggest players live and largest events are held. MakerDAO and Chainlink, for example, each have a number of key developers based in city, and LABITCONF, the largest bitcoin conference in Latin America, draws thousands of attendees and speakers like Vitalik Buterin, the founder of Ethereum, and Elizabeth Stark, the CEO and co-founder of the Bitcoin Lightning Network, to Buenos Aires every year.

Sending remittances

Remittance payments are also common throughout Latin America. Latin America's formal remittance market is estimated to reach \$150 billion this year, and the adoption of crypto-based remittance services has been uneven, but swift, throughout the region. El Salvador's government-backed payment app Chivo processed \$52 million in Bitcoin remittances from January to May this year; and, as we'll explore below, crypto services have processed billions in remittances to Mexico as well.

Let's take a closer look at what might currently be the world's largest crypto remittance corridor: the US-to-Mexico border.

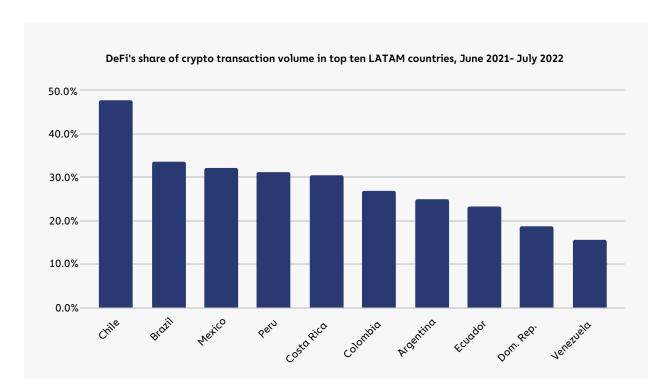
Spotlight: Mexico

According to Felipe Vallejo, Chief Regulatory Officer at Bitso, the largest crypto exchange in Mexico, a high percentage of families in Mexico's lowest socioeconomic classes receive remittance payments from family members abroad — and the crypto industry's slice of that \$51.6 billion market is rapidly growing. Bitso alone has already processed more than \$1 billion in US-to-Mexico remittances in 2022 as of June, representing a year-over-year growth rate of 400% and a grip on 4% of Mexico's remittance market.

Coinbase is also giving traditional cross-border retail payment providers like Western Union a run for their money. This February, Coinbase announced the launch of crypto cash-out services across 37,000 establishments in the country, including department stores, supermarkets, and all 20,000 branches of Oxxo, Mexico's largest chain of convenience stores.

Seeking alpha

Finally, we find that citizens of the largest and most advanced Latin American economies are more likely to adopt cryptocurrency not just for savings, but for profit. As the below graph shows, the LA5 hold the top six places in terms of DeFi's share of total crypto activity. This means that in these countries, large numbers of crypto users are engaging with permissionless protocols that enable them to lend, trade, stake, and borrow tokens of all kinds – a speculative activity with significant risk and upside potential.



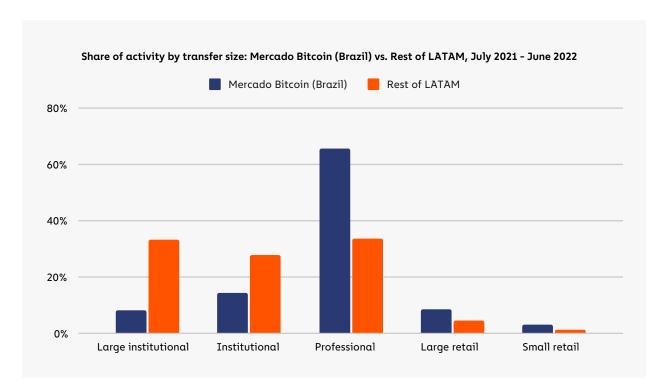
Latin America's more DeFi-centric crypto markets are not unlike Western Europe's or North America's, where market participants are embracing cutting edge, returns-focused crypto platforms moreso than savings-centric centralized services. Brazil is among the leaders in DeFi adoption in the region.

Spotlight: Brazil

According to Thomaz Fortes, the crypto lead at Nubank, one of the world's largest digital banking platforms that recently launched a crypto trading platform, the main use case for crypto in Brazil right now is as a speculative investment. "Customers want a way to expand their earnings," he explained. "Interest rates at all-time lows in the country and strong price appreciation in cryptocurrency prices may have contributed, but the adoption continued strong even in the so-called crypto winter."

"The retail growth in the number of users in crypto has been much faster than in the equities market. It took several years to get to several millions of equity investors," Fortes observed. Nubank reached 1 million customers just one month after launching its crypto platform. "It's not only institutional or high-net-worth individuals. Democratizing access means a lot of retail adoption. Here at Nubank, we developed the experience for trading cryptocurrencies so that we could break the barriers of complexity common in niche crypto brokers."

We can see some evidence of this retail adoption on-chain. Compared to other Latin American countries, a higher share of Brazil's transaction volume takes place in retail-sized increments. Trading activity on Mercado Bitcoin, one of the largest Brazilian crypto exchanges, illuminates this trend.

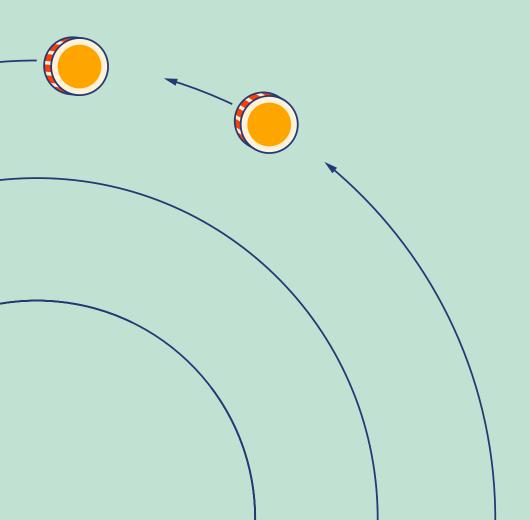


As the above chart shows, small retail (<\$1K), large retail (\$1K-\$10K), and professional (\$10K-\$1M) sized transfers represent a much larger proportion of total trading volume on Mercado Bitcoin than they do across the rest of Latin America.

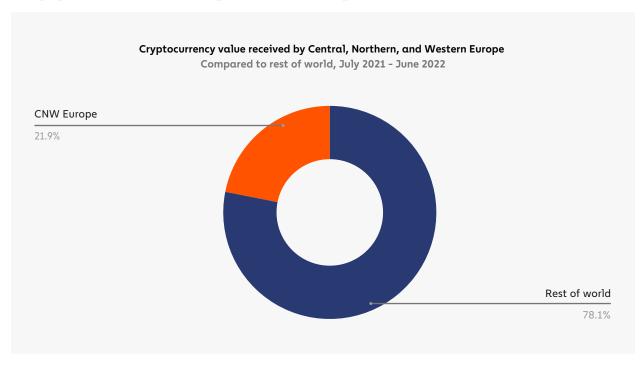
A diversity of use cases

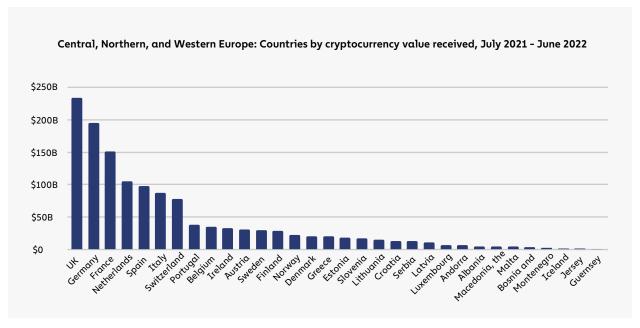
Overall, on-chain data and interviews with operators in the region show that Latin America has embraced cryptocurrency for a diverse array of reasons depending on the unique needs of each country. Users in countries with weaker economies tend to rely on cryptocurrency for remittances and, if inflation is high, for savings preservation, while users in more developed markets like Brazil treat cryptocurrency more as a speculative investment. As cryptocurrency evolves and the needs of Latin American users shift, it'll be interesting to see what use cases emerge to serve their needs.

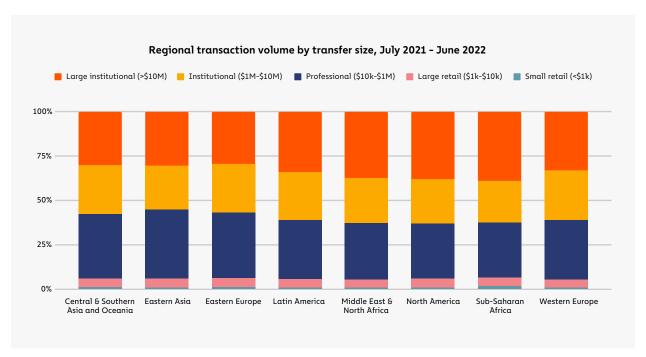
Central, Northern & Western Europe

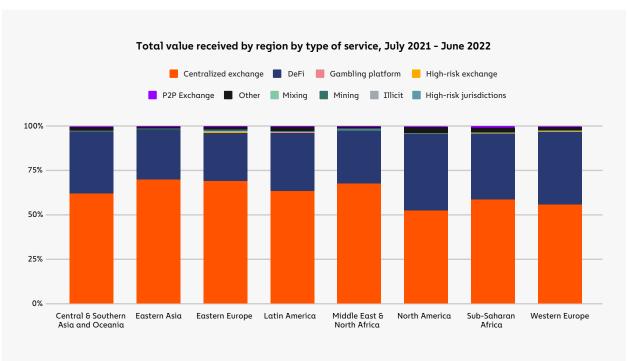


Central, Northern & Western Europe's cryptocurrency activity summarized





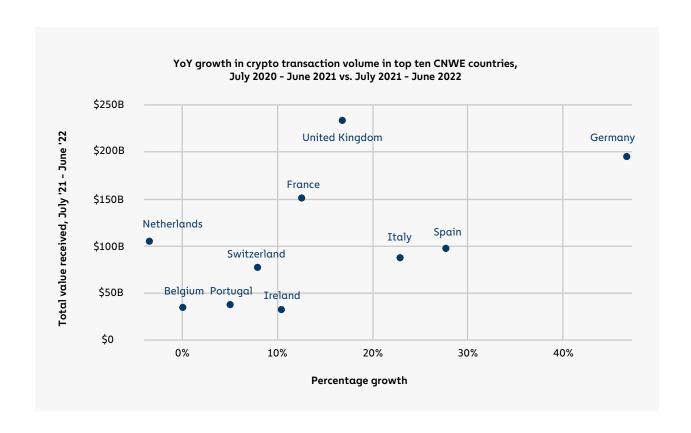




Central, Northern & Western Europe remains the world's largest crypto economy thanks to DeFi, NFTs, and growing regulatory clarity

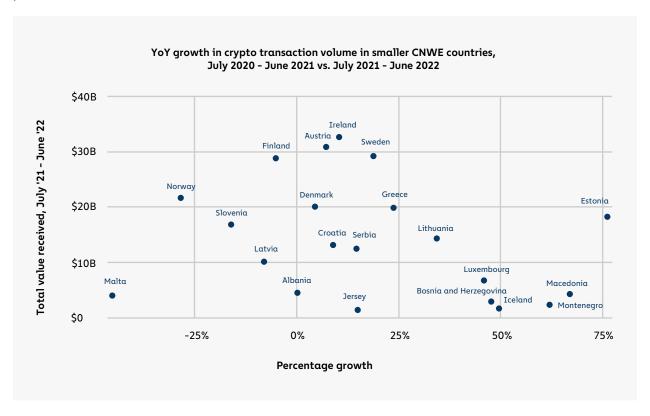
Central, Northern & Western Europe (CNWE) is once again the world's largest crypto economy. Users and institutions throughout the region received \$1.3 trillion worth of cryptocurrency from July 2021 to June 2022, and Western Europe alone contained six of the 40 highest grassroots adopters of cryptocurrency: The United Kingdom (17), Germany (21), France (32), Spain (34), Portugal (38), and the Netherlands (39). DeFi drove a huge share of this activity, with EU regulations like the crypto travel rule and MiCA licensing regime providing enhanced regulatory clarity.

In most of the ten largest crypto markets in CNWE, on-chain activity grew at a rate of 1-30% over the preceding year. But two outliers stood out: Germany, whose activity grew by 47%, and the Netherlands, whose activity shrank by 3%.



Germany's outsized growth was likely a byproduct of two recent decisions: (1) to enforce a 0% long-term capital gains tax, and (2) to allow many different types of asset managers to invest in cryptocurrencies. Chainalysis data suggests that these actions had the effect of encouraging both retail and institutional adoption. Dutch regulators, by contrast, took a more cautious tone.

