



The 2021 Geography of Cryptocurrency Report

Analysis of Geographic Trends in
Cryptocurrency Adoption and Usage

October 2021



Table of Contents

The 2021 Global Crypto Adoption Index	3
Introducing the Chainalysis Global DeFi Adoption Index	13
North America	23
Latin America	34
Central, Northern & Western Europe	46
Eastern Europe	58
Central & Southern Asia and Oceania	72
Eastern Asia	83
Middle East	98
Africa	105
The 2021 Global Crypto Adoption Index: The Full List	116
The 2021 DeFi Adoption Index: The Full List	124

The 2021 Global Crypto Adoption Index

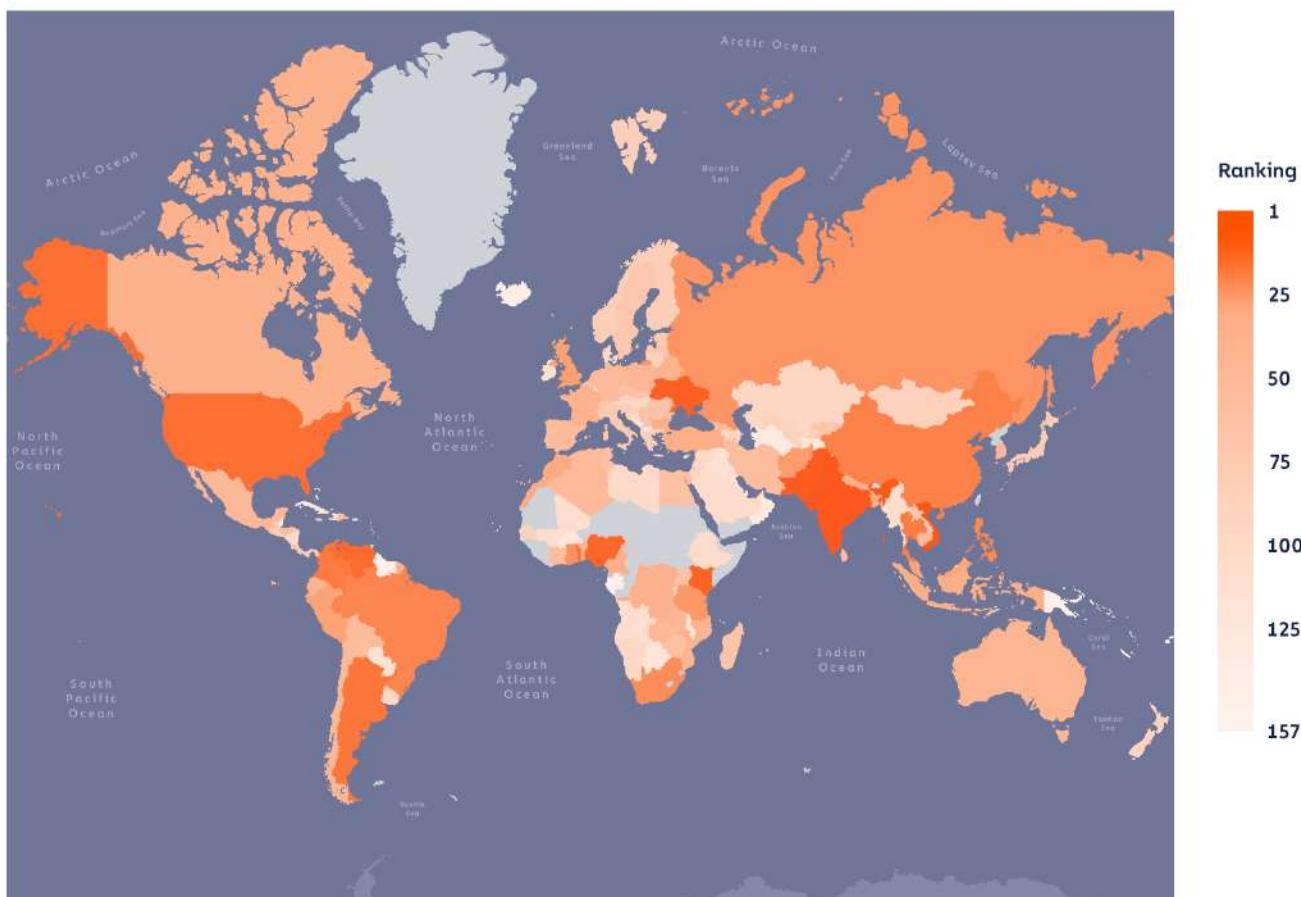




Worldwide Adoption Jumps Over 880% With P2P Platforms Driving Cryptocurrency Usage in Emerging Markets

We're excited to share with you the 2021 Chainalysis Global Crypto Adoption Index. This marks the second iteration of our efforts to measure grassroots cryptocurrency adoption around the globe, after a year of huge growth for cryptocurrency markets and increased attention for the industry.

Global Cryptocurrency Adoption Index | July '20 - June'21



The goal of our index is to provide an objective measure of which countries have the highest levels of cryptocurrency adoption. One way to do that would be to simply rank countries by transaction volume. However, that would favor only the countries with high levels of professional and institutional cryptocurrency adoption, as those market segments move the largest sums of cryptocurrency. While the professional and institutional markets are crucial, we want to highlight the countries with the



greatest cryptocurrency adoption by ordinary people, and focus on use cases related to transactions and individual saving, rather than trading and speculation.

Below, we'll explain the index's methodology and how it's changed compared to last year before showing you the top ranked countries for cryptocurrency adoption, as well as a few trends we found interesting.

Our methodology

The Global Crypto Adoption Index is made up of three metrics, which we'll explain in detail below. We rank all 154 countries according to each of those three metrics, take the geometric mean of each country's ranking in all three, 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.

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

The goal of this metric is to rank each country by total cryptocurrency activity, but 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 that 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, weighted by PPP per capita

The goal of this metric is to measure the activity of non-professional, individual cryptocurrency users, based on how much cryptocurrency they're transacting relative 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 activity, especially in emerging markets. For this 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.

How our methodology changed in 2021

The biggest change to our methodology this year was the elimination of a fourth metric that contributed to each country's overall ranking in 2020: Number of deposits by country weighted by number of internet users.

We initially used this as a metric to determine which countries' residents are carrying out the most cryptocurrency transactions, as this would capture both the number of individuals using cryptocurrency and boost countries whose residents are carrying out more transactions per user. However, while cryptocurrency deposits to centralized services like exchanges show up on-chain, any transactions within those services, such as trades within an exchange, aren't captured on-chain, and only show up in those services' order books, which we have limited or even no access to in some cases.

This isn't the case for DeFi though. Transactions carried out by DeFi protocol users all show up on-chain, as no centralized service ever takes custody of users' assets. That skewed our rankings toward countries with comparatively more DeFi users. Therefore, after reviewing the rankings both with and without this component, we decided to eliminate it. We also decided to create a new DeFi Adoption Index, which will be available in the coming weeks.

We're confident in our index methodology and the modifications we made to it this year, though as with any standardized measure of regional economic activity, there are limitations. Since we rely on web traffic data, usage of VPNs and other products that mask online activity would compromise our ability to accurately assign activity to a country. However, our index takes into account hundreds of millions of transactions, so VPN usage would need to be quite widespread in order to meaningfully affect the data. Experts we spoke to agreed that the index matched their perception of the cryptocurrency market, giving us more confidence in the methodology. We look forward to continuing to tweak the index methodology to ensure that our rankings accommodate evolutions in the market and get more accurate over time.



The 2021 Global Crypto Adoption Index Top 20

The table below shows the top 20 countries in our 2021 Global Crypto Adoption Index, as well as their rankings in the three component metrics that make up the overall rankings.

Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Vietnam	1.00	1	4	2	3
India	0.37	2	2	3	72
Pakistan	0.36	3	11	12	8
Ukraine	0.29	4	6	5	40
Kenya	0.28	5	41	28	1
Nigeria	0.26	6	15	10	18
Venezuela	0.25	7	29	22	6
United States	0.22	8	3	4	109
Togo	0.19	9	47	42	2
Argentina	0.19	10	14	17	33
Colombia	0.19	11	27	23	12
Thailand	0.17	12	7	11	76
China	0.16	13	1	1	155
Brazil	0.16	14	5	7	113
Philippines	0.16	15	10	9	80
South Africa	0.14	16	18	16	62
Ghana	0.14	17	32	37	10
Russian Federation	0.14	18	8	6	122
Tanzania	0.13	19	60	45	4
Afghanistan	0.13	20	53	38	7

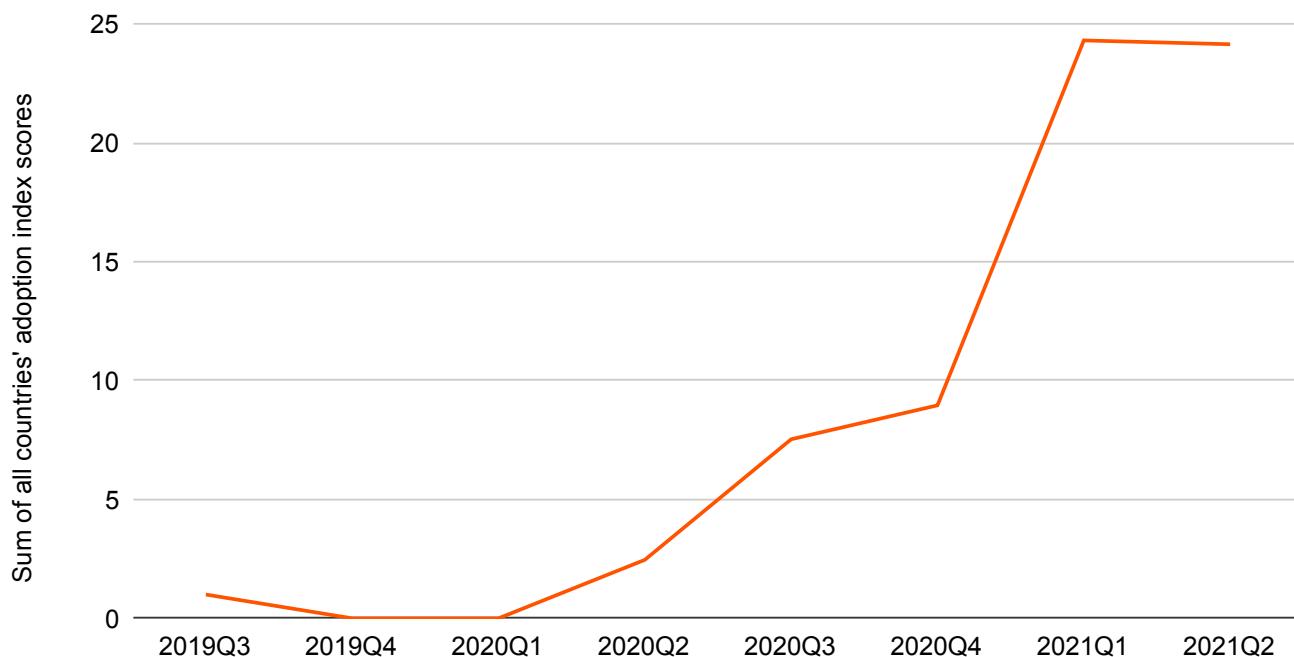
Three key trends jumped out to us as significant.