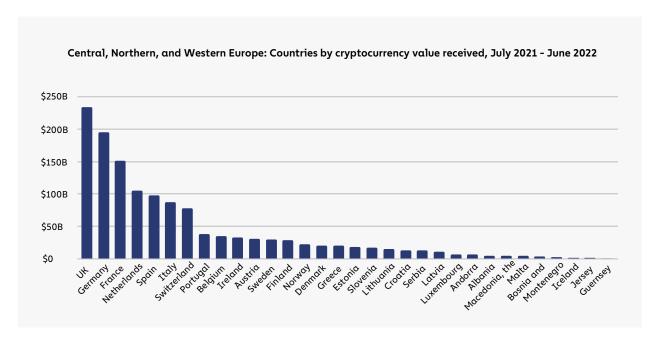
In smaller CNWE countries, changes in on-chain activity varied to a much greater extent. At the poles are Estonia, whose activity leapt by 76%, and Malta, whose activity halved over the time period studied.



Malta faced increased competition from July 2021 to June 2022 as countries like the Bahamas and Bermuda and jurisdictions like Abu Dhabi and Dubai ramped up their efforts to attract crypto start-ups to their region. However, the "blockchain island" still has one of the most comprehensive regulatory frameworks worldwide. Estonia, meanwhile, saw quick success in its ambition to become a central European crypto hub, and in May 2022 turned its attention to reducing money laundering, ransomware, and market contagion risks.

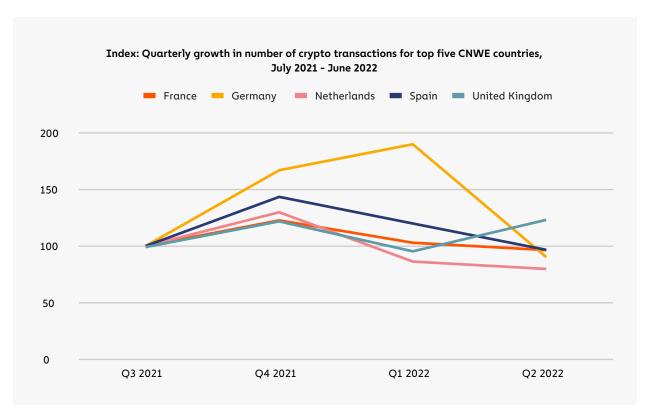
The United Kingdom is Europe's biggest DeFi district

The United Kingdom ranked 17th in the Global Crypto Adoption Index this year, up from 21st the year prior. And in terms of raw transaction volume, the United Kingdom is 1st in CNWE and 6th worldwide, with \$233 billion in cryptocurrency value received from July 2021 to June 2022.



A lot of this activity was DeFi related. Nearly 20% of the web traffic to both NFT and lending contract-related websites across all of CNWE came from the UK in particular this year.

The UK's crypto market was also unique in that it was the only top-five Western European country that grew from July 2021 to June 2022 in terms of the raw number of on-chain transactions its citizens engaged in each quarter.



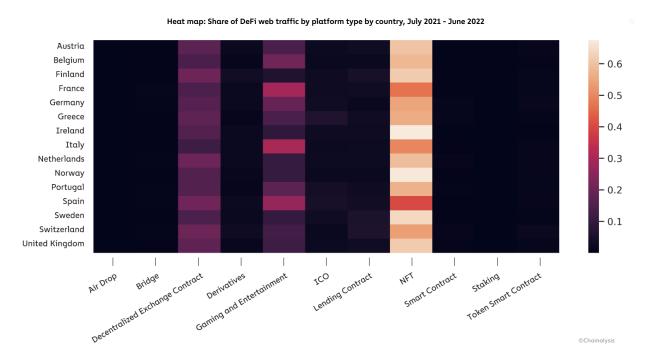
This suggests that crypto adoption rates were more resilient in the United Kingdom than elsewhere in CNWE. "I would like to think it's because we've tried to provide certainty as far as crypto regulation and taxation in the UK," said Dion Seymour, a Crypto and Digital Assets Technical Director at Andersen LLP and former Policy Advisor at HMRC, the UK's tax authority. "No one wants crypto to be taxed, but if there's uncertainty about how it will be taxed, that can cause some level of consternation too."

Another important barrier to crypto adoption that Seymour felt the UK is continuing to break down is insufficient consumer protections. "Consumer protection absolutely needs to be considered if we want DeFi to become mainstream. We will continue to see a lot of conversation among policymakers, the World Bank, World Economic Forum, OECD, HMT, FCA, and obviously HMRC this year."

NFTs drive DeFi activity throughout Central, Northern, and Western European citizens

DeFi is popular elsewhere in CNWE as well, and NFT platforms lead the way, driving the most web traffic of any other DeFi protocol type in the region. This is especially true in Ireland and Norway, where traffic to NFT marketplaces accounts for more than 70% of all DeFi-related web traffic.

Blockchain gaming was the second-most highly visited DeFi category in CNWE, with France, Italy and Spain leading the pack. In these three countries, more than 30% of web traffic was metaverse related.

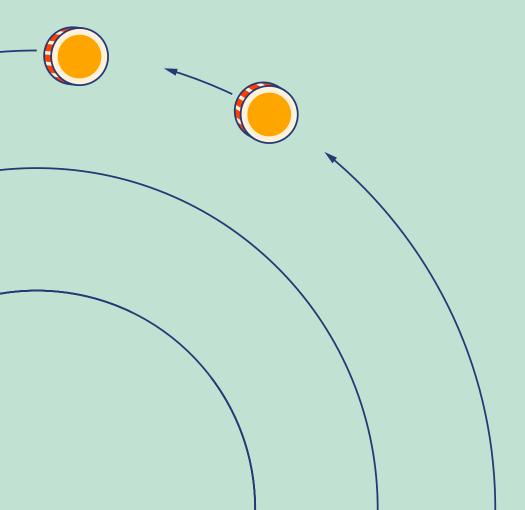


Web traffic data source: Similarweb

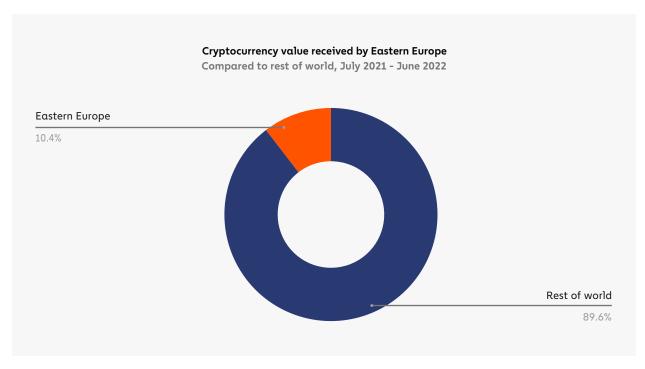
The cutting edge

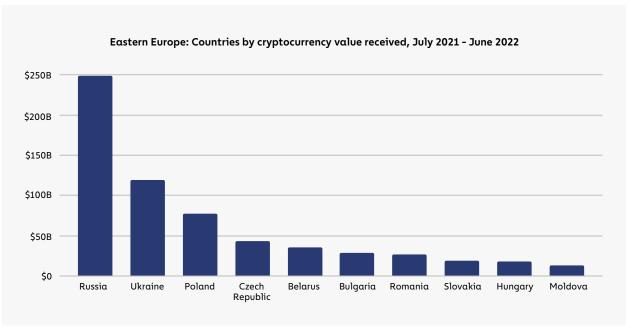
In addition to being the world's biggest cryptocurrency market, CNWE has always been on the cutting edge of the cryptocurrency world — the region's embrace of DeFi being a great example. As new crypto technologies and use cases emerge, it remains to be seen if CNWE retains its status as an early adopter.

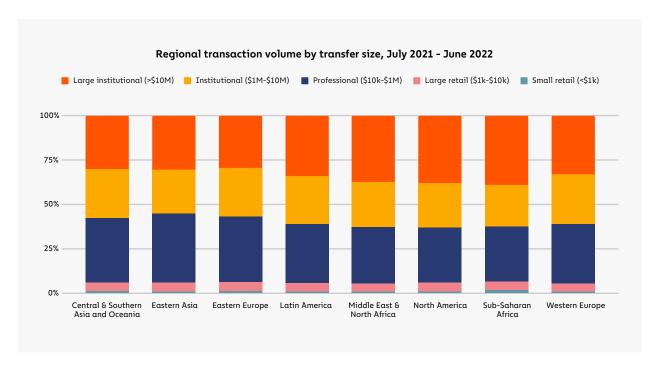
Eastern Europe

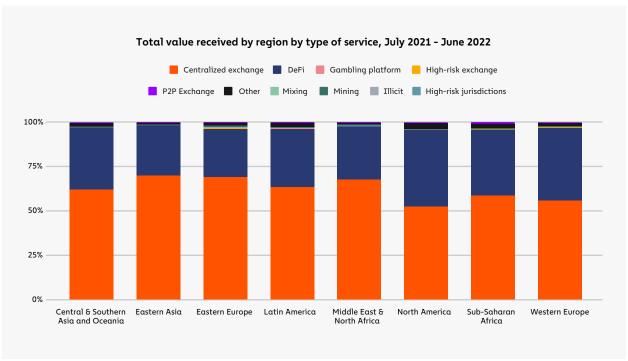


Eastern Europe's cryptocurrency activity summarized



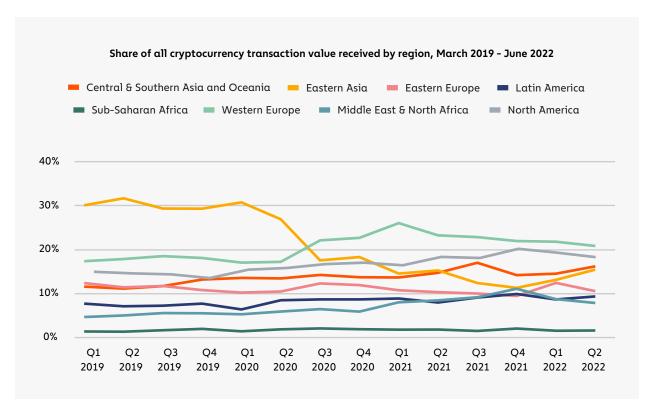






Eastern Europe's crypto market active, with spikes in last year driven by Russia-Ukraine War

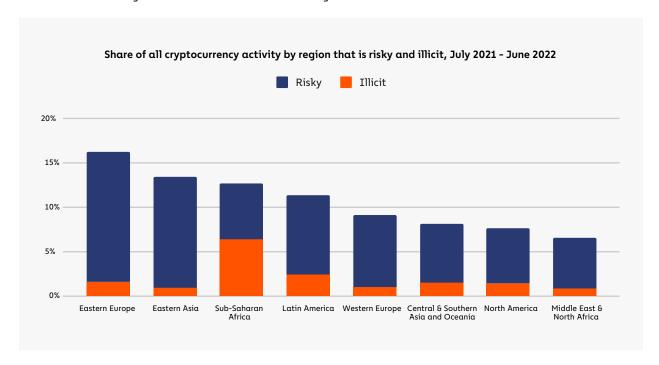
Eastern Europe is the fifth-largest cryptocurrency market we study, with \$630.9 billion in value received on-chain between July 2021 and June 2022. That represents just over 10% of global transaction activity during the time period studied.



Eastern Europe's comparative role in the bigger, worldwide crypto ecosystem has stayed surprisingly consistent over the last few years, generally hovering around 10%. Other regions, on the other hand, have seen more volatility.

In prior research, we've looked a lot at Eastern Europe's role in cryptocurrency-based crime — especially Russia. In particular, we've historically seen an outsized amount of ransomware and crypto-based money laundering in Eastern Europe, with the latter supported by a large ecosystem of risky cryptocurrency businesses. Some of those businesses, such as the OTC desk Suex, have even been sanctioned by the U.S. Treasury Department in response to this activity over the last year. Nevertheless, risky and illicit activity is still prominent when we look at Eastern Europe's on-chain activity: High-risk exchanges – those with no or low KYC requirements – account for 6.1% of trans-

action activity in the region, compared to just 1.2% for the next-closest region. In fact, if we combine addresses associated with risky and illicit activity, we see that users in Eastern Europe interact with them at a much higher rate than users in other regions.



Please note: Illicit transaction activity refers to transactions in which one or more counterparty addresses is associated with a criminal entity. Risky activity refers to transactions in which one more counterparty addresses is associated with a risky entity, such as a high-risk exchange or service headquartered in a high-risk jurisdiction.

18.2% of all cryptocurrency received by Eastern Europe comes from addresses associated with risky or illicit activity, more than any other region.

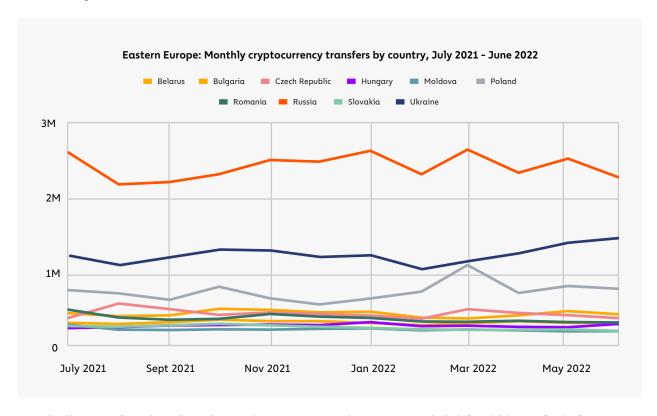
Market changes and crypto's role in the Russia-Ukraine War

Of course, the biggest news in Eastern Europe this past year has been Russia's invasion of Ukraine in February 2022 and the subsequent, ongoing war. The war has affected virtually all aspects of life in the two countries, and cryptocurrency is no exception.

Soon after the war began, the United States and several other countries began levying sanctions against Russian oligarchs and other individuals connected to Vladimir Putin's government. This, combined with Russia's historical embrace of cryptocurrency for both licit and illicit uses, prompted questions of whether Russians would seek to use cryptocurrency to evade sanctions. Our research showed that cryptocurrency markets likely aren't liquid enough to support mass scale, systematic sanctions evasion. Given that, plus this report's focus on grassroots cryptocurrency adoption, we're

going to use on-chain data to analyze how the general populace of both countries have turned to cryptocurrency since the war began, rather than just the wealthy or those subject to sanctions.

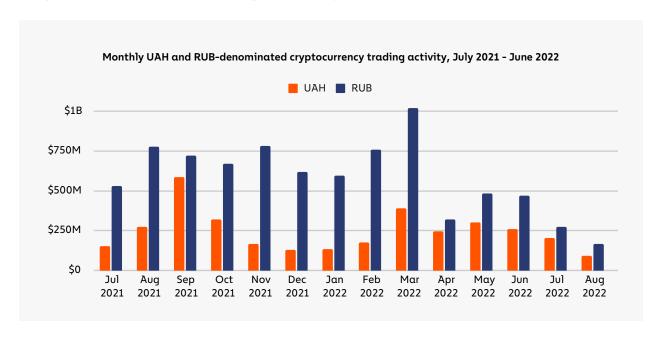
After all, the war had a serious economic impact on citizens of both countries. Ukraine has seen extremely high inflation, with a July New York Times article citing 90% increases in fuel costs and 35% increases in food costs. Russia has also seen high inflation at times since the invasion, and has faced difficulties in international commerce — in particular, exporting commodities like oil — due to its removal from the SWIFT banking network. With that context in mind, let's look at how Russian and Ukrainian crypto usage changed as the war got underway. Right off the bat, we can see that both countries saw an initial increase in cryptocurrency transfers in March 2022, soon after the war began on February 24.



Trends diverge after that though. Russia saw transactions grow and shrink within a relatively narrow range over the following months. Ukraine, on the other hand, saw a steady increase in cryptocurrency transfers from the outset of the war through June 2022. It's possible that Russian users' cryptocurrency activity was impacted by restrictions placed on them by many services in response to the invasion.

Of course, given the economic issues faced by both countries, looking at transactions as a whole may not be where we'd expect to find the most telling trends. Much of that transaction activity is made up of crypto-to-crypto trades — in an emergency or potential hyperinflation scenario though, we'd expect people to be more focused on protecting or moving their fiat assets. We can measure at least

some of this by looking at trade volume denominated in the Russian ruble and Ukrainian hryvnia, using order book data for two exchanges that accept those currencies: Binance and LocalBitcoins.



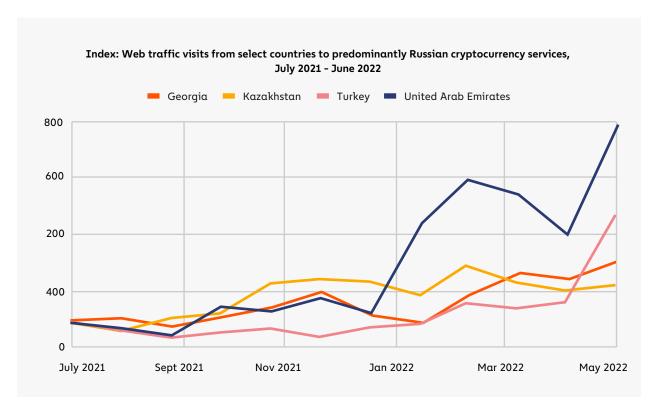
Source for exchange order book data: Kaiko

The trend here is even stronger, especially in March, immediately after the war began. That month, Ukrainian hryvnia-denominated trade volume rose 121% to \$307 million, while Russian ruble-denominated trade volume rose 35% to \$805 million. After that, we see volumes drop off for both countries, ebbing and flowing through August, but never reaching their March highs. The true scale of this activity is also likely much higher than the totals we see above, as this data comes from just two exchanges accepting both countries' fiat currencies, but we can still draw conclusions from the directional trends.

We showed our data to Tatiana Dmytrenko, a high-ranking adviser in Ukraine's Ministry of Finance and member of the World Economic Forum's Digital Assets Task Force, and asked what use cases may have accounted for the spikes in hryvnia-for-crypto trading. She cited currency controls implemented by the Ukrainian government. "Due to the introduction of martial law in Ukraine, the Ukrainian Central Bank imposed restrictions on currency cash transactions, such as buying dollars or euros," she said. Transfers of currency funds abroad were also restricted soon after that — Dmytrenko believes some Ukrainians may have looked to exchange their hryvnia for cryptocurrency in response to these measures. She also pointed out that these currency controls were relaxed in July 2022, at which point we see hryvnia-for-crypto trading decline.

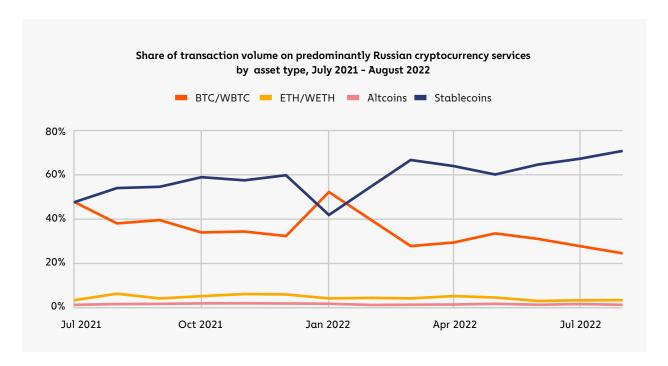
To learn more about similar activity in Russia, we spoke with a regional money laundering expert who's worked with financial intelligence units in Eastern Europe as well as several international organizations. While he asked to remain anonymous, he gave us permission to quote him on how to interpret this data in light of what he's seen in Russia since the war began.

"The major question not just for oligarchs but also ordinary Russians became, 'How do you get money out of Russia?'" the expert said. "Many began looking for new places where they could cash out their crypto." He cited the UAE and Turkey as countries they have relied on in the past, and also pointed to Kazakhstan and Georgia as countries that may have been able to absorb the increased demand for such services once the war began. While this activity is difficult to quantify, web visits from these countries to cryptocurrency services primarily serving Russian users could be one useful proxy metric. All four countries saw spikes in web visits to Russian cryptocurrency services after the war began in February, as seen in the chart below.



Web traffic data source: Similarweb

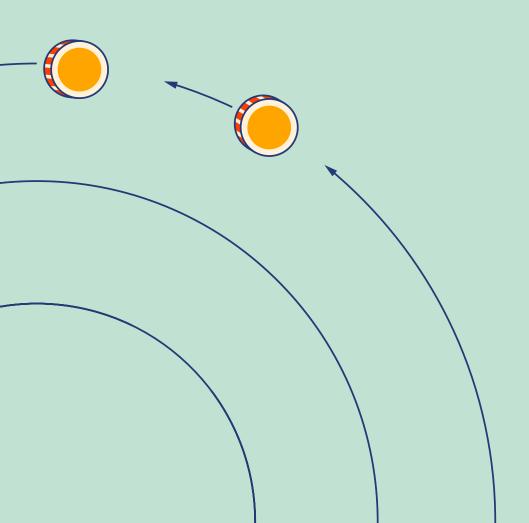
The expert also told us about the role that cryptocurrency could play in financing foreign trade for Russia following its removal from SWIFT. Russia's national bank recently agreed to legalize the use of cryptocurrency for cross-border payments and international commerce, and the expert told us that he suspects some Russian companies have already begun to execute these transactions. "This is probably already happening on a small and medium scale, but it could become more widespread." This expert cited China and Iran as possible trading partners in such a scheme, noting that the latter has initiated experiments with crypto-for-imports already. He also explained that stablecoins would likely be the preferred medium of exchange for this use case given that they don't see the price volatility of assets like Bitcoin. Our data suggests that stablecoin usage in Russia has indeed increased since the war began.



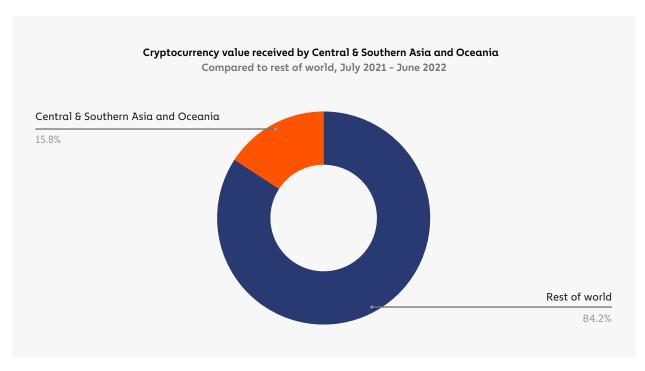
In January, stablecoins made up 42% of transaction volume on primarily Russian services. That share skyrocketed to 55% in February and 67% in March after the invasion. While some of that may be due to businesses embracing cryptocurrency for international transactions, it's also likely that some of the increase is due to ordinary Russian citizens trading for stablecoins in order to protect their assets' value, as we discussed previously.

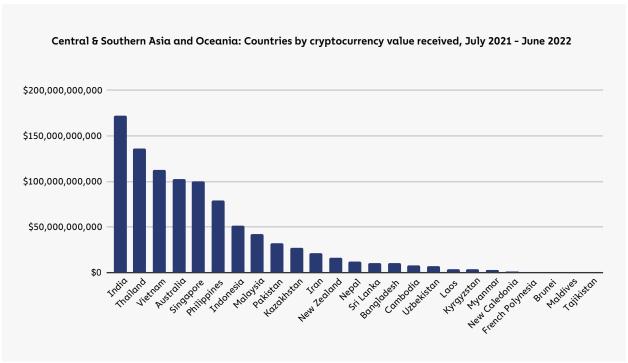
Crypto-for-imports schemes would open up many questions about how to make sanctions against countries like Russia more effective. However, one area where crypto has played an unambiguously positive role during this war is in the donations we've seen to the Ukrainian cause. Since the beginning of the war, cryptocurrency users have donated over \$65 million in humanitarian aid, showing the power cryptocurrency can have to unify people across borders in support of international causes.