Global cryptocurrency adoption is skyrocketing

Our data shows that residents of more and more countries around the world are taking the dive into cryptocurrency or seeing existing adoption increase. In the chart below, we applied our index methodology globally by adding up all 154 countries' index scores — made up of the three components we describe above — for each quarter from Q2 2019 to the present.

Chainalysis Global Crypto Adoption Index: Sum of all countries' index scores by quarter



At the end of Q2 2020, following a period of little growth, total global adoption stood at 2.5 based on our summed up country index scores. At the end of Q2 2021, that total score stands at 24, suggesting that global adoption has grown by over 2300% since Q3 2019 and over 881% in the last year. Our research suggests that the reasons for this increased adoption differ around the world: in emerging markets, many turn to cryptocurrency to preserve their savings in the face of currency devaluation, send and receive remittances, and carry out business transactions; in North America, Western Europe, and Eastern Asia, by contrast, adoption over the last year has been driven largely by institutional investment.

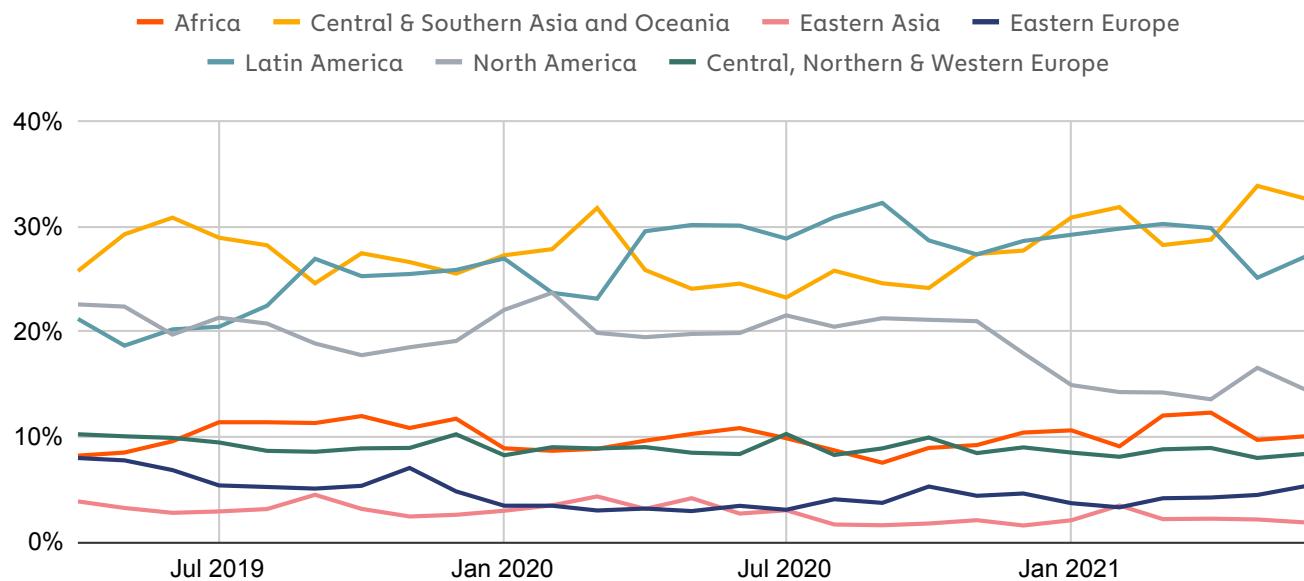


Adoption in emerging markets grows, powered by P2P platforms

Several countries in emerging markets, including Kenya, Nigeria, Vietnam, and Venezuela rank high on our index in large part because they have huge transaction volumes on peer-to-peer (P2P) platforms when adjusted for PPP per capita and internet-using population. Our interviews with experts in these countries revealed that many residents use P2P cryptocurrency exchanges as their primary on-ramp into cryptocurrency, often because they don't have access to centralized exchanges.

Knowing that, it's no surprise that regions with many emergent markets account for a huge portion of web traffic to P2P services' websites.

Monthly share of all web traffic to P2P cryptocurrency platforms | Apr '19 - Jun '21



Central & Southern Asia and Oceania, Latin America, and Africa send more web traffic to P2P platforms than regions whose countries tend to have larger economies, such as Western Europe and Eastern Asia.

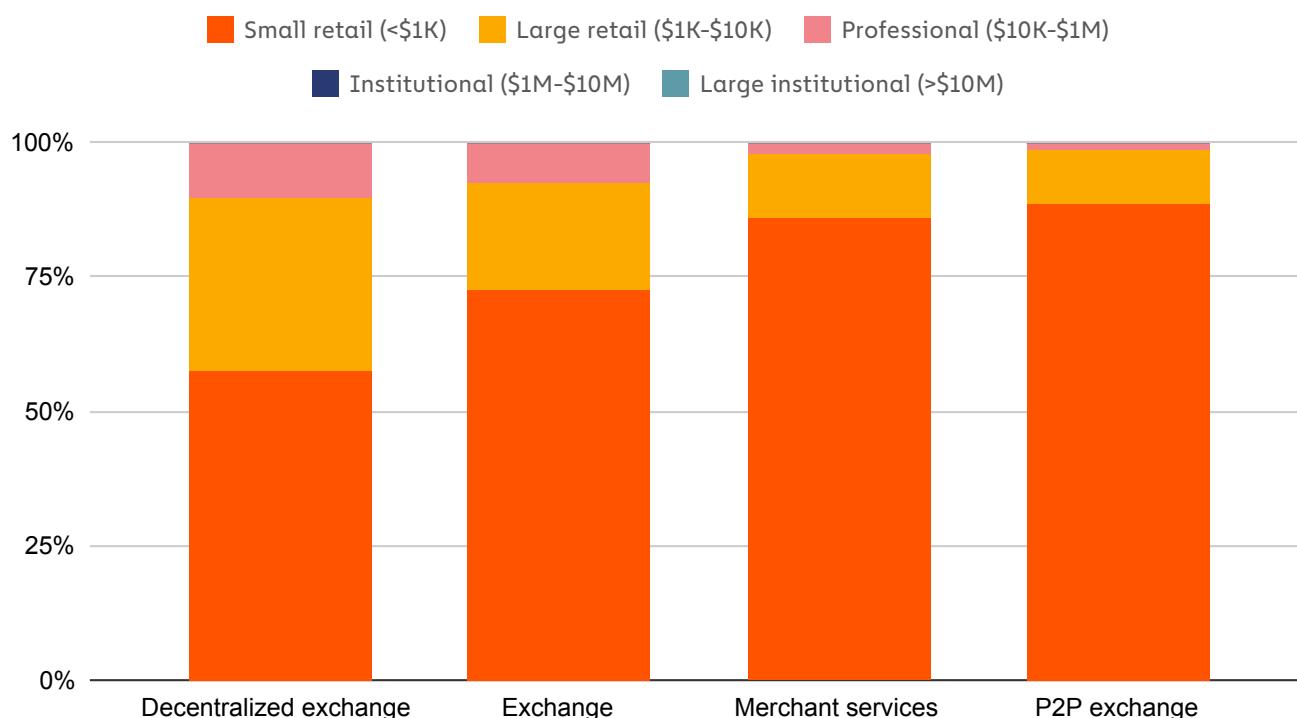
Many emerging markets face significant currency devaluation, driving residents to buy cryptocurrency on P2P platforms in order to preserve their savings. Others in these areas use cryptocurrency to carry out international transactions, either for individual remittances or for commercial use cases, such as purchasing goods to import and sell.



Many emerging markets represented here limit the amount of the national currency that residents can move out of the country. Cryptocurrency gives those residents a way to circumvent those limits so that they can meet their financial needs.

This contributes to an interesting dynamic whereby P2P platforms have a greater share of total transaction volume made up of smaller, retail-sized payments under \$10,000 worth of cryptocurrency.

Cryptocurrency platforms' share of transfers by size



That makes sense given the use cases we described, as remittance payments and personal and commercial transactions carried out by merchants in emerging markets are likely to be smaller than transactions carried out by professional traders or institutional investors.

China and the U.S. dip in our rankings

Last year, China ranked fourth on our global adoption index while the U.S. ranked sixth. This year, the U.S. ranks eighth while China ranks 13th. The biggest reason both countries dropped is that their rankings in P2P trade volume weighted for internet-using population declined dramatically – China fell from 53rd in this component to 155th,



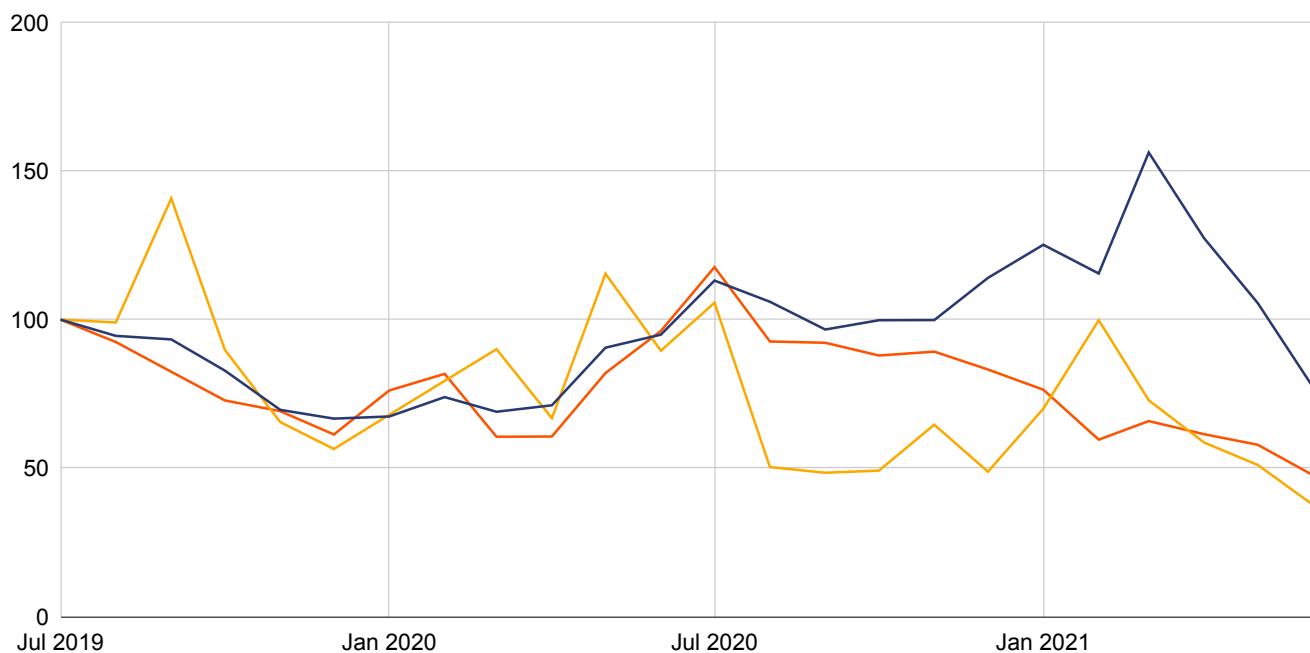
while the U.S. fell from 16th to 109th.

Further analysis shows how far P2P volumes have fallen in the two countries compared to worldwide volumes. We show this in the index chart below, which shows relative change in P2P volumes for the U.S. and China compared to worldwide totals.