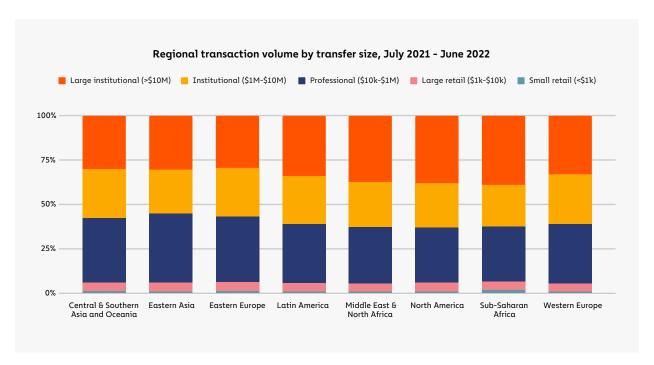
Central & Southern Asia and Oceania

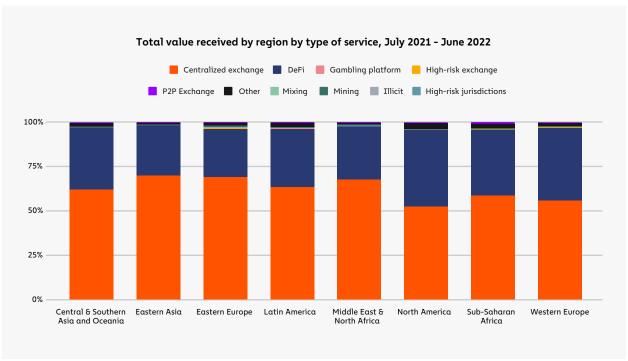


Central & Southern Asia and Oceania's cryptocurrency activity summarized





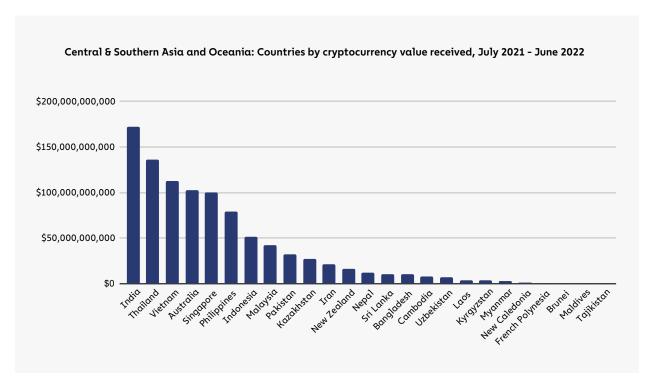




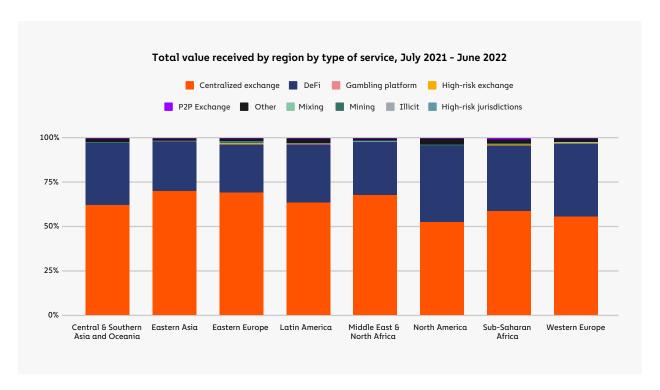
Crypto adoption steadies in South Asia, soars in the Southeast

Central & Southern Asia and Oceania (CSAO) is the third largest cryptocurrency market in our index this year, with citizens of CSAO countries receiving \$932 billion in cryptocurrency value from July 2021 to June 2022. CSAO is also home to seven of the top twenty countries in this year's index: Vietnam (1), the Philippines (2), India (4), Pakistan (6), Thailand (8), Nepal (16), and Indonesia (20).

Later in this section, we will analyze the main drivers of – and barriers to – grassroots cryptocurrency adoption in these countries. But first, let's look at CSAO in aggregate.



India continues to lead CSAO in unweighted crypto activity, receiving \$172 billion in cryptocurrency value from July 2021 through June of this year. Thailand, Vietnam, Australia and Singapore follow close behind with each receiving more than \$100 billion received. Less engaged with cryptocurrencies, however, are Central Asian countries like Uzbekistan and Oceanian island nations like the Maldives.

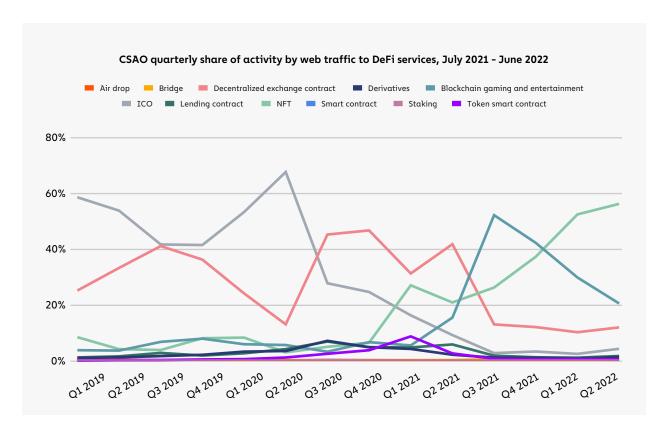


Like other regions, CSAO sees the majority of its crypto activity happen on centralized services.

Based on transaction volume, the region is in the middle of the pack when it comes to DeFi adoption.

But the data gets more interesting when we dig into what's driving that DeFi adoption.

For instance, web traffic patterns suggest NFTs are perhaps the biggest on-ramp into DeFi for CSAO today. 58% of DeFi-related web traffic from CSAO users in Q2 2022 was NFT related; another 21% was to the websites of play-to-earn blockchain games.



Web traffic data source: Similarweb

Play-to-earn games and non-fungible tokens are intimately related. In most blockchain games today, the in-game items are NFTs, like Axie pets in Axie Infinity and Sneakers in STEPN, which can be resold on a number of different NFT marketplaces, like MagicEden and OpenSea. For countries with high web traffic to NFT marketplaces – especially Thailand, Vietnam, and the Philippines – a large portion of that NFT-related traffic may therefore come from players of blockchain games.

- 1.0 Australia Bangladesh Brunei Cambodia French Polynesia - 0.8 Guam India Indonesia Kazakhstan Kyrgyzstan 0.6 Laos Malaysia Maldives Myanmar Nepal New Caledonia 0.4 New Zealand Pakistan Papua New Guinea **Philippines** Singapore Sri Lanka 0.2 Tajikistan Thailand Turkmenistan Uzbekistan Vietnam Token Smart Contract Lending Contract Smart Contract Derivatives 0.0 Gaming

Heat map: Share of DeFi web traffic by platform type by country, July 2021 - June 2022

Web traffic data source: Similarweb

As the above heatmap shows, NFT-related websites account for a majority share of DeFi-related web traffic in almost every CSAO country — but most of these same countries have their second-highest share going to blockchain games and entertainment.

This is not necessarily surprising: CSAO is a hub for innovation in blockchain-based entertainment. Game-centric blockchain developers Polygon and Immutable X are headquartered in India and Australia, for example, and Axie Infinity and STEPN, the two largest play-to-earn games, are operated in Vietnam and Australia, respectively.

© Chainalysis

This is not necessarily surprising: CSAO is a hub for innovation in blockchain-based entertainment. Game-centric blockchain developers Polygon and Immutable X are headquartered in India and Australia, for example, and Axie Infinity and STEPN, the two largest play-to-earn games, are operated in Vietnam and Australia, respectively.

Traffic to websites related to subjects like decentralized exchange contracts, however, has declined in recent quarters. This is likely connected to the bear market overall. Manan Vora, Senior Vice President of Operations and Strategy at Liminal, a Singapore-based wallet infrastructure provider, found this to be the case. "The UST crash played a big role in shaking the confidence of the crypto market. When a top ten coin goes to zero, it becomes very difficult to get people who have just entered the market to stay in the market. These are the users that you may lose forever."

Now that we've looked at CSAO's crypto markets at large, let's zoom in on the most active countries within the region.

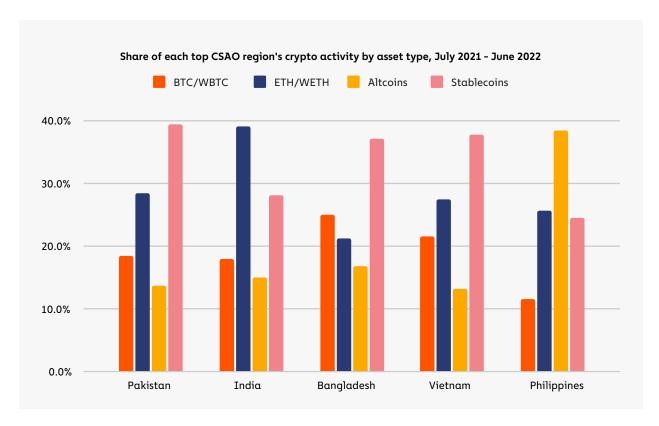
Play-to-earn games and remittance payments drive rapid adoption in Vietnam and the Philippines

For the second consecutive year, Vietnam ranked the highest in our cryptocurrency adoption index. The Philippines, meanwhile, made a giant leap, jumping from 15th to second. Both of these countries have similar growth drivers: play-to-earn (P2E) games and remittances.

The first of these, P2E games, we've already addressed in part above — but it's worth noting the sheer scale of P2E penetration in these two countries in particular. An estimated 25% of Filipinos and 23% of Vietnamese citizens have played a play-to-earn game, and at one point, players based in the Philippines made up 40% of Axie Infinity's playerbase. Meanwhile, Axie Infinity's developer, Sky Mavis, is based in Vietnam.

Vietnam and the Philippines are also massive remittance markets, with remittance inflows accounting for 5% and 9.6% of their respective country-wide GDPs. In Manan Vora's view, crypto-currencies – especially stablecoins – help bridge the gap in cases where recipients don't have access to traditional banking channels and money transfer services like Western Union charge high fees. "It makes a lot of sense. Why pay 3% to a banking intermediary and wait two days for the funds to reach them when USDT/USDC can reach them within one minute, with almost zero fees?"

The same remittance thesis resonates for other CSAO countries as well. Pakistan, India, and Bangladesh each have \$20+ billion remittance markets, and blockchain-based payment providers are beginning to disrupt traditional intermediaries. Some of these payment rails are even being built in coordination with government agencies, such as the Pakistani central bank's work with Alipay. These transfers are generally made via stablecoins, so that the value being transferred is preserved in transit.



As the graph above shows, stablecoins and ETH/WETH are the top two most actively traded asset types in many CSAO countries – consistent with a remittance and NFT-centric adoption model.

Indian and Pakistani crypto regulations likely dampen activity, but not the pace of innovation

In our 2021 crypto adoption index, we found that Indian and Pakistani citizens were the second and third highest adopters of cryptocurrency globally, respectively. In 2022, they've fallen to fourth and sixth. Recent regulatory developments may help explain why.

India

On April 1st, 2022, the Indian government implemented a 30% tax on all crypto gains, with no ability for users to offset their losses. Then, on July 1st, the government also implemented a 1% transaction deduction at source (TDS), meaning that crypto users must pay an additional 1% fee on every transaction. "This led to a lot of brain drain," said Vora: "first to Singapore, and now to Dubai. ... because even if your business is market-making, it is now effectively being treated as a lottery business."

Vikram Rangala, the Director of ZebPay, an Indian crypto exchange, helped us understand the government's perspective on these new rules. For them, he explained, it's about consumer protection:

From the conversations I and my colleagues have had, people in the Indian government, including members of parliament, aren't anti-crypto per se. Some are very pro-crypto. But they're worried about their constituents trading a volatile asset without adequate information. A 25-year-old saving to get married or provide for his family might trade some meme coin and get wiped out. No public servant can be seen backing something that's so risky for most people. Rich people can survive such losses, but a house cleaner, farmer, or rickshaw driver cannot.

And in Rangala's view, crypto innovation in India has continued unabated.

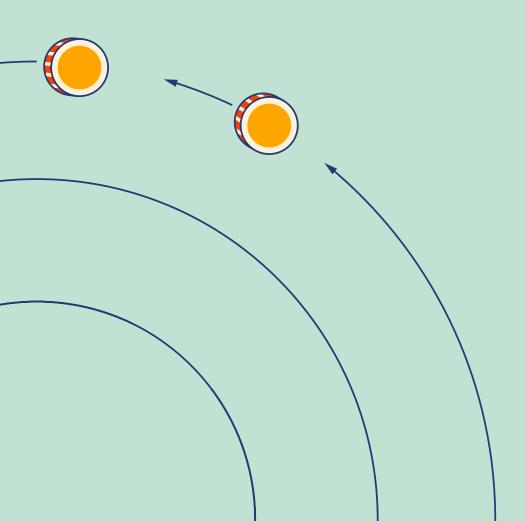
India has dozens of [crypto] projects working on establishing property rights, accessing tickets and membership passes, helping rural artisans monetize, even giving token holders the chance "to go skydiving with a movie star in Dubai," and more.