Index: Growth in total P2P platform transaction value for United States vs. China vs. All other countries

| Jul '19 - Jun '21

— United States — China — All



P2P transaction volume for the U.S. and China moved roughly in line with the worldwide total until they began to diverge around June 2020. At that point, the U.S. and China see their P2P transaction volume shrink as the rest of the world grows. While all three dip dramatically beginning in March 2021, the U.S. and China dip more and remain lower than worldwide totals. This activity may reflect increasing professionalization and institutionalization of cryptocurrency trading in the United States, and in China's case may be related to ongoing government crackdowns on cryptocurrency trading.



What will drive the next wave of adoption?

Our data shows that growing transaction volume for centralized services and the explosive growth of DeFi are driving cryptocurrency usage in the developed world and in countries that already had substantial adoption, while P2P platforms are driving new adoption in emerging markets. Our biggest question for the next twelve months is how much adoption will continue to grow on those platform categories compared to new and emerging models we haven't seen yet. The clear takeaway though is this: Cryptocurrency adoption has skyrocketed in the last twelve months, and the variation in the countries contributing to that show that cryptocurrency is a truly global phenomenon.

Introducing the Chainalysis Global DeFi Adoption Index

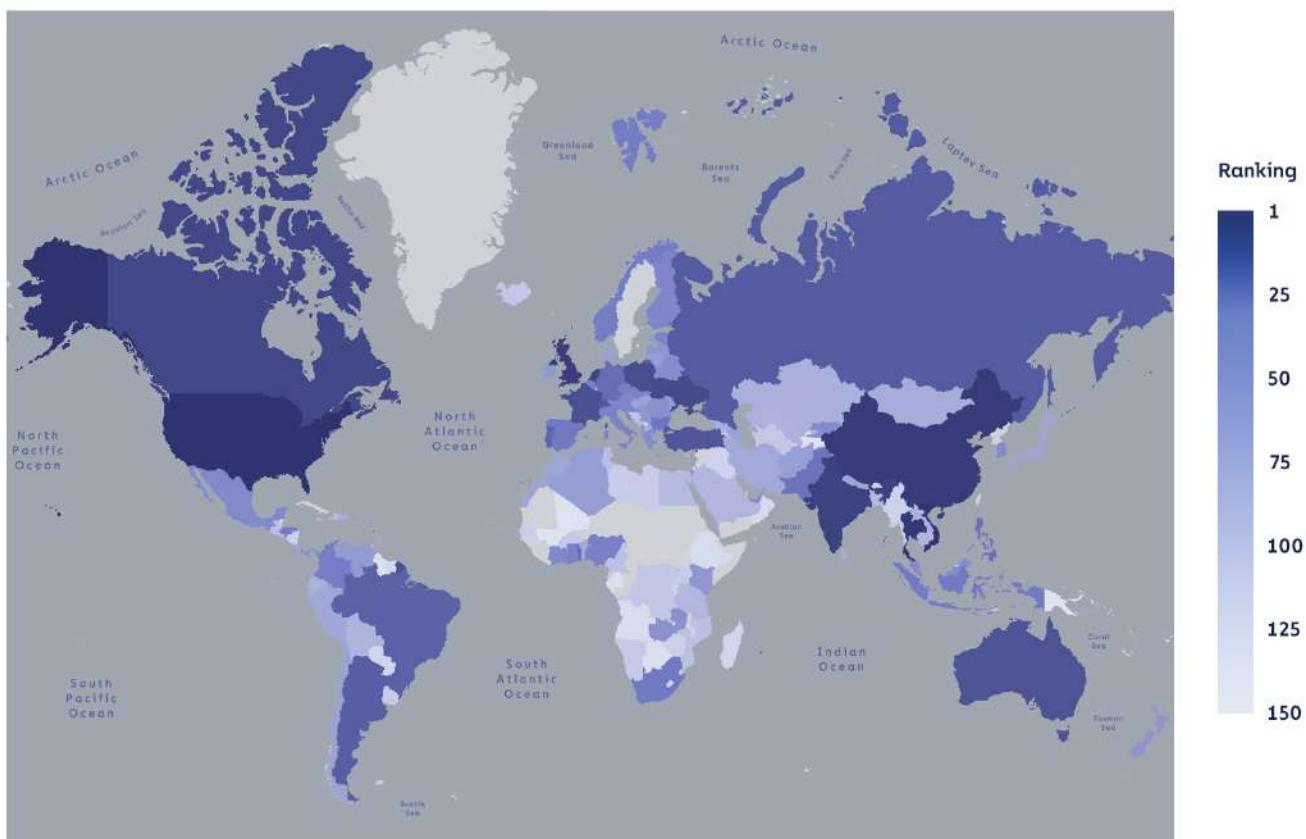




DeFi's growth has been one of the biggest stories in cryptocurrency over the last 18 months. DeFi stands for "decentralized finance," and refers to a class of decentralized cryptocurrency platforms that can run autonomously without the support of a central company, group, or person. How is this possible? DeFi platforms, also known as protocols, are built on top of smart contract-enriched blockchains — primarily the Ethereum network — and can fulfill specific financial functions determined by the smart contracts' underlying code. Popular types of DeFi protocols include decentralized exchanges and lending platforms.

While **concerns remain** around DeFi's safety and compliance obligations, it represents one of the fastest-growing and most innovative sectors of the cryptocurrency economy. That's why this year, we decided to create a new geographic index ranking countries by DeFi adoption specifically.

Global DeFi Adoption Index | July '20 - June'21



Similar to our Crypto Adoption Index, the DeFi Adoption Index is designed to highlight countries with the highest grassroots adoption by individuals, rather than those sending the largest raw values of funds. The data suggests that while grassroots



cryptocurrency adoption generally is highest in emerging markets, DeFi adoption is strongest in high-income countries that already had substantial cryptocurrency usage, especially amongst traders and institutional investors. We break down both those findings and the DeFi Adoption Index's methodology below.

Our methodology

The DeFi Adoption Index is made up of three component metrics, which we'll explain in more detail below. We rank all 154 countries according to each of those three metrics, take the geometric mean of each country's ranking in all three, 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.

Component 1: On-chain cryptocurrency value received by DeFi platforms weighted by PPP per capita

The goal of this metric is to rank each country by total DeFi activity, but 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 DeFi protocols from users in a given 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 sent equal amounts to DeFi protocols, the country with the lower PPP per capita would rank ahead.

Component 2: Total retail value received by DeFi platforms

The goal of this metric is to measure the DeFi activity of non-professional, individual cryptocurrency users, based on how much cryptocurrency they've sent to DeFi protocols in retail-sized transactions, meaning under \$10,000 USD, compared to the wealth of the average person.

Component 3: Individual deposits to DeFi platforms weighted by PPP per capita

The goal of this metric is to rank countries based on whose residents are carrying out the highest number of DeFi transactions. We measure this by taking the ratio of DeFi transactions to the country's total number of internet users. The higher the ratio, the



higher the ranking, meaning that if two countries had an equal number of deposits, the country with fewer internet users would rank higher.

This year, we removed the individual deposits metric from our overall cryptocurrency adoption index because it artificially favors DeFi transactions over those carried out on centralized exchanges, since DeFi protocols' non-custodial nature means all DeFi transactions are captured on-chain, whereas trades within a centralized exchange are only captured on exchange order books. However, that's not a concern in this case where we're only measuring DeFi transactions, which means we can measure individual transactions to get an idea of the number of users interacting with DeFi protocols.

The 2021 Global DeFi Adoption Index Top 20

What stands out here is that unlike with our Crypto Adoption Index, many of the countries ranking highest in grassroots DeFi adoption are those with high raw volumes of cryptocurrency value moved, both currently and historically. These tend to be middle to high-income countries or countries with already-developed cryptocurrency markets, and in particular strong professional and institutional markets. Standout countries exemplifying these trends are the United States, China, Vietnam, the UK, and several other Western European countries that rank high on the DeFi Adoption Index.



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
United States	1.00	1	3	47	4
Vietnam	0.82	2	4	64	3
Thailand	0.68	3	5	46	5
China	0.62	4	2	113	2
United Kingdom	0.60	5	9	40	6
India	0.59	6	1	120	1
Netherlands	0.55	7	24	11	18
Canada	0.52	8	17	30	15
Ukraine	0.49	9	11	50	7
Poland	0.46	10	18	36	17
France	0.46	11	14	44	16
Australia	0.41	12	27	26	23
Turkey	0.40	13	13	61	14
Switzerland	0.38	14	31	8	34
Russian Federation	0.36	15	10	77	12
Argentina	0.34	16	12	65	21
Brazil	0.32	17	6	110	13
Portugal	0.31	18	34	22	33
Hong Kong	0.30	19	33	14	47
Togo	0.30	20	32	34	29

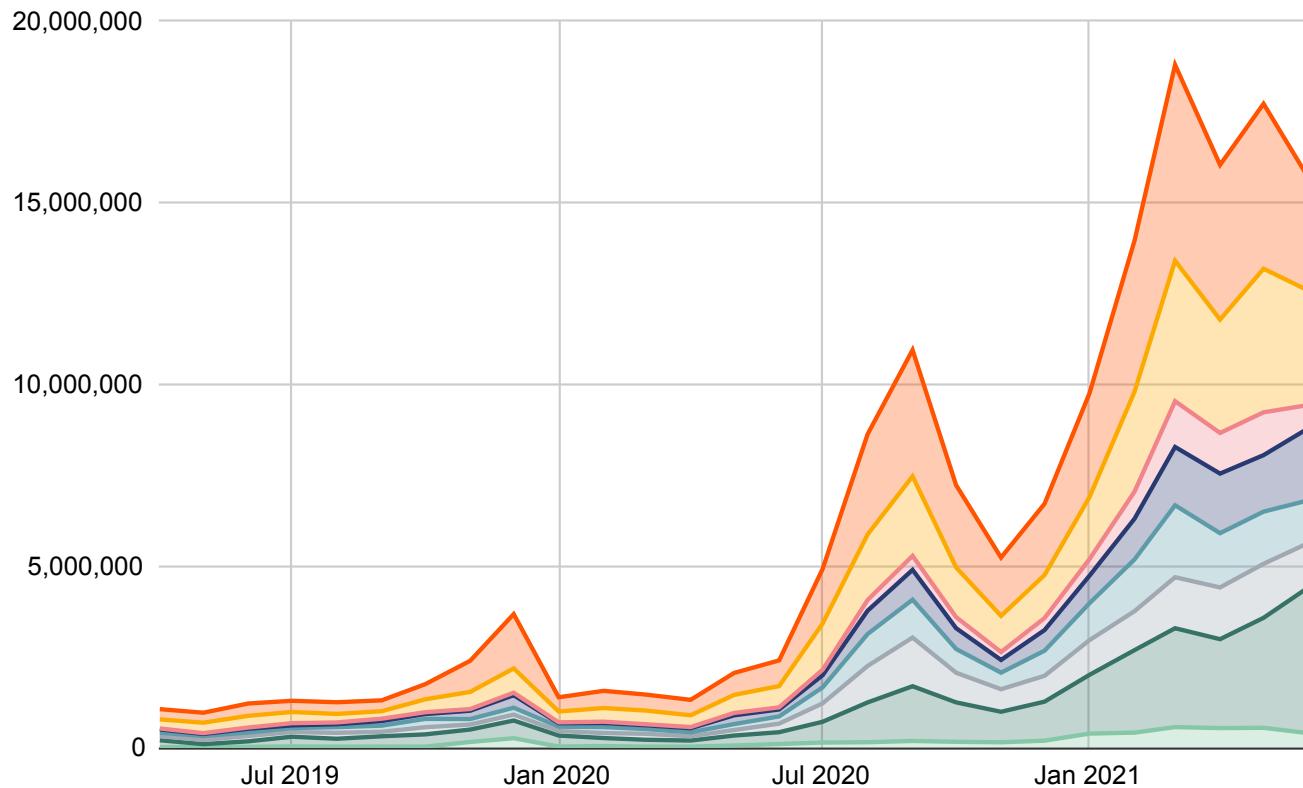
Historic web traffic data for DeFi protocols shows us how DeFi adoption has unfolded over time at the regional level.



Total monthly web visits to DeFi platforms by country

| Apr '19 - June '21

Central, Northern & Western Europe North America Middle East Latin America
Eastern Europe Eastern Asia Central & Southern Asia and Oceania Africa

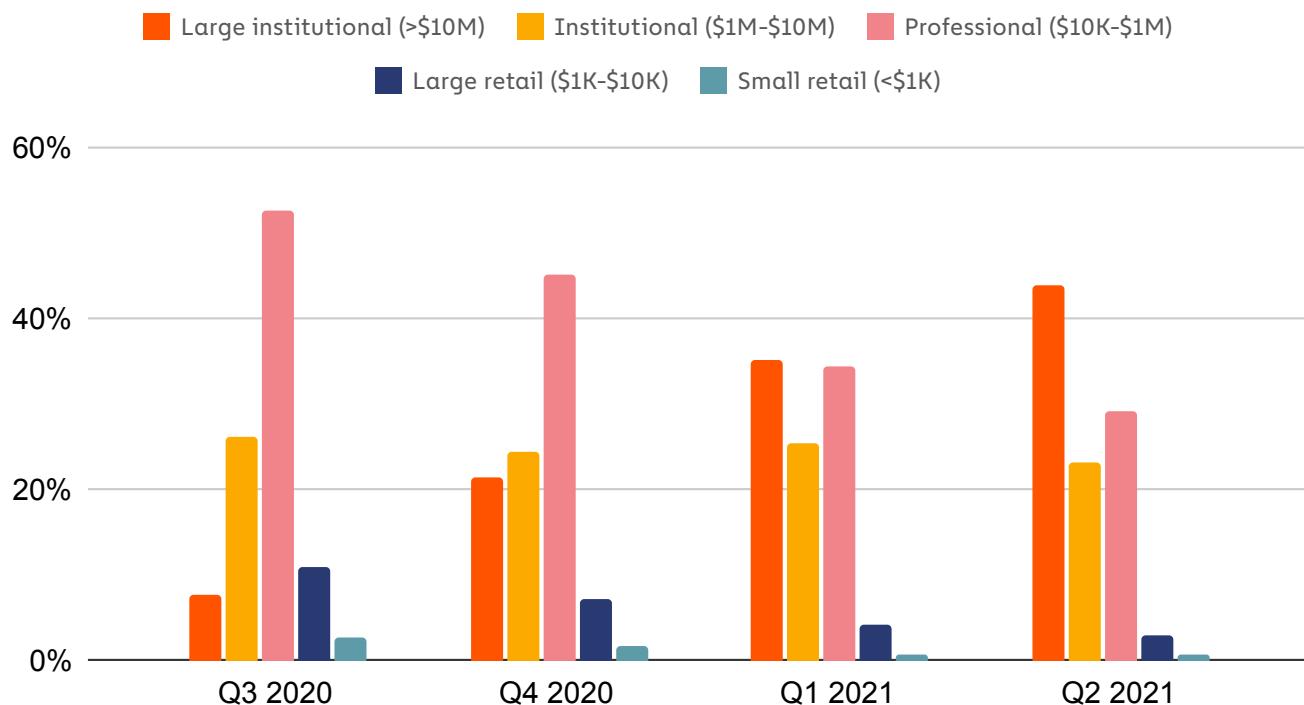


From April 2019 until roughly June 2020, the vast majority of web traffic to DeFi protocols came from North America, with Western Europe adding a substantial and growing percentage starting around September 2019. Around June 2020, we see more and more traffic from other regions, especially Central and Southern Asia, as total value sent to DeFi platforms begins to explode. Though China has become one of the biggest single countries for DeFi transaction volume, East Asia's regional share of DeFi protocol web traffic remains low in comparison to its share of traffic to centralized cryptocurrency services.

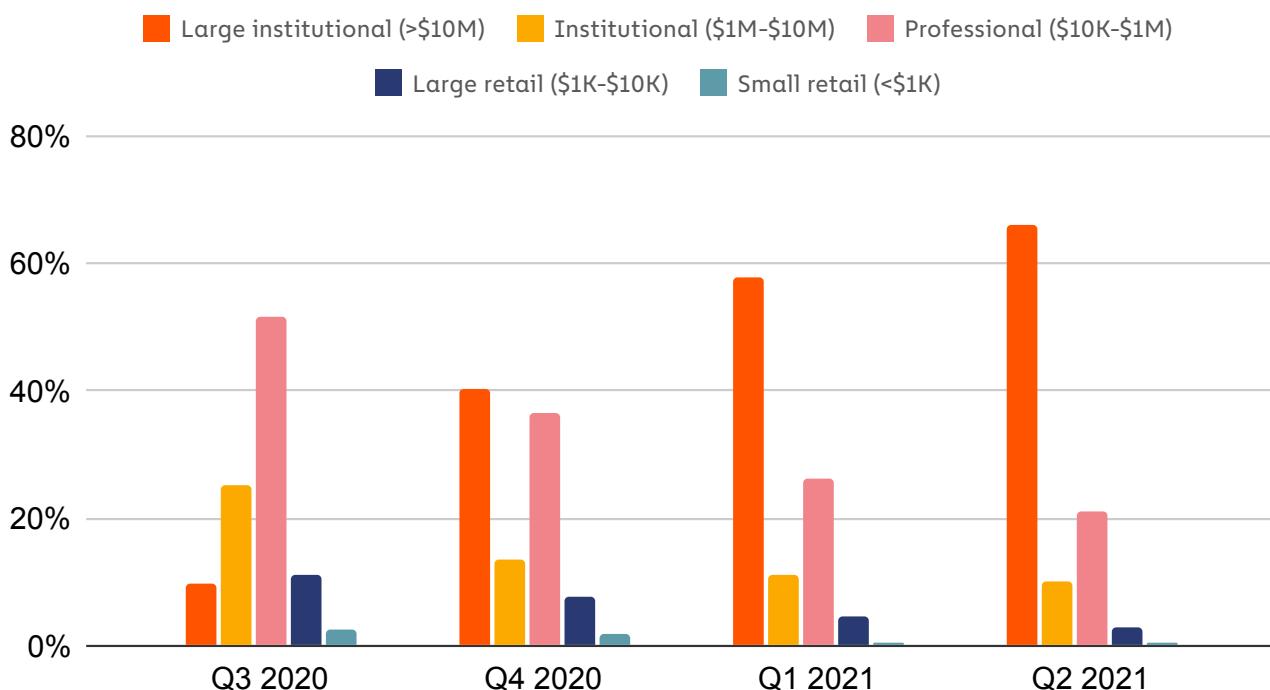
The breakdown of the share of transaction volume by transaction size for DeFi protocols compared to all cryptocurrency activity reinforces our understanding of who's using DeFi.



Share of total transaction volume by transaction size for all cryptocurrency activity



Share of total transaction volume by transaction size for DeFi cryptocurrency activity

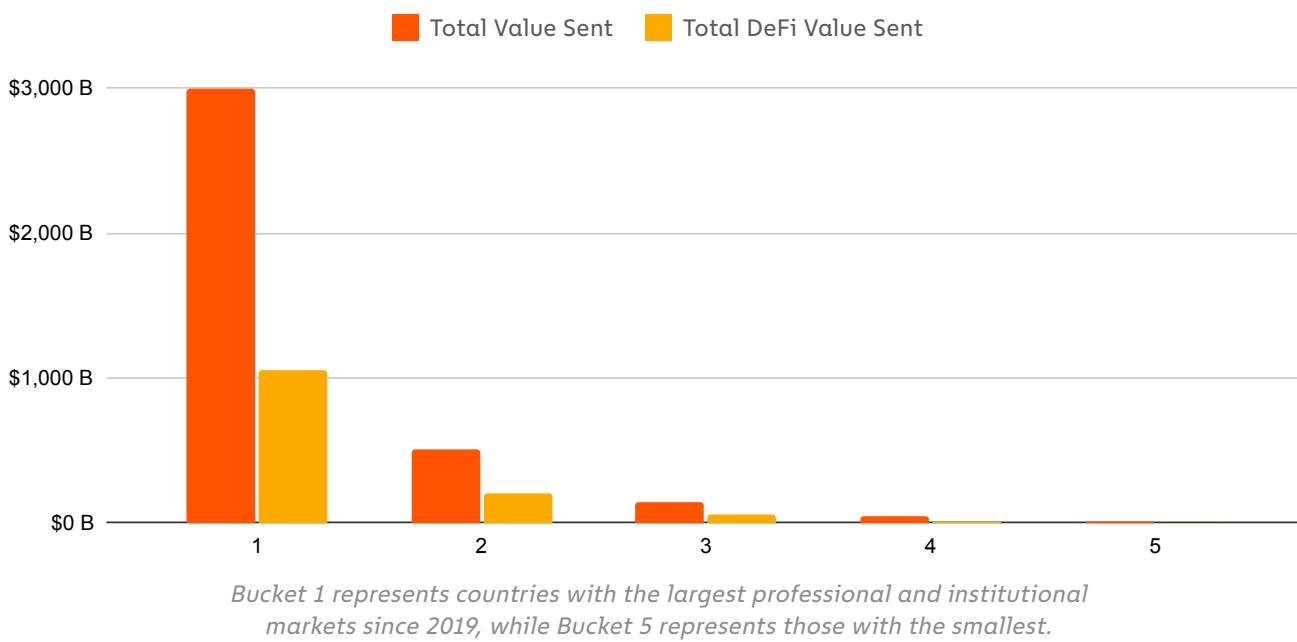




The data shows that large transactions make up a much bigger share of DeFi activity, suggesting that DeFi is disproportionately popular for bigger investors compared to cryptocurrency as a whole. Large institutional transactions, meaning those above \$10 million in USD, accounted for over 60% of DeFi transactions in Q2 2021, compared to under 50% for all cryptocurrency transactions. Professional, large retail, and small retail-sized transactions also accounted for a bigger percentage of all cryptocurrency activity compared to DeFi activity in that same time period.

We can also see that countries with the historically largest institutional and professional markets are driving the most DeFi activity. Below, we break all countries ranked in our index down into five buckets based on the size of their professional and institutional markets, and show their transaction volume for both cryptocurrency in general and DeFi specifically.

Cryptocurrency transaction volume vs. DeFi transaction volume for all countries broken down by size of institutional and professional markets | 2019 - present



As we can see, countries that have historically accounted for the most professional and institutional-sized cryptocurrency transactions are also driving the most DeFi activity.

With these numbers in mind, we spoke to David Gogel, Growth Lead at dydx, a popular DeFi protocol focused on cryptocurrency derivatives, to learn more about DeFi's regional growth patterns. He explained that large-scale traders, from individuals



operating at a professional level to cryptocurrency hedge funds, have been the biggest adopters of DeFi so far. "Right now, DeFi is targeted towards crypto insiders," he said. "It's people who have been in the industry for a while and have enough funds to experiment with new assets. In the long run as ETH gas prices fall, it'll become accessible to more people." Gogel cited the United States, China, Russia, and several Western European countries with high cryptocurrency adoption as some of the key growth markets for DeFi.