Pakistan

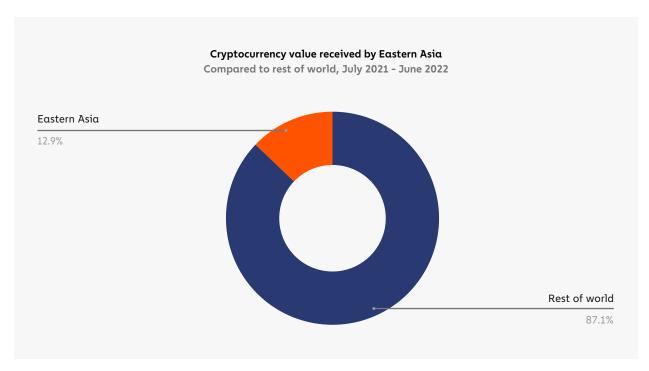
In January this year, Pakistan's central bank and government recommended a ban against cryptocurrencies. Since then, the federal government has formed three subcommittees to deliberate the matter further, and to eventually propose their own crypto policies. It remains to be seen whether or not the policies implemented will be as restrictive as the proposed ban.

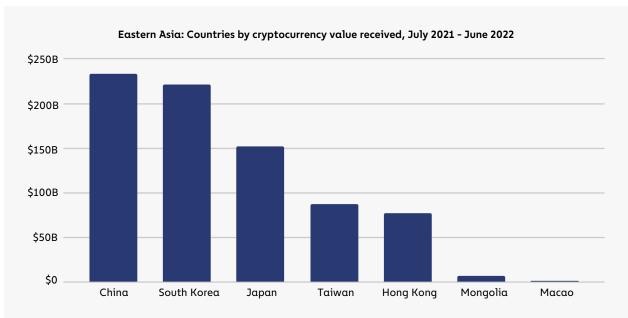
Other issues further complicate Pakistani crypto adoption. The country has been on the Financial Action Task Force's (FATF) gray list since 2018, hurting its ability to get international financial aid and hardening the government's negative attitude towards cryptocurrencies. State Bank of Pakistan (SBP) Governor Reza Baqir stated in February that the potential risks associated with cryptocurrencies "far outweigh the benefits," and named the "widening gray economy" and "capital flight" as key worries.

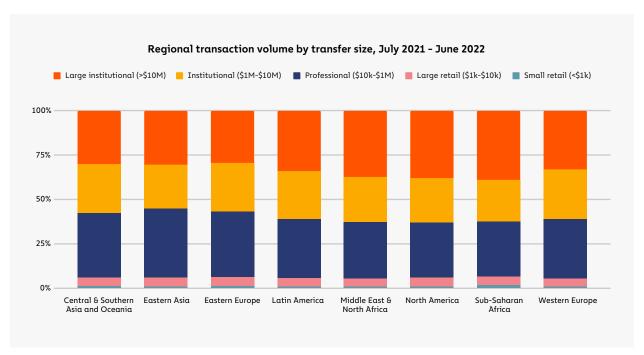
Given Pakistan's current civil unrest – its former prime minister was recently charged under the country's antiterrorism act yet remains one of Pakistan's most popular leaders – Baqir's concerns about crypto-based capital flight may prove prescient. Vikram Rangala suspects as much: "After watching Venezuela and Argentina, I think that anybody who's in a country where things are not that stable, they're starting to see cryptocurrency as a possibility."

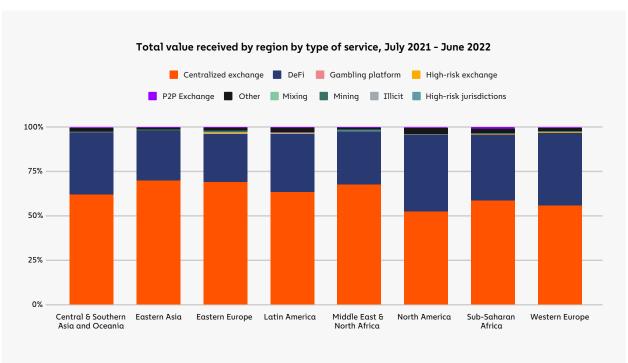


Eastern Asia's cryptocurrency activity summarized



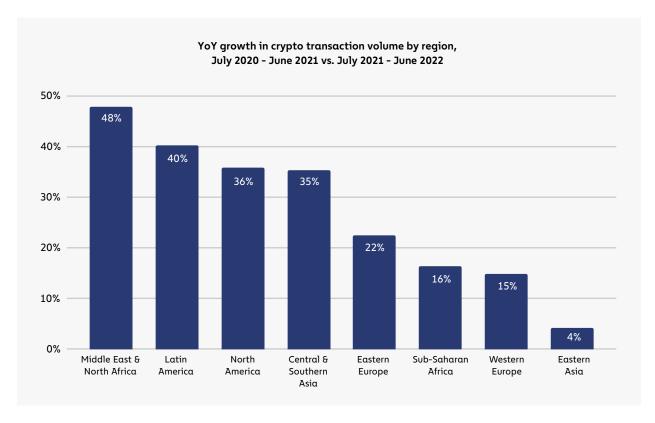




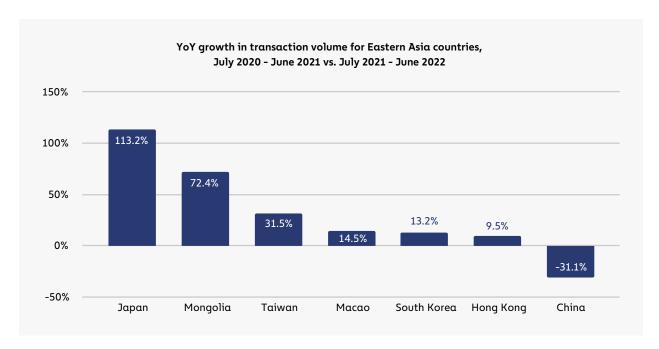


Cryptocurrency market growth in Eastern Asia grinds to a halt, Chinese market down but Not out following government bans

Eastern Asia is the fourth-largest cryptocurrency market we study, having received \$777.5 billion worth of cryptocurrency between July 2021 and June 2022, representing just under 13% of global transaction volume during that time period. Eastern Asia has lost ground to other regions this year, having ranked as the third biggest region by transaction volume at the time of last year's Geography of Cryptocurrency Report. The region saw year-over-year transaction volume growth of just 4%, by far the lowest of any region we analyze.

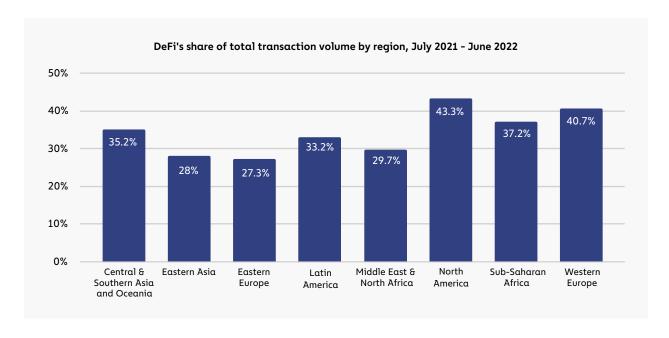


The biggest reason for this is likely the declines in cryptocurrency activity in China, the largest market in the region.



While it remains the biggest cryptocurrency market in the region, China saw its cryptocurrency transaction volume fall by 31% compared to the previous year-long period, even as neighbors like Japan more than doubled transaction volume. As we'll explore in more detail later, this is likely due to Chinese government crackdowns on cryptocurrency activity over the last year.

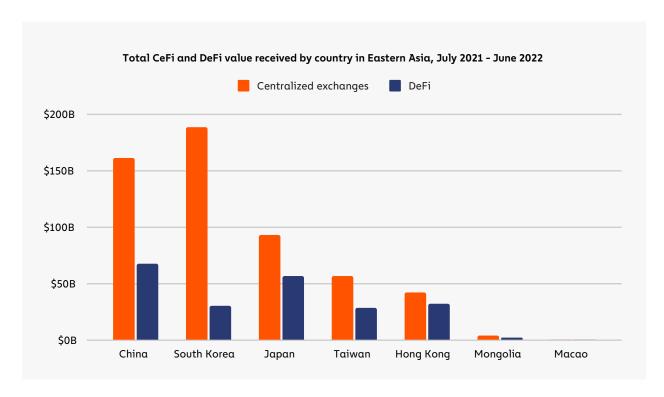
The data also shows that Eastern Asia has surprisingly low DeFi adoption. In fact, over the year-long time period we study, DeFi made up just 28% of transaction volume in Eastern Asia, less than all but one other region.



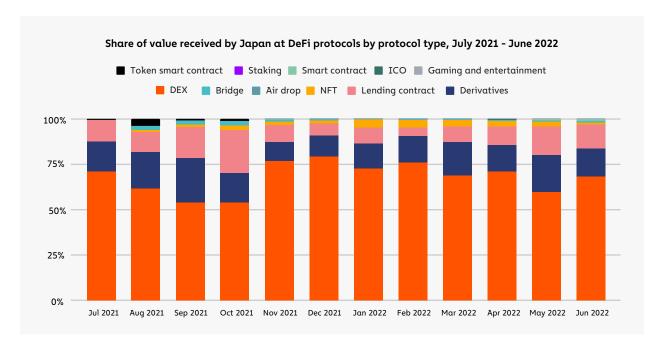
Below, we'll explore these trends and more as we dive into what makes Eastern Asia's crypto market tick.

DeFi drives outsized growth in Japan

As we noted above, Japan's cryptocurrency market has grown substantially over the year-long period studied, with on-chain transaction volume increasing 113.2% over the previous 12 months, compared to 72.4% for the next-closest country (Mongolia), 13.2% for South Korea, and a 31.1% contraction for China. Why might this be? One reason could be Japan's comparatively high embrace of DeFi.



Despite having a smaller overall cryptocurrency market, Japan's DeFi transaction volume is nearly double the size of South Korea's at \$56.7 billion, and close to China's total of \$67.6 billion. We spoke to Chainalysis' Tokyo-based Advisory Solutions Architect Hayato Shigekawa to learn more. "DEX trading has become very popular in Japan," said Hayato, citing the importance of platforms like Uniswap, 1inch, and TokenIon in the country. He also discussed the popularity of NFTs in Japan, and the possibility of their future growth. "Many have pointed out that Japan has lots of quality IP from anime, comics, and video games, which could be utilized in Web3 in the future." Chainalysis data confirms that these services have played a big role in Japan's DeFi market.

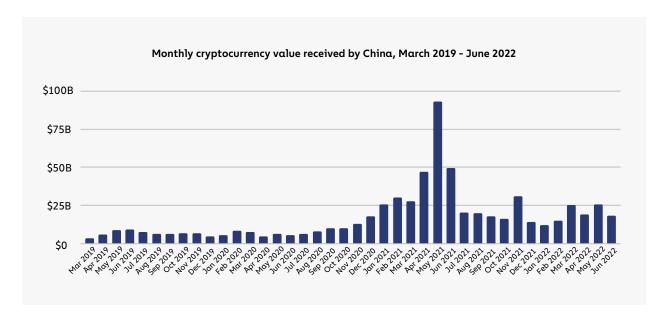


Interestingly, off-chain spot trading data released by the Japan Virtual and Crypto assets Exchanges Association (JVCEA) suggests that DEX trading may be eating into trading on centralized services, which haven't seen similar growth. Reported trade volume on Japanese exchanges is lower than it was in 2020 and 2021, while year-over-year creation of new accounts is between 30% and 40% in most months. One reason trading volume has shifted from centralized exchanges to DEXes could be the latter's greater number of assets on offer. "Centralized exchanges in Japan support roughly 60 crypto assets, and the process to list new coins is lengthy and rightly regulated," said Hayato. Hayato also pointed out that as of now, that list of available crypto assets includes no stablecoins. Given that, it'll be interesting to see how Japan's usage of DeFi changes as regulations evolve.

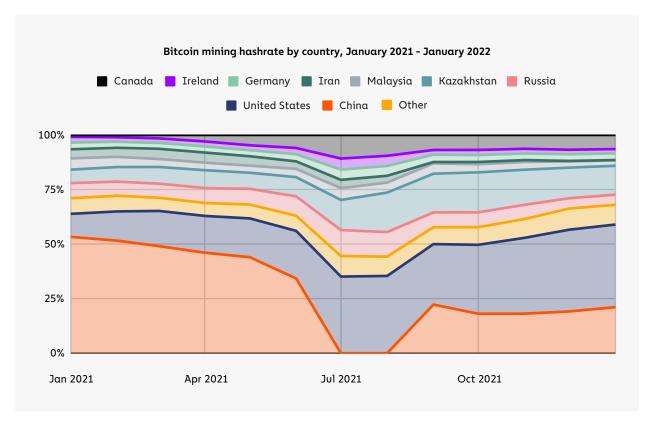
China's market remains among world's strongest despite government bans

As we discussed above, China has seen a large dropoff in cryptocurrency activity, likely due to government crackdowns. The Chinese government started by banning mining in May 2021, and by September moved further to ban all cryptocurrency transaction activity. "Virtual currency-related business activities are illegal financial activities," the People's Bank of China (PBOC) said in an unambiguous statement.