A tale of two ecosystems

Our adoption data combined with David Gogel's description of DeFi's growth markets illuminates the distinctions between the DeFi ecosystem and the larger cryptocurrency ecosystem. At the grassroots level, emerging markets are driving cryptocurrency adoption, with users in these areas turning to the asset class out of necessity, either to preserve their savings in the face of currency devaluation or to carry out remittances they wouldn't otherwise be able to. DeFi adoption, on the other hand, has primarily been powered by experienced cryptocurrency traders and investors looking for new sources of alpha in innovative new platforms. That holds true even when we weight our index to favor grassroots adoption.



Note on our transaction volume estimates:

Throughout this report, we estimate the transaction volumes of different types of cryptocurrency services both globally and within specific countries using on-chain data. We must acknowledge that under this methodology, the transaction volume of DeFi services is likely inflated relative to centralized services. The reason for this is that all DeFi transactions take place on the blockchain because DeFi protocols are non-custodial, and they route transactions between wallets.

Centralized services, on the other hand, take custody of funds, meaning we cannot track transactions between addresses inside a centralized service using on-chain data. That data is only contained in the centralized services' order books, which we don't have access to. We're confident that our methodology still provides an accurate measure of countries' DeFi activity relative to one another, but overall DeFi activity relative to that of centralized services may be overestimated.

North America





North America's cryptocurrency activity summarized

Cryptocurrency value received by North America

| Compared to rest of world, Jul '20 - Jun '21



18%

**share of global
value received by
North America**

Cryptocurrency value received by North America | Jul '20 - Jun '21

\$200,000,000,000

12-month total: \$756 B

\$150,000,000,000

\$100,000,000,000

\$50,000,000,000

\$0

Jul 2020

Sep 2020

Nov 2020

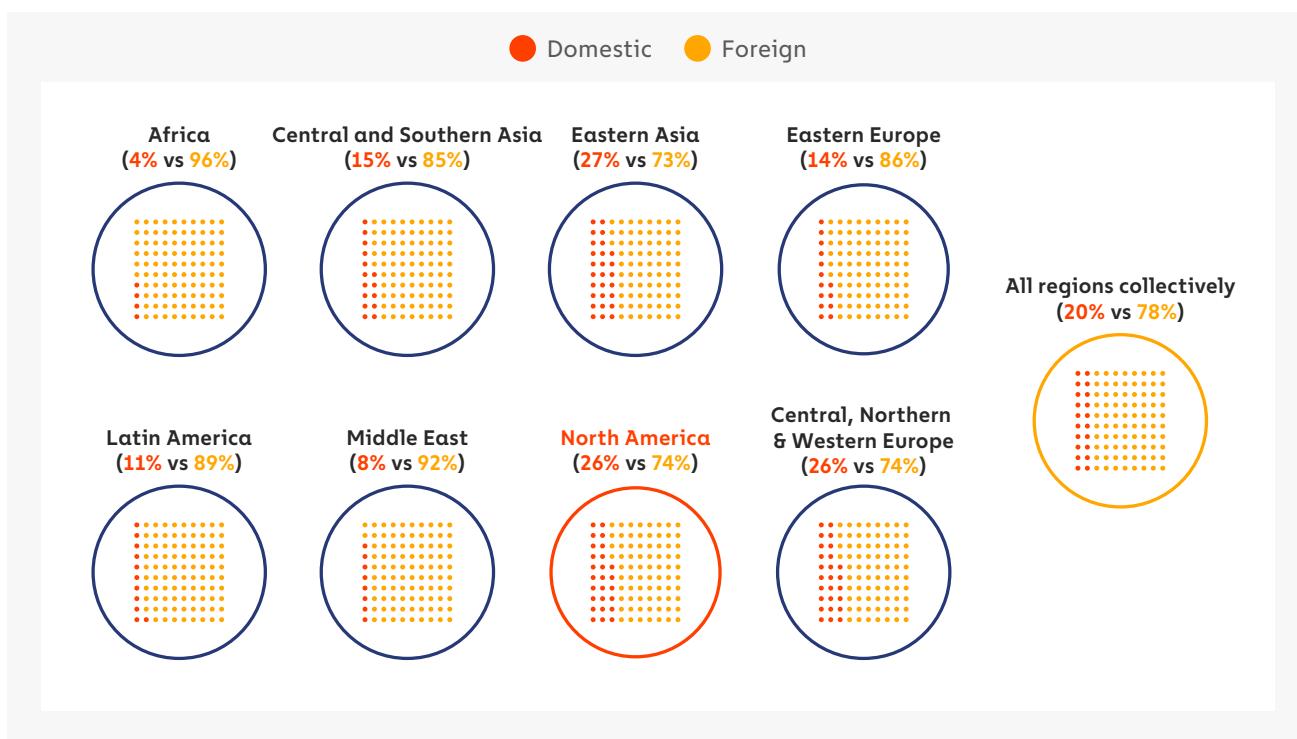
Jan 2021

Mar 2021

May 2021

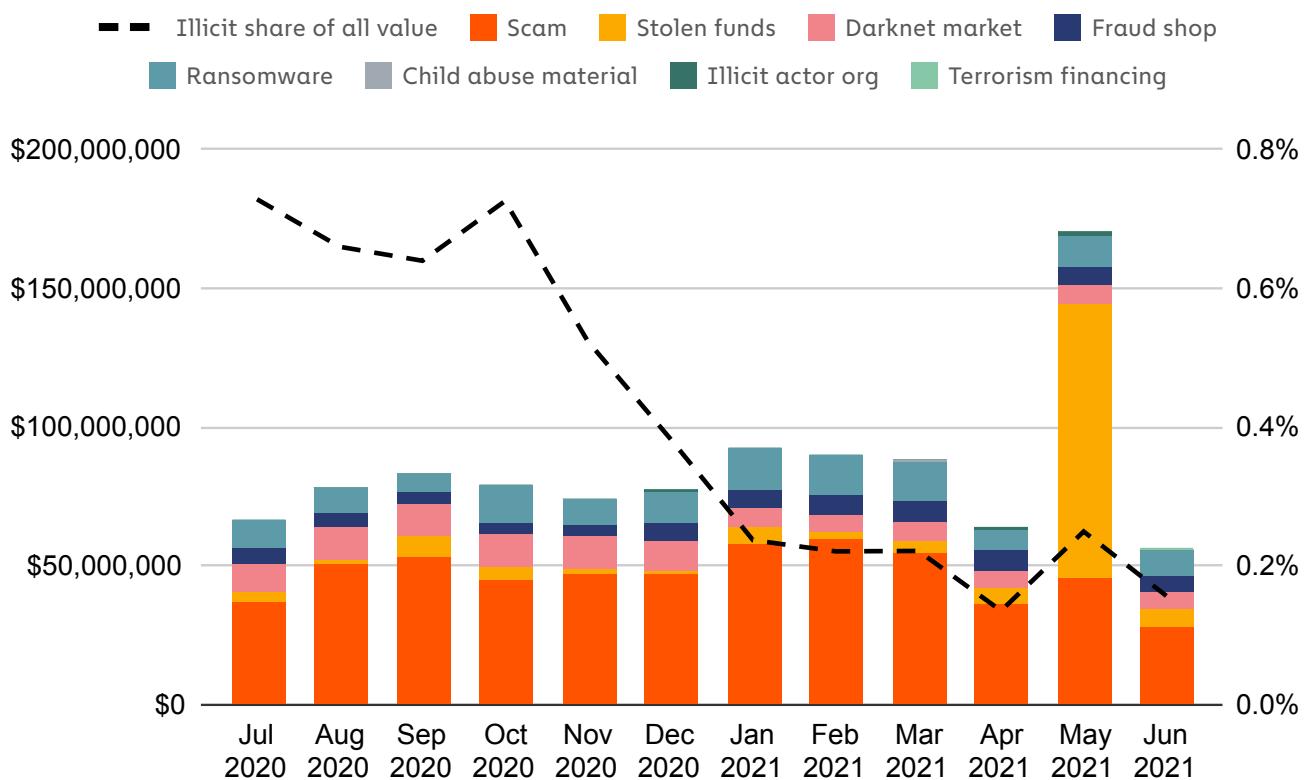


Value received by origin: Domestic vs. foreign | Jul '19 - Jun '20



Value sent from North America to illicit addresses

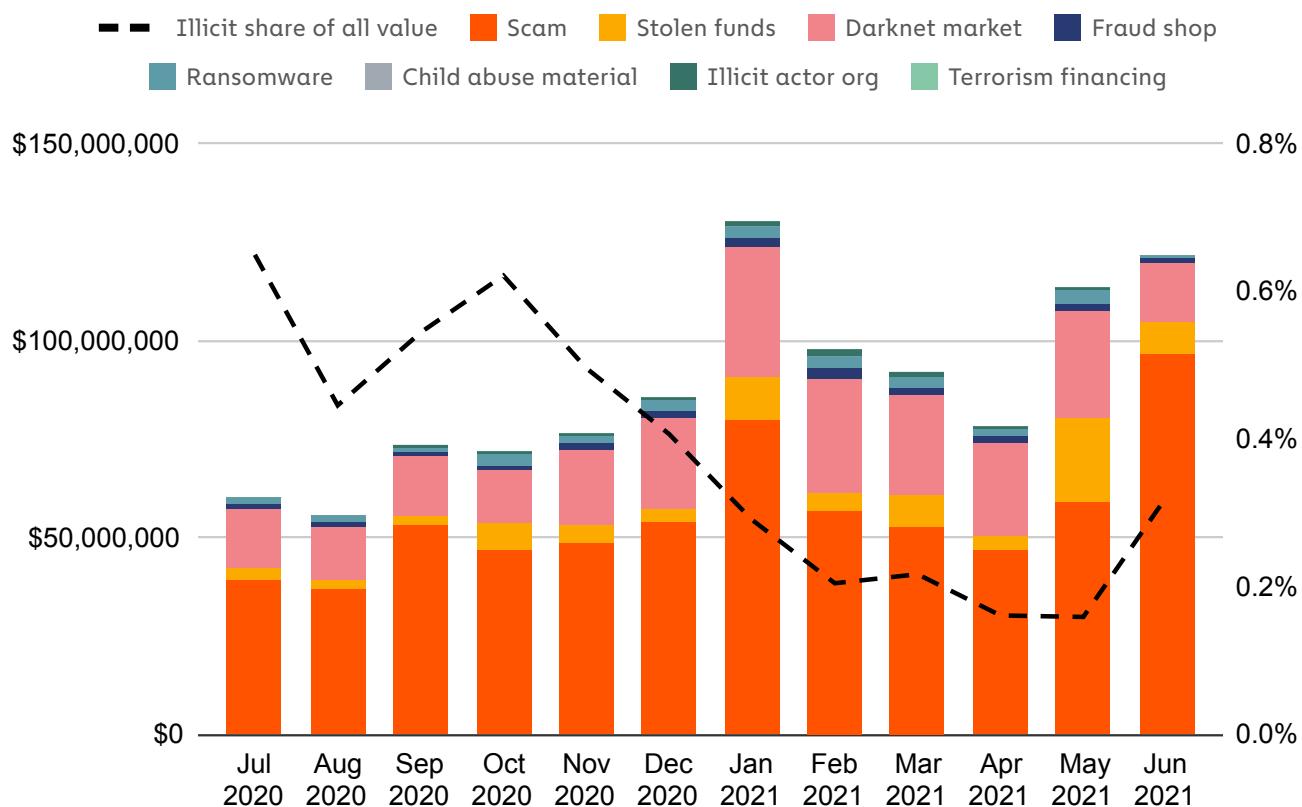
| Jul '20- June '21





Value received by North America from illicit addresses

| Jul '20- June '21



DeFi Drives Growth in World's Second-biggest Cryptocurrency Market But Ransomware Is Cause For Concern

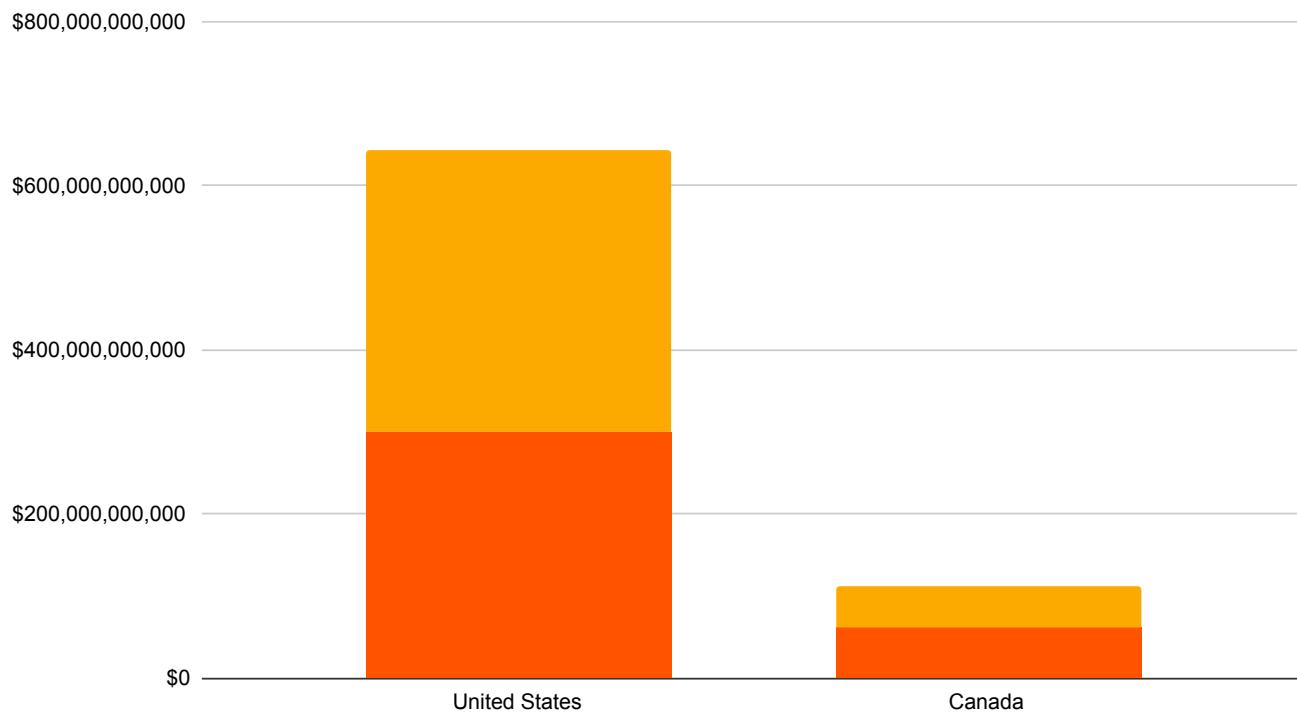
North America is the second-largest cryptocurrency economy we study, having received over \$750 billion in cryptocurrency between July 2021 and June 2020, which accounts for 18.4% of global activity in that time period. The United States accounts for the majority of this activity, and also shows relatively high grassroots adoption, ranking eighth on our Global Crypto Adoption Index. The U.S.'s ranking is largely due to its high ranks in total cryptocurrency value received and value received in retail-sized transactions in proportion to internet-using population and purchasing power, ranking fourth and third in each category respectively. Simply put, more Americans are devoting a higher share of their purchasing power to cryptocurrency than in nearly every other country.



North America's cryptocurrency value received by country

| Jul '20 - Jun '21

DeFi Centralized services



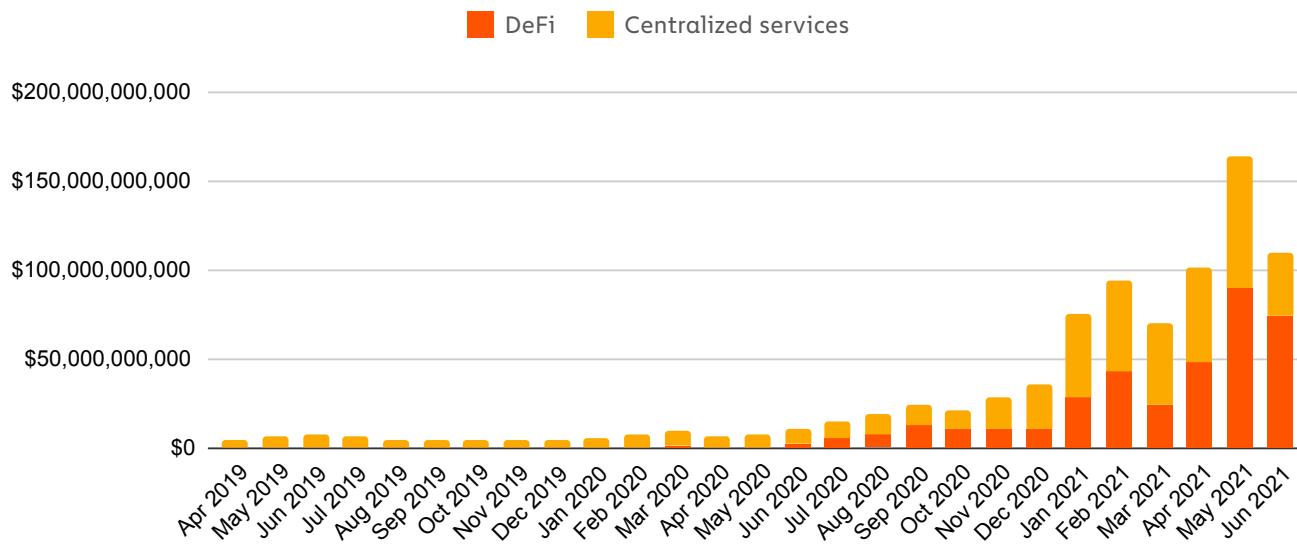
The United States also places first on our new DeFi Adoption Index, which ranks countries by grassroots adoption of DeFi platforms specifically. As we'll explore later, DeFi played a huge role in North America's strong cryptocurrency growth over the last year, and several DeFi platforms are now among the most popular overall in the region. Below, we'll discuss these growth trends and also take a look at North America's — in particular, the United States' — issues with ransomware.

DeFi drove North America's cryptocurrency growth in the last year

North America's monthly cryptocurrency transaction volume grew significantly during the time period studied, rising from \$14.4 billion in July 2020 to a high of \$164 billion in May 2021 — an increase of over 1,000% — before a slight dip in June. Much of this growth was driven by the growing popularity of DeFi.



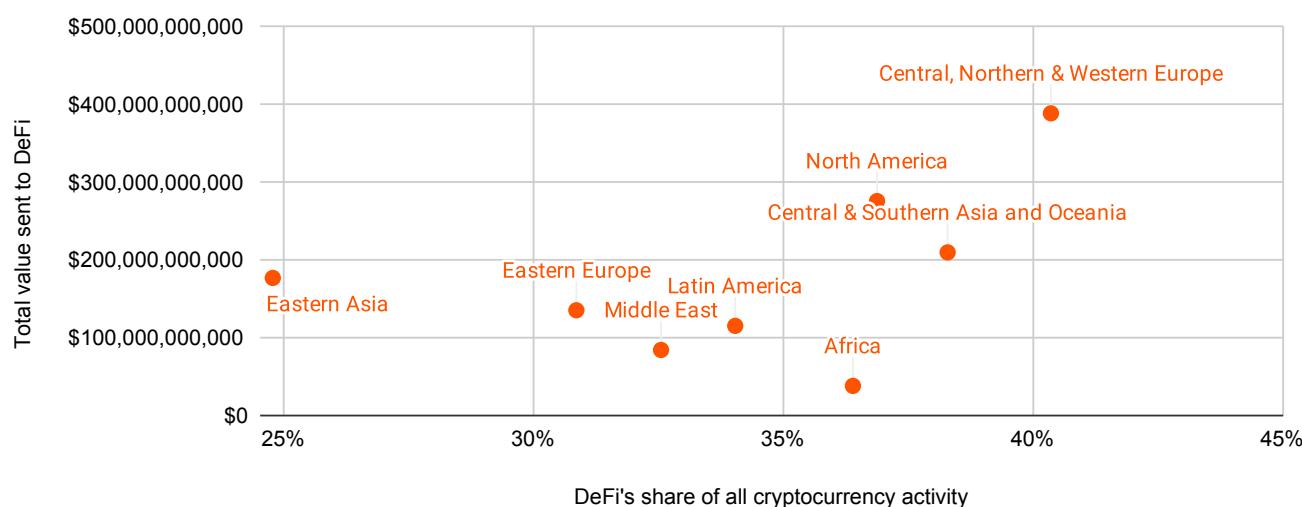
Monthly cryptocurrency value received by service type, North America | Apr '19 - June '21



This growth has made North America one of the world's strongest markets for DeFi.

Total cryptocurrency value sent to DeFi vs. DeFi's share of all cryptocurrency activity by region