Still, despite a 31.1% dropoff in transaction volume, China remains the biggest cryptocurrency market in the region, the fourth overall in the world, and ranked tenth for grassroots adoption on our Global Crypto Adoption Index. Plus, trading activity has even begun to pick back up in recent months. That hardly seems to reflect the total ban that was announced, or the harsh words from PBOC officials that came along with it.

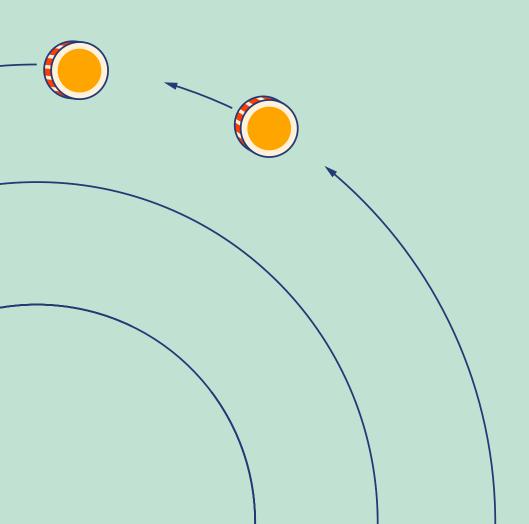


Even mining, which was the first crypto activity targeted by the Chinese government and saw a huge dropoff following the ban, has made a comeback in China. That's especially surprising given that you'd expect it to be easier for the government to pinpoint the increased power usage indicative of mining and take action.

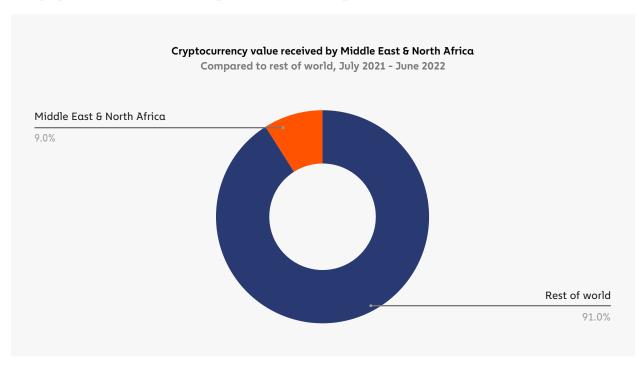


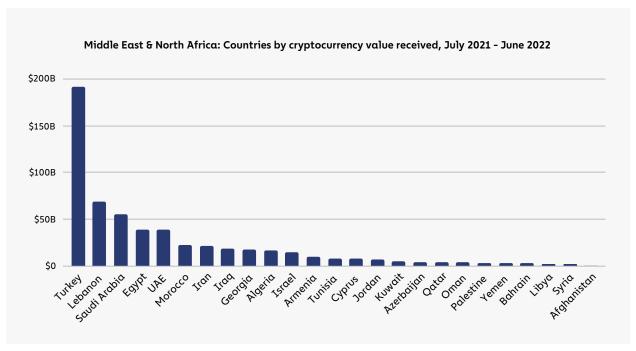
Source: Cambridge Bitcoin Electricity Consumption Index

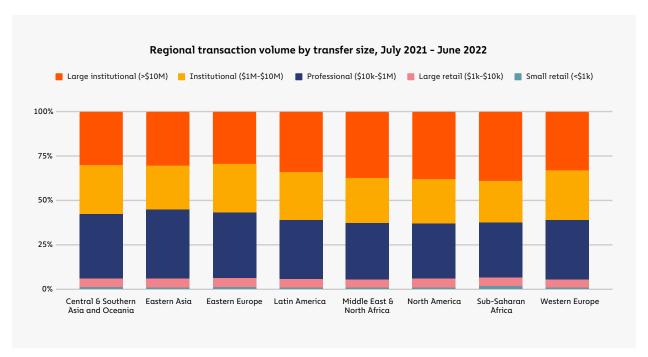
The data suggests that in China, the anti-establishment ethos of cryptocurrency's early days remains intact. While government crackdowns have clearly had an effect, China's cryptocurrency market remains strong, with healthy transaction volumes across both centralized and DeFi services.

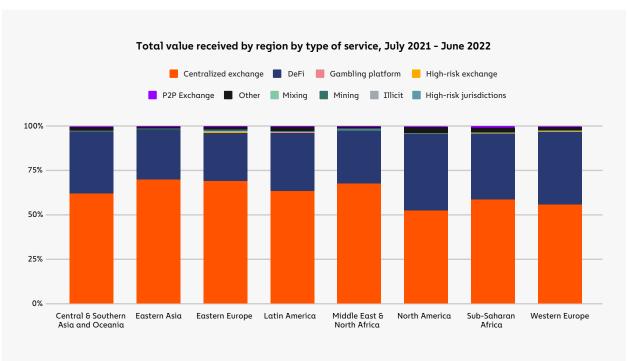


Middle East & North Africa's cryptocurrency activity summarized



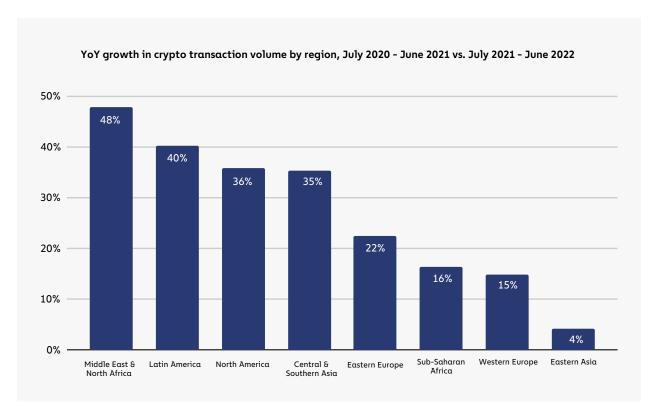






Middle East & North Africa's crypto markets grow more than any other region in 2022

Middle East & North Africa (MENA) may be one of the smaller crypto markets in the 2022 Global Crypto Adoption Index, but it's also the fastest growing. MENA-based users received \$566 billion in cryptocurrency from July 2021 to June 2022, 48% more than they received the year prior.



MENA is also home to three of the top thirty countries in this year's index: **Turkey (12), Morocco (14),** and **Egypt (24)**. Use cases around savings preservation and remittance payments as well as increasingly permissive crypto regulations help explain why.

In Turkey and Egypt, fluctuating cryptocurrency prices have coincided with rapid fiat currency devaluations, strengthening the appeal of crypto for savings preservation. The Turkish Lira has inflated by 80.5% in the last year; the Egyptian Pound has weakened by 13.5%. Also significant, however, is Egypt's remittance market. Remittance payments account for about 8% of Egypt's GDP, and the country's national bank has already begun a project to build a crypto-based remittance corridor between Egypt and the UAE, where many Egyptian natives work.

Egypt's position at the intersection of growing crypto remittances and increased inflationary pressures help explain why it's the fastest growing crypto market in all of MENA this year. Between July 2021 and June 2022, transaction volume in Egypt tripled compared to the preceding year. Turkey, meanwhile, remains the largest cryptocurrency market in the region, its citizens having received \$192 billion from July 2021 to June 2022, but has seen much slower YoY growth.

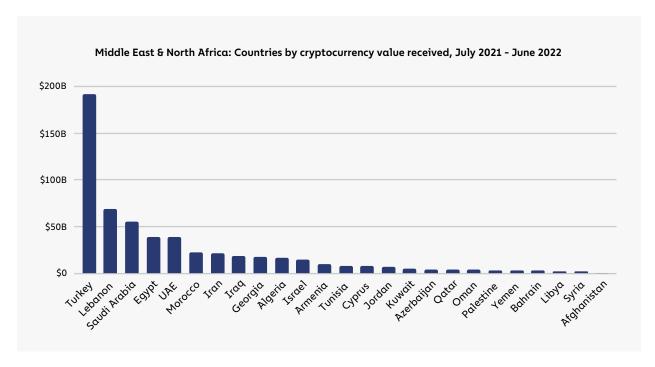


In Morocco, inflation rates have been contained to a more manageable 5.3%. In fact, the North African country's notable levels of grassroots adoption seem to be more tied to the government's newly permissive crypto stance than to any particular macroeconomic tailwinds. In 2017, the central bank of Morocco declared that "penalties and fines" will follow any crypto transaction within the country. But earlier this year, it struck a partnership with the IMF and the World Bank to create crypto regulations that emphasize innovation and consumer protection.

The Gulf Cooperation Council and the rise of institutional crypto in MENA

As key business hubs of the MENA region, the member states of the Gulf Cooperation Council (GCC) – Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman – seldom make it to the top of our grassroots crypto adoption index, as it weighs countries by purchasing power parity per capita, which favors poorer nations. Nevertheless, their role in the crypto ecosystem should not be underestimated. Saudi Arabia, for example, is the third-largest crypto market in all of MENA, and UAE is fifth. They also have deep ties to the global crypto markets: in our Sub-saharan Africa and

Central & Southern Asia sections, we find that Dubai has become a hub for crypto companies that serve customers all across Asia and Africa, not just in the Middle East.



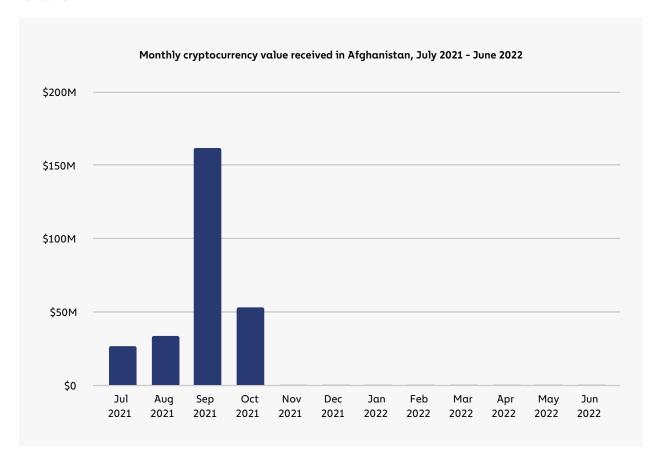
As Akos Erzse, Senior Manager for Public Policy at the Dubai-based crypto exchange BitOasis, explained, the main drivers of crypto adoption in the GCC are different from those in the rest of MENA. "When you look at markets in the GCC, we take the view that this adoption is driven by young, tech-savvy early adopters with relatively high disposable incomes, that are, you know, searching for investment options, and have a conviction in crypto right now." Moreover, adoption is "not just on the retail or customer side, but also in the ecosystem, with financial institutions and banks beginning to work with businesses like us." Erzse also emphasized the role that recent inflation has played in pushing cryptocurrency adoption in other parts of the region.

The Taliban's crackdown brings Afghanistan's crypto markets to a standstill

One former MENA leader in grassroots crypto adoption has since had a major downturn: Afghanistan.

Afghanistan placed 20th in our 2021 crypto adoption index, but since the Taliban's takeover last August, has fallen to the bottom of the list. Under the Taliban's rule, dozens of crypto dealers have been arrested, and the ruling state agency, the Ministry for the Propagation of Virtue and the Prevention of Vice, has equated cryptocurrency to gambling and declared it haram.

We find that in August and September – right after the Taliban's takeover – Afghanistan's on-chain activity spiked to a temporary high before taking an unprecedented nosedive. From November 2021 to today, the on-chain value received by users based in Afghanistan has averaged less than \$80,000 a month, a far cry from the \$68 million its citizens received in the average month preceding the takeover.



The Taliban's crackdown has had a massive chilling effect on the country's crypto markets. Under current conditions, crypto dealers are left with three options: flee the country, cease operations, or risk arrest.

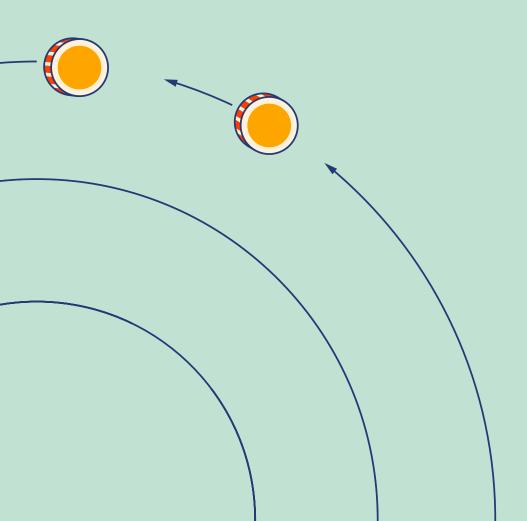
As for how much of the ceased and continued crypto activity was and is legitimate versus illicit, an anonymous source familiar with the Afghani cryptocurrency market said, "A small portion of that [continued activity] is just young people who have a few hundred bucks [available to day trade]. But I would say most of it, the only use I've seen is money laundering, where the source of the money is illegal. A lot of it is either bribes or drug money."

As our source explained, it's not that crypto can't eventually be a net positive for the region – a way to bank the unbanked, act as a store of value, or become a means of payment. The problem is that it's exceptionally hard to implement, especially given Afghanistan's small number of smartphone users and sparse cellular networks.

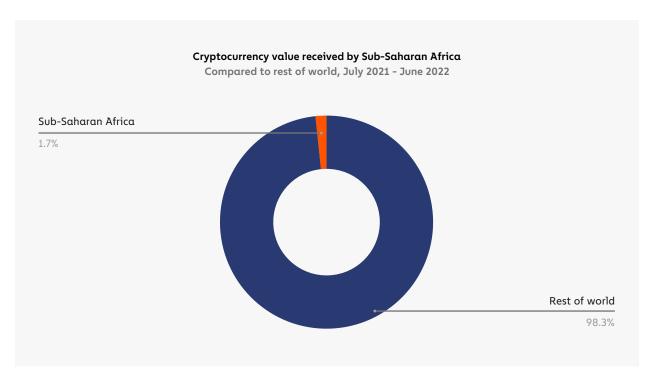
[Afghanistan] has been through so much that I can use US dollars almost anywhere. Even if it's a cart on the side of the road, selling potatoes, I am 100% confident that they will take my dollar. They will not give me change in dollars, but they will always accept it, because their understanding of the volatility of currency is there. A crypto solution, it could work, but the obstacles are always overlooked when there is an initiative being planned. ... There is such a difference between the plan and the reality that usually it just never works out.

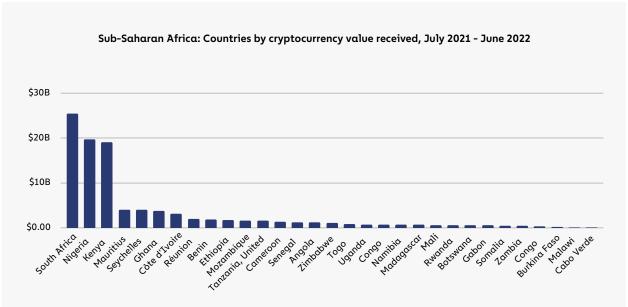
Future crypto initiatives seem highly unlikely to be attempted, let alone implemented, under the current Taliban regime, but those who manage to acquire cryptocurrency clandestinely may be able to insulate themselves from any future economic shocks, as we've seen in other countries.

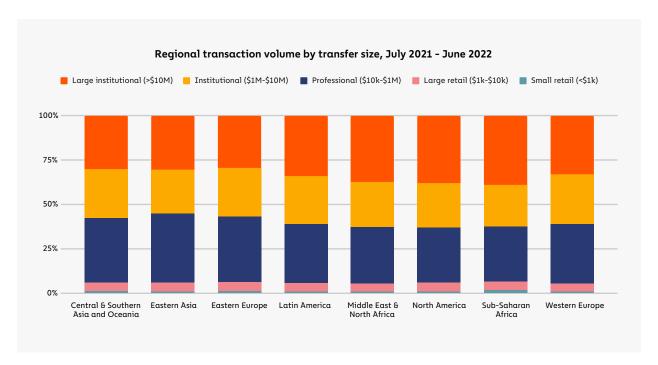
Sub-Saharan Africa

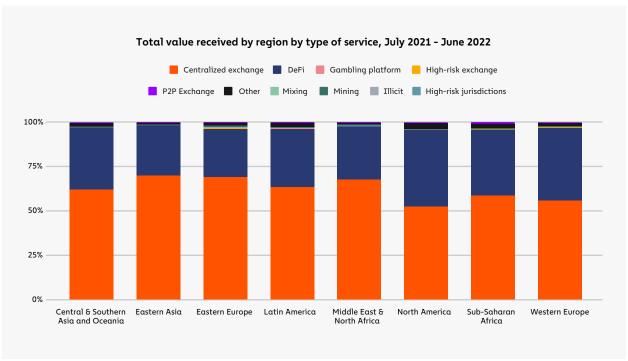


Sub-Saharan Africa's cryptocurrency activity summarized



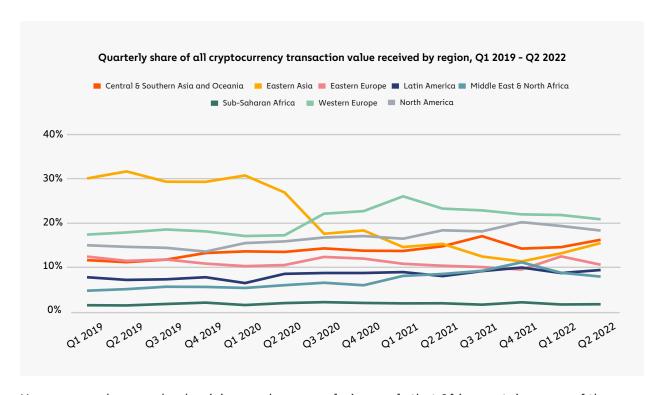






How cryptocurrency meets residents' economic needs in Sub-Saharan Africa

Sub-saharan Africa accounts for the least cryptocurrency transaction volume of any region we study, with \$100.6 billion in on-chain volume received between July 2021 and June 2022, which represents 2% of global activity, and 16% growth over the year prior.



However, numbers can be deceiving, as deeper analysis reveals that Africa contains some of the most well-developed cryptocurrency markets of any region, with deep penetration and integration of cryptocurrency into everyday financial activity for many users. We see this primarily in Nigeria and Kenya, which rank 11th and 19th on our Global Crypto Adoption Index respectively. Both countries see strong adoption when weighted for purchasing power and population, especially on P2P exchanges, which expert interviews confirm are crucial to the region's crypto economy. South Africa, which leads the region in raw transaction volume, also ranks high on our index at 30th.

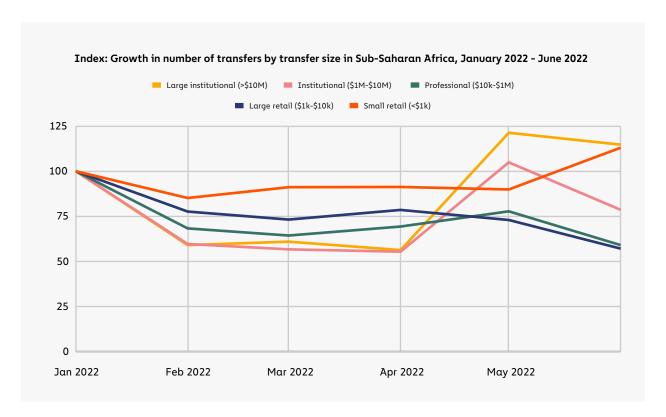
Small retail transactions power crypto markets in Sub-Saharan Africa

Sub-Saharan Africa's retail market and outsized usage of P2P platforms make it unique compared to other regions. Retail-sized transfers below \$10,000 USD make up 6.4% of its transaction volume, more than any other region. The role of retail becomes even more apparent when we look at the number of individual transfers. Retail transfers make up 95% of all transfers, and if we drill down to just small retail transfers under \$1,000, the share becomes 80%, more than any other region.



Our interviews suggest that this reflects the trend of many young people in Sub-Saharan Africa turning to cryptocurrency as a way to preserve and build wealth in spite of low economic opportunity, as opposed to other countries where we see many using cryptocurrency as a way to multiply their existing wealth. Adedeji Owonibi, founder of Nigeria-based blockchain consultancy and product studio Convexity, told us more about this dynamic. "We see a lot of daily traders who are trading to make ends meet," he said. "We don't have big, institutional-level traders in Sub-Saharan Africa. The people driving the market here are retail. Nigeria has a ton of highly educated young graduates with high unemployment rates, no jobs available — crypto to them is a rescue. It's a way to feed their family and solve their daily financial needs." According to Deji, the volatility of the Nigerian naira also drives the need for cryptocurrency in the country, as users believe they can better preserve their savings with stablecoins like Tether.

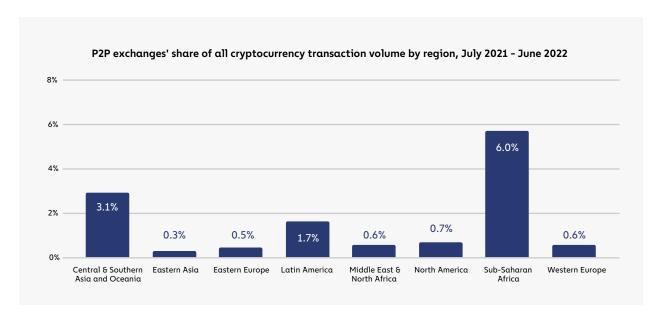
Crypto usage driven by everyday necessity, as opposed to speculation by the already-well off, could explain an interesting phenomenon we saw in Sub-Saharan Africa this year: The number of small retail transfers actually grew starting at the onset of the bear market in May, while the number of transfers of other sizes fell.



If many of the people carrying out small retail transactions are trading cryptocurrency out of economic necessity — especially in countries where the values of local fiat currencies are dropping, as we've seen in Nigeria and Kenya, for example — then those people may be more willing to continue trading despite price drops. And of course, users buying stablecoins like Tether would be unaffected by drops in prices for Bitcoin, Ethereum, and the like.

P2P exchanges are a crucial part of the ecosystem

We also see heavy adoption of P2P exchanges. P2P exchanges account for 6% of all cryptocurrency transaction volume in Africa, more than double the share of the next-closest region, Central & Southern Asia and Oceania.



We spoke with Ray Youssef, CEO of popular P2P platforms Paxful, to understand why. According to Ray, Sub-Saharan Africa is a major growth driver for Paxful, with 55% year-over-year user growth of remittance users in Nigeria — already Paxful's biggest market — and nearly a whopping 140% in Kenya. He explained to us how P2P platforms like Paxful initially took hold in Africa as some of the first services residents could use to buy cryptocurrency. "We had to get Bitcoin into Africa, which was difficult because it's so hard to get money out of Africa. We needed a clever hack to make that happen," said Ray. That hack ended up being gift cards. "We connected Nigerians with Chinese gamers who wanted to buy app store gift cards, and a huge trade market was born. That got Bitcoin into Nigeria, and then the rest of Western Africa." Strategies like the one Ray described allowed P2P platforms to drive early Bitcoin activity in Sub-Saharan Africa, and the services have proved to have staying power in the region.

Regulations limiting crypto activity can also drive P2P exchange usage. The Nigerian government prohibited banks from transacting with cryptocurrency businesses in 2021, and while this action doesn't appear to have dampened overall cryptocurrency transaction volumes, it has affected usage patterns. We spoke to an analyst at Nigeria's Financial Intelligence Unit to learn more. "Nigeria restricted the usage of the Naira for buying crypto in 2021 due to concerns around scams and tax evasion, and because of that, many people began trading peer-to-peer," the analyst told us.

That activity goes beyond conventional P2P platforms like Paxful though. Many in Nigeria are also trading cryptocurrency directly with one another, sourcing deals through group chats on apps like WhatsApp and Telegram. Our geographic data doesn't reflect this activity since it takes place through private wallet interactions, but our interviewees described it as a big part of Nigeria's cryptocurrency ecosystem. Adedeji Owonibi told us more. "These groups have thousands of people from all over the world — Nigeria, China, Dubai and more — trading crypto with each other," he said. "The groups are where the volume is happening."

Commerce and remittances also power crypto adoption in Sub-Saharan Africa

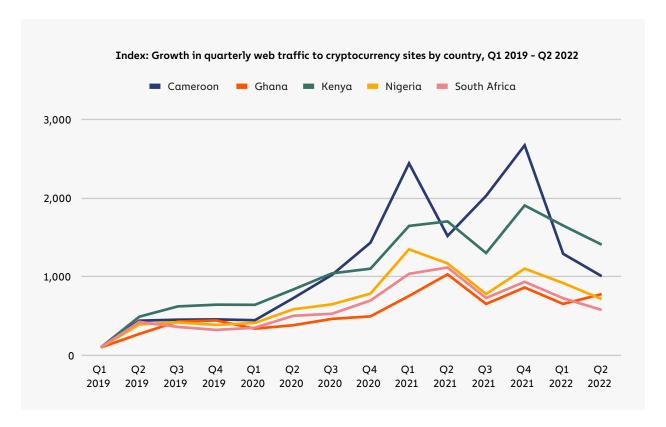
In addition to trading and saving, Ray and Deji told us about two other use cases powering crypto adoption in Sub-Saharan Africa: remittances and commerce.