| Jul '20 - Jun '21



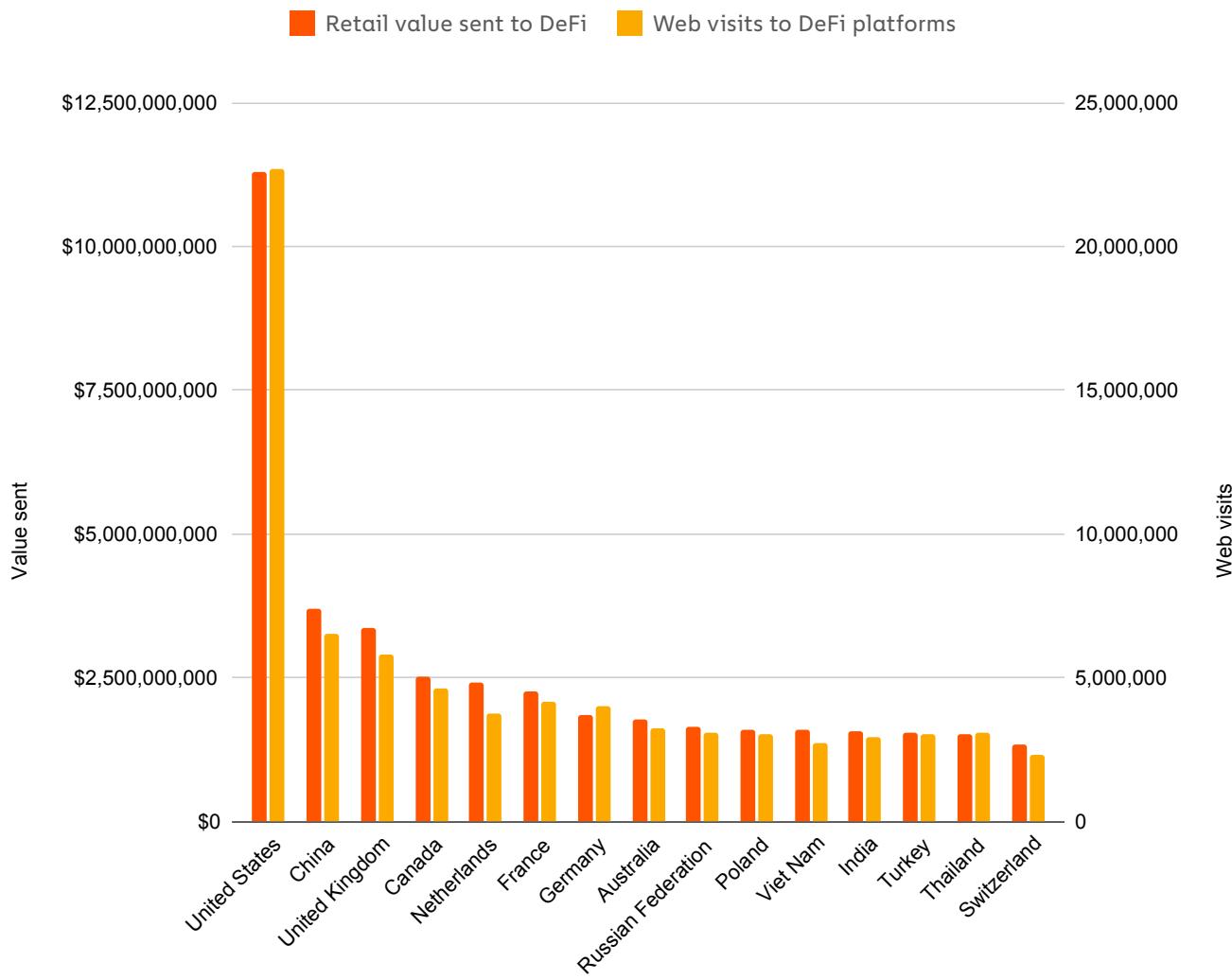
North Americans sent roughly \$276 billion worth of cryptocurrency to DeFi platforms between July 2020 and June 2021, second only to Central, Northern & Western Europe (CNWE) at \$389 million. DeFi transactions represented 37% of North America's overall transaction volume during the time period – only CNWE and Central & Southern Asia and Oceania (CSAO) devoted a higher share of activity to DeFi, and in recent months,



DeFi activity has eclipsed activity on centralized services.

Interestingly, while DeFi activity tends to be driven by larger investors based on transaction size, the United States leads the way in retail-sized DeFi transactions, meaning those below \$10,000 in value. Canada places fourth, showing the high degree to which DeFi has penetrated the North American retail market.

Total cryptocurrency value sent to DeFi in retail transactions and number of web visits to DeFi platforms by country | Jul '20 - Jun '21



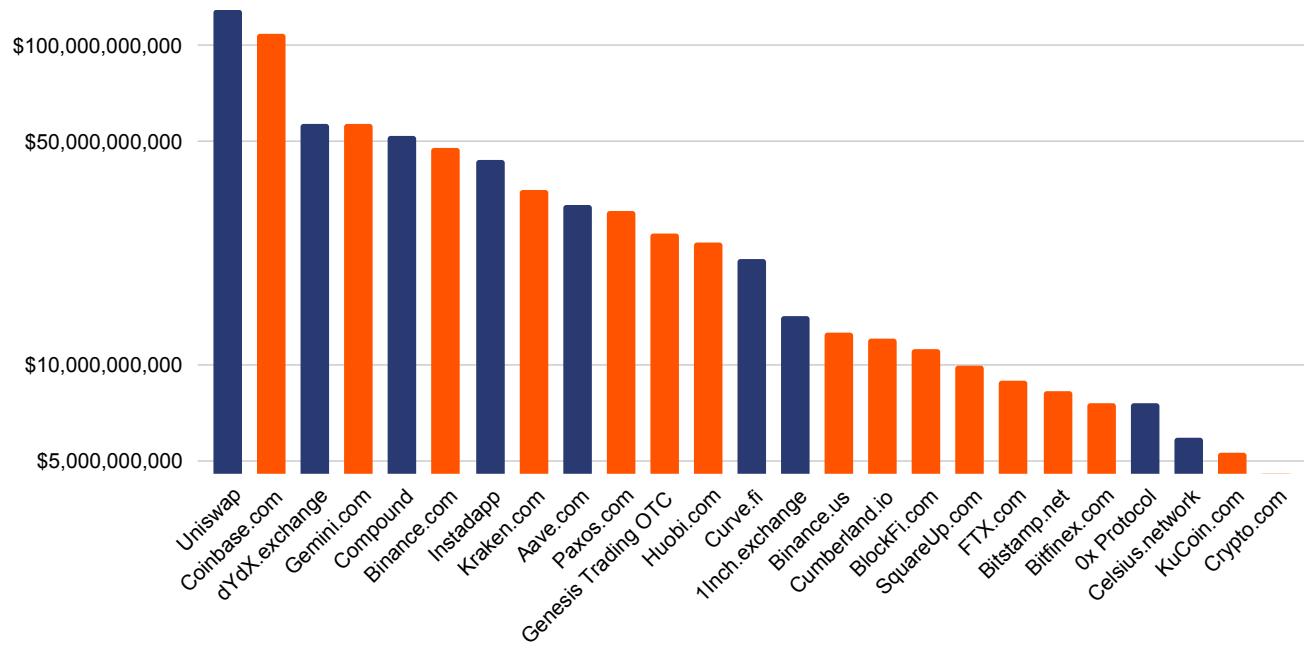
Note: Retail transactions here means transactions under \$10,000 USD in value.

Several DeFi platforms now count among the most popular services overall by North American cryptocurrency users, with Uniswap taking the number one position in terms of transaction volume.



North America's top 25 cryptocurrency services by transaction volume | Jul '20 - Jun '21

Blue = DeFi protocol



Overall, nine of the 25 biggest cryptocurrency services by transaction volume in North America are now DeFi protocols, with Uniswap, dydx, and Compound being the most popular. Interestingly, all three of those platforms fulfill distinct DeFi use cases.

Uniswap is a decentralized exchange (DEX), meaning it serves a similar function to a traditional, centralized exchange, but is non-custodial and offers a wide variety of ERC-20 tokens not available on centralized exchanges. dydx, on the other hand, is more focused on cryptocurrency derivatives, and Compound on interest-based lending. The relatively high popularity of all three suggests broad interest in the DeFi category for multiple reasons, rather than interest in just one particular DeFi use case.

dydx Growth Lead David Gogel told us more about the current state of DeFi adoption, which provides helpful context for DeFi's explosive growth in North America over the last year. "Right now, DeFi is targeted towards crypto insiders," he said. "It's people who have been in the industry for a while and have enough funds to experiment with new assets," said Gogel. He pointed to the United States specifically, along with China, Russia, and several others in Western Europe as those leading the way in the category, which shouldn't be a surprise. A large number of professional institutional investors in North America have now taken the first step of investing significantly in cryptocurrency, so projects in the DeFi space focused on new types of coins and use cases like lending would be the next logical step in the search for cryptocurrency investment gains.

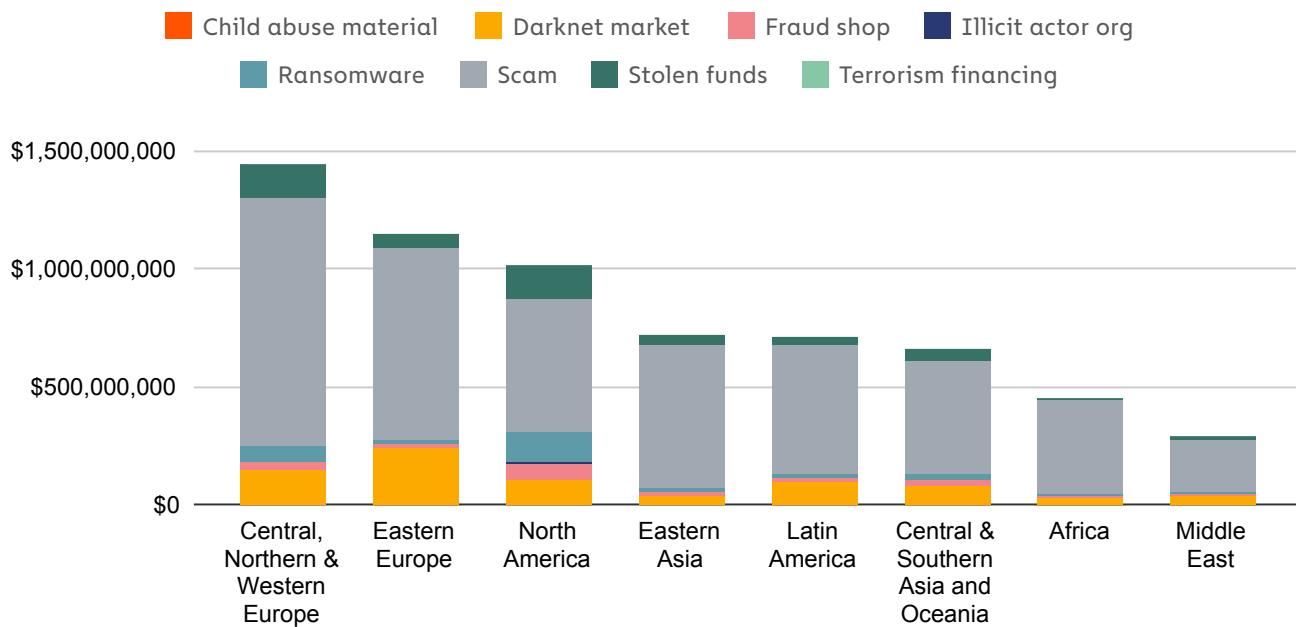


North America is the biggest target for ransomware attackers

When it comes to cryptocurrency-based crime and illicit activity, what stands out most about North America is that it's been the biggest victim of ransomware attacks during the yearlong time period we study.