Remittances from overseas have long been important for Sub-Saharan African economies, and inflows to the region grew 14.1% to \$49 billion in 2021 following a decline the previous year. However, these payments can be expensive and difficult to make. Ray Youssef explained more. "Making an international payment in a country like Nigeria, Cameroon, or Senegal is almost impossible. There's no pan-African payment solution. There are thousands of payment networks in Africa, and only a fraction of them talk to each other," he told us. Ray described one Kenyan expat he knew who had to pay €200 for every €1,000 she tried to send home from Europe. Ray was able to help that woman use Paxful to buy Bitcoin, sell it to another user for Kenyan shillings via M-PESA, a Kenyan payments network, which the woman could then transfer directly to her family. "She actually ended up making a 4% profit rather than paying 20% in fees because the user she transacted with was willing to pay a premium for the Bitcoin," said Ray.

Commercial transactions are another use case. Adedeji Owonibi told us that many businesses relying on international suppliers have turned to crypto for payments, as sending funds abroad is difficult due to Nigeria's tight capital controls. "Companies need to buy materials from the United States, but there's no way to get the money there — they're left with no option but to use USDT." He cited China as another popular trading partner for these crypto-based commercial transactions.

Future growth in Sub-Saharan Africa

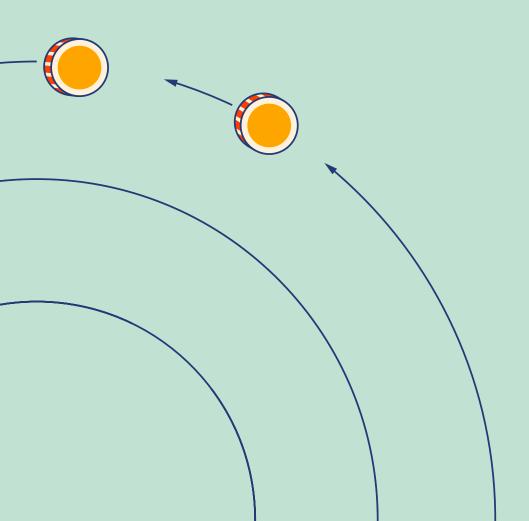
What countries will power the next round of growth for Sub-Saharan Africa? Ray pointed to Ghana as one place that he expects to achieve similar adoption levels to Nigeria and Kenya, based on current growth trends and the needs of the local population. "Lots of Nigerians consider Ghana their summer home and spend lots of time there, and they're educating the locals on Bitcoin," said Ray. He told us that over the last year, Paxful's total trade volume in Ghana has grown by nearly 100% in the last year and over 400% in the last two years. That aligns with data we've found showing that Ghana – along with several other Sub-Saharan African countries – has seen substantial.



Web traffic data source: Similarweb

Overall, we expect cryptocurrency usage in Sub-Saharan Africa to continue growing as long as residents face issues crypto has proven it can solve for them, such as preserving savings through economic volatility and enabling cross-border transactions in places with strict capital controls.

The 2022 Global Crypto Adoption Index: The Full List



The 2022 Global Crypto Adoption Index: The Full List

		Rankings for indivi	dual sub-metrics feed	ling into Global	Crypto Adoption	n Index
Country	Overall index ranking	Centralized service value received ranking	Retail centralized service value received ranking	P2P exchange trade volume ranking	DeFi value received ranking	Retail DeFi value received ranking
Vietnam	1	5	5	2	7	6
Philippines	2	4	4	66	13	5
Ukraine	3	6	6	39	10	14
India	4	1	1	82	1	1
United States	5	3	3	111	3	2
Pakistan	6	10	10	50	22	16
Brazil	7	7	7	113	8	7
Thailand	8	12	12	61	5	3
Russia	9	8	8	109	11	12
China	10	2	2	144	6	4
Nigeria	11	18	18	17	20	17
Turkey	12	9	9	121	19	15
Argentina	13	13	13	26	21	25
Morocco	14	19	19	21	33	18
Colombia	15	23	23	10	27	29
Nepal	16	17	17	19	34	41
United Kingdom	17	14	14	71	12	11
Ecuador	18	37	37	6	45	56
Kenyα	19	43	43	5	9	34
Indonesia	20	16	16	129	18	13
Germany	21	22	22	114	15	10

		Rankings for individual sub-metrics feeding into Global Crypto Adoption Index						
Country	Overall index ranking	Centralized service value received ranking	Retail centralized service value received ranking	P2P exchange trade volume ranking	DeFi value received ranking	Retail DeFi value received ranking		
Canada	22	28	28	96	14	8		
South Korea	23	11	11	141	28	22		
Egypt	24	15	15	110	57	47		
Belarus	25	31	31	29	43	57		
Japan	26	20	20	143	17	9		
Cambodia	27	38	38	28	29	23		
Mexico	28	21	21	122	23	19		
Malaysia	29	42	42	31	38	32		
South Africa	30	29	29	81	41	31		
Palestine	31	45	45	15	94	93		
France	32	26	26	101	16	20		
Poland	33	25	25	102	32	30		
Spain	34	27	27	99	24	26		
Peru	35	39	39	45	39	50		
Bangladesh	36	30	30	92	48	39		
Georgia	37	47	47	33	53	52		
Portugal	38	51	51	24	40	36		
Netherlands	39	41	41	69	26	24		
Australia	40	40	40	90	25	21		
Moldova	41	49	49	27	72	88		
Boliviα	42	54	54	20	93	91		

	Rankings for individual sub-metrics feeding into Global Crypto Adoption Index						
Country	Overall index ranking	Centralized service value received ranking	Retail centralized service value received ranking	P2P exchange trade volume ranking	DeFi value received ranking	Retail DeFi value received ranking	
Dominican Republic	43	64	64	13	87	74	
Somalia	44	75	75	7	131	128	
Algeria	45	34	34	100	50	43	
Hong Kong	46	50	50	52	35	33	
Tanzania	47	81	81	9	61	42	
Bulgaria	48	48	48	54	42	44	
Ghana	49	66	66	14	68	58	
Tunisia	50	63	63	22	64	68	
Italy	51	32	32	132	30	27	
Iraq	52	24	24	130	98	101	
Taiwan	53	33	33	124	31	35	
Jamaica	54	97	97	4	100	98	
El Salvador	55	61	61	36	89	83	
Chile	56	58	58	53	37	40	
Côte d'Ivoire	57	76	76	23	78	64	
Sri Lanka	58	59	59	48	54	63	
Serbia	59	67	67	34	75	60	
Mozambique	60	36	36	125	63	62	
Kazakhstan	61	44	44	115	73	59	
Czech Republic	62	52	52	89	44	48	
Singapore	63	55	55	80	47	51	
Ethiopia	64	62	62	67	66	46	

	Rankings for individual sub-metrics feeding into Global Crypto Adoption Index						
Country	Overall index ranking	Centralized service value received ranking	Retail centralized service value received ranking	P2P exchange trade volume ranking	DeFi value received ranking	Retail DeFi value received ranking	
Costa Rica	65	86	86	16	84	80	
Switzerland	66	57	57	76	36	38	
Saudi Arabia	67	35	35	133	91	81	
Jordan	68	60	60	68	88	78	
Guatemala	69	65	65	57	111	107	
Belize	70	106	106	8	109	71	
Seychelles	71	123	123	1	110	114	
Zimbabwe	72	69	69	47	117	119	
Myanmar	73	53	53	103	95	89	
Cameroon	74	102	102	12	79	102	
Armeniα	75	72	72	70	49	45	
Romania	76	56	56	118	55	49	
Kyrgyzstan	77	73	73	84	51	37	
Sweden	78	85	85	44	62	67	
Democratic Republic of the Congo	79	80	80	98	46	28	
Slovakia	80	70	70	95	70	69	
Rwanda	81	103	103	18	107	108	
Estonia	82	95	95	38	60	75	
Uruguay	83	96	96	32	114	118	
Mongolia	84	77	77	87	71	70	
Greece	85	68	68	117	59	53	

	Rankings for individual sub-metrics feeding into Global Crypto Adoption Index						
Country	Overall index ranking	Centralized service value received ranking	Retail centralized service value received ranking	P2P exchange trade volume ranking	DeFi value received ranking	Retail DeFi value received ranking	
Laos	86	88	88	59	83	86	
Uzbekistan	87	46	46	140	99	77	
Finland	88	78	78	97	65	79	
Lebanon	89	90	90	56	2	72	
Honduras	90	84	84	73	4	54	
Hungary	91	79	79	112	81	73	
Latvia	92	98	98	55	96	92	
Togo	93	82	82	104	101	85	
Belgium	94	74	74	128	58	55	
Paraguay	95	92	92	62	106	113	
Albania	96	105	105	49	86	76	
Mali	97	112	112	25	134	130	
Madagascar	98	71	71	123	124	115	
Nicaragua	99	104	104	42	116	117	
Uganda	100	89	89	91	105	105	
Barbados	101	121	121	11	136	137	
Lithuania	102	93	93	86	92	90	
Croatia	103	91	91	93	80	84	
Panama	104	107	107	43	74	96	
Senegal	105	115	115	37	104	82	
Benin	106	94	94	85	52	103	
Austriα	107	83	83	127	56	66	

	Rankings for individual sub-metrics feeding into Global Crypto Adoption Index						
Country	Overall index ranking	Centralized service value received ranking	Retail centralized service value received ranking	P2P exchange trade volume ranking	DeFi value received ranking	Retail DeFi value received ranking	
New Zealand	108	99	99	94	76	61	
Azerbaijan	109	100	100	88	102	94	
Cyprus	110	118	118	40	103	104	
Israel	111	101	101	105	77	65	
Macedonia	112	111	111	63	97	87	
Slovenia	113	87	87	131	90	97	
Norway	114	108	108	83	85	99	
Bosnia and Herzegovina	115	113	113	65	112	109	
Denmark	116	116	116	72	69	100	
Angola	117	109	109	116	121	106	
Bahamas	118	137	137	3	120	126	
Montenegro	119	126	126	41	115	110	
Zambia	120	119	119	75	118	111	
Trinidad and Tobago	121	122	122	60	127	121	
Mauritius	122	130	130	30	82	120	
Saint Lucia	123	129	129	35	135	134	
Ireland	124	117	117	120	67	95	
Congo	125	120	120	108	146	142	
Namibia	126	131	131	64	122	127	
Malta	127	133	133	79	113	112	
Tajikistan	128	124	124	135	126	124	
Botswana	129	135	135	51	138	138	

	Rankings for individual sub-metrics feeding into Global Crypto Adoption Index						
Country	Overall index ranking	Centralized service value received ranking	Retail centralized service value received ranking	P2P exchange trade volume ranking	Defi value received ranking	Retail DeFi value received ranking	
Suriname	130	134	134	74	130	132	
Libya	131	125	125	137	125	122	
Haiti	132	110	110	145	128	133	
Burkina Faso	133	128	128	136	108	116	
Maldives	134	140	140	46	139	135	
Bahrain	135	132	132	134	132	131	
Luxembourg	136	138	138	78	119	123	
Malawi	137	127	127	142	140	139	
Gabon	138	136	136	106	133	136	
Iceland	139	141	141	77	129	129	
Fiji	140	143	143	58	143	145	
Qatar	141	139	139	138	123	125	
Guyana	142	142	142	126	142	143	
Bermuda	143	144	144	107	144	144	
Μαςαο	144	145	145	119	137	140	
Brunei Darussalam	145	146	146	139	141	141	
Afghanistan	146	114	114	146	145	146	



Thanks for reading the 2022 Geography of Cryptocurrency Report

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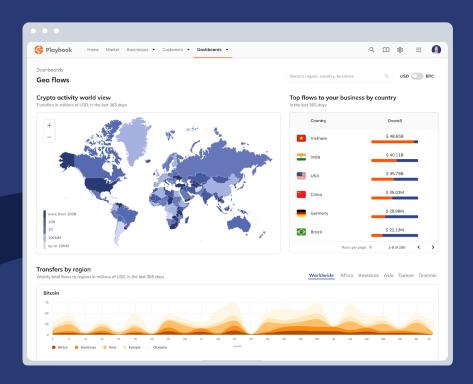
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- Correlate crypto activity to macroeconomic events
- Identify withdrawal and deposit flows by geography
- See which of your competitors are active in specific markets and benchmark your share against theirs
- Track where certain assets are the most popular to prioritize where to expand product offerings



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