Cryptocurrency value sent to illicit addresses by region

| Jul '20 - Jun '21



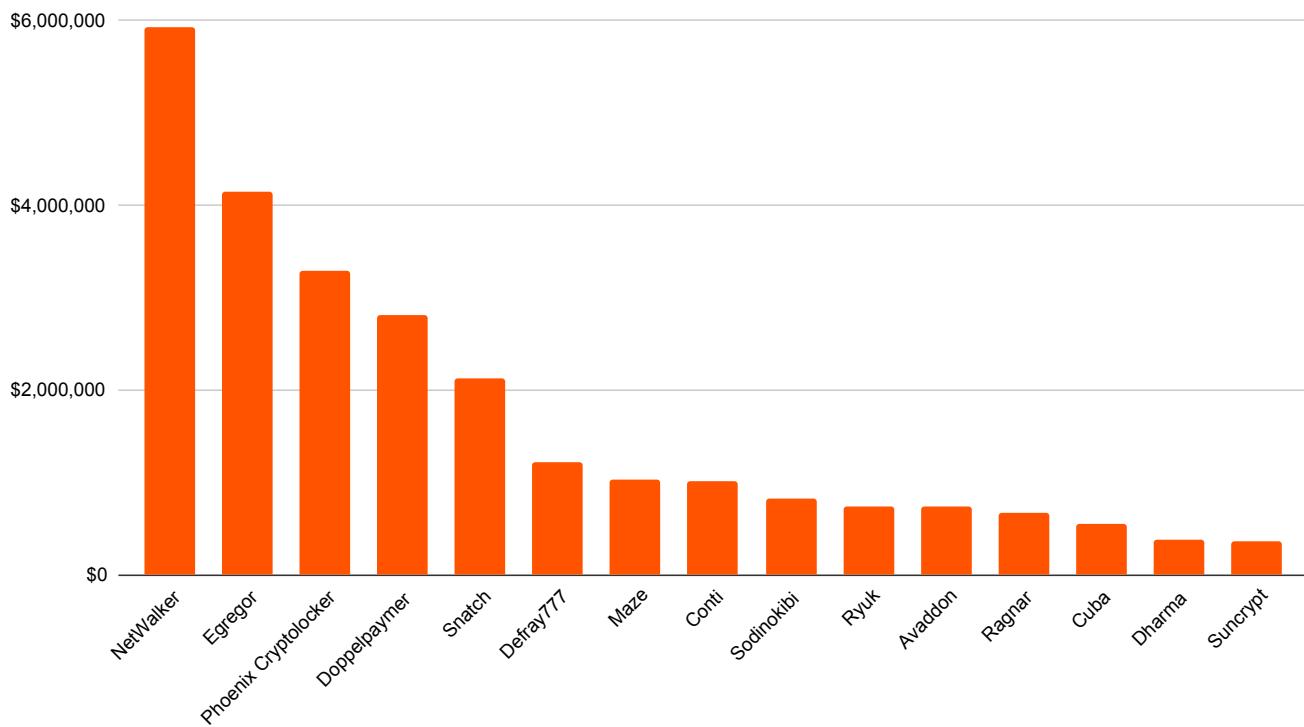
North American users sent \$131 million worth of cryptocurrency to ransomware attackers between July 2020 and June 2021, more than double that of Western Europe, which sent the second most.

Ransomware strains that took the most from North American victims during the time period studied include NetWalker, Egregor, Phoenix Cryptolocker, and DoppelPaymer, all of which are associated with Russia-based cybercriminal groups including Evil Corp, which has been [previously linked](#) to the Russian government.



Top ransomware strains by funds received from North America

| Jul '20 - Jun '21



That dynamic prompted U.S. President Joe Biden [to demand](#) that Russian President Vladimir Putin act to rein in ransomware groups, warning that continued attacks would be treated as national security incidents rather than simply as crimes. Because many ransomware attacks hit organizations that are part of our critical infrastructure, including [hospitals](#), [energy providers](#), and [banks](#), in June the U.S. Department of Justice [elevated](#) investigations of ransomware attacks to a similar priority as terrorism. As Chainalysis Global Public Sector CTO Gurvais Grigg has [argued](#), the comparison between ransomware and terrorism also extends to solutions, and counterterrorism strategies can be applied to ransomware.

Ransomware is one of the fastest-growing forms of cryptocurrency-based crime and perhaps the most dangerous in its real-world implications given the types of organizations that are frequently attacked. But as we've [discussed previously](#), the number of bad actors responsible for these widespread attacks is surprisingly small. While there are a seemingly endless number of individual ransomware strains, the ransomware affiliates who actually carry out the attacks frequently switch between multiple strains. Not only that, but the [infrastructure providers](#) that attackers rely on to carry out attacks, as well as the money launderers they work with to liquidate funds extorted from victims, also tend to work with several different strains.



By taking action against the biggest players in each of those groups, law enforcement can have an outsized impact and disrupt the operations of multiple strains. We saw an example of this strategy in action earlier this year when U.S. authorities arrested a prominent affiliate for **NetWalker**, which to that point was one of the world's most prolific ransomware strains. The arrest resulted in NetWalker's shutdown, and blockchain analysis suggests the affiliate also carried out attacks for other strains like Ragnar Locker and Sodinokibi. In other words, arresting one affiliate allowed law enforcement to strike a blow against three prominent ransomware strains. Although ransomware developers may be primarily based in Russia, the supply chain of actors who enable ransomware operations is global, and each link provides North American law enforcement an opportunity to disrupt their operations.

Latin America

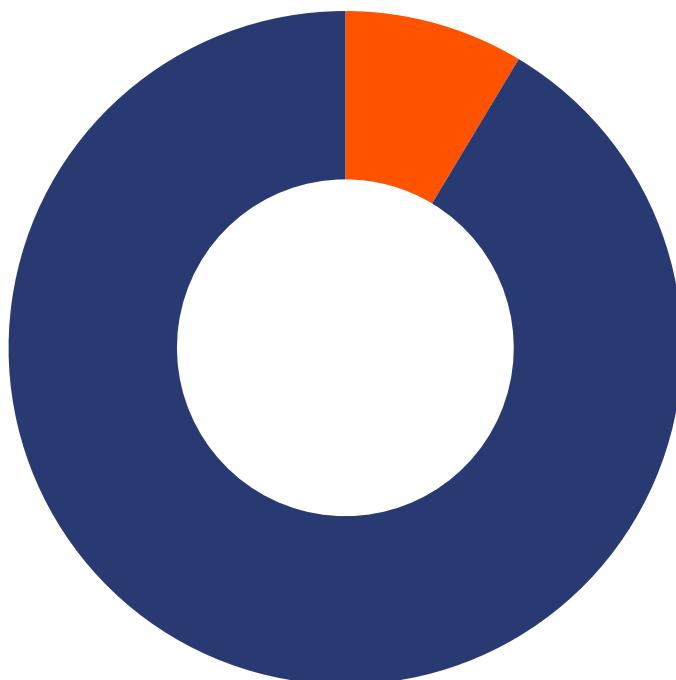




Latin America's cryptocurrency activity summarized

Cryptocurrency value received by Latin America

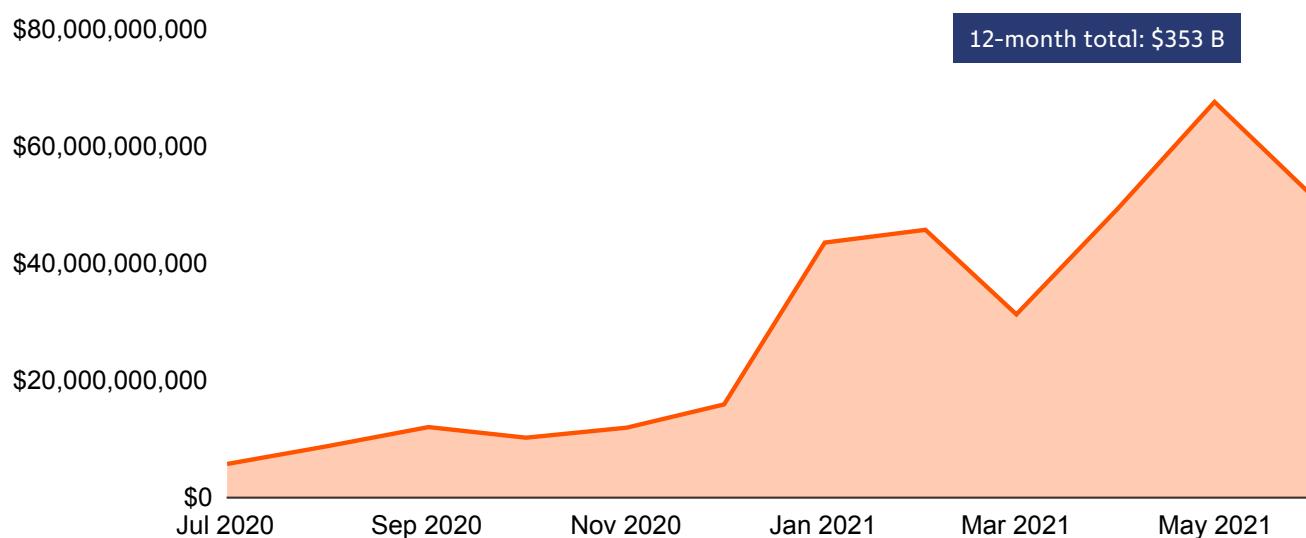
| Compared to rest of world, Jul '20 - Jun '21



9%

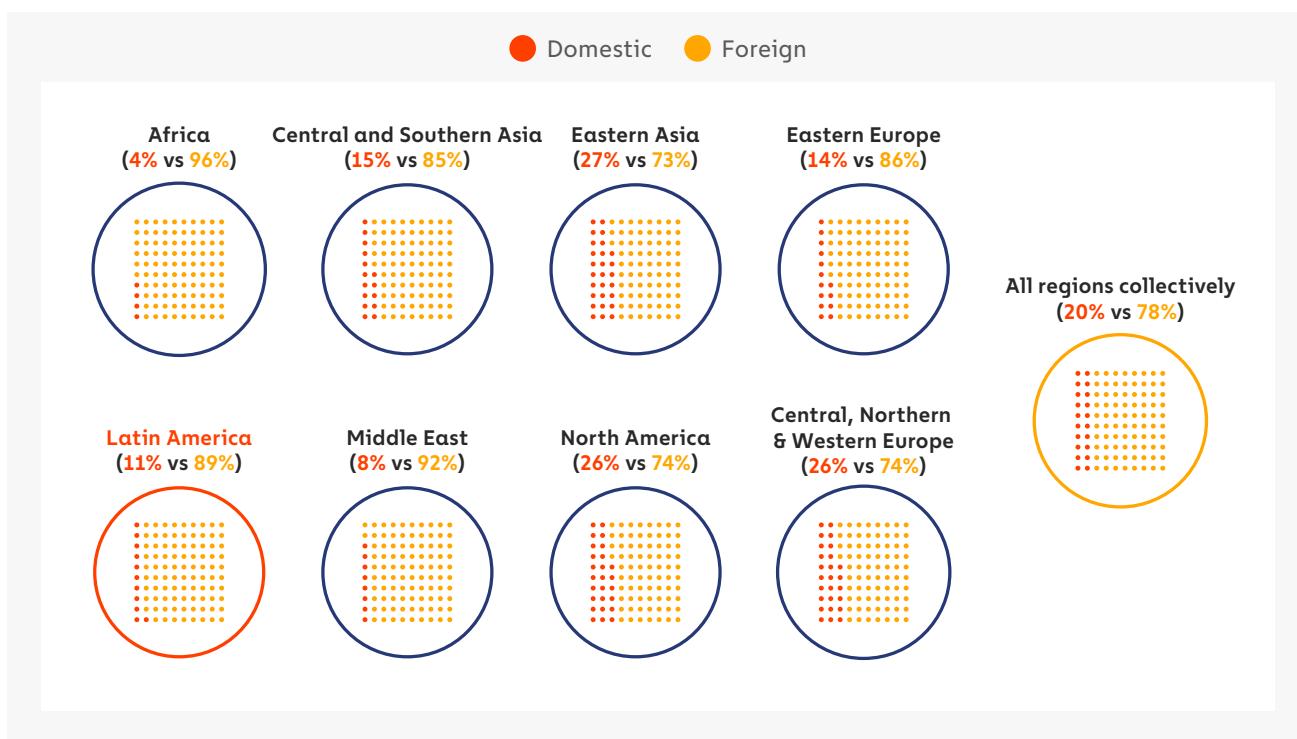
share of global
value received by
Latin America

Cryptocurrency value received by Latin America | Jul '20 - Jun '21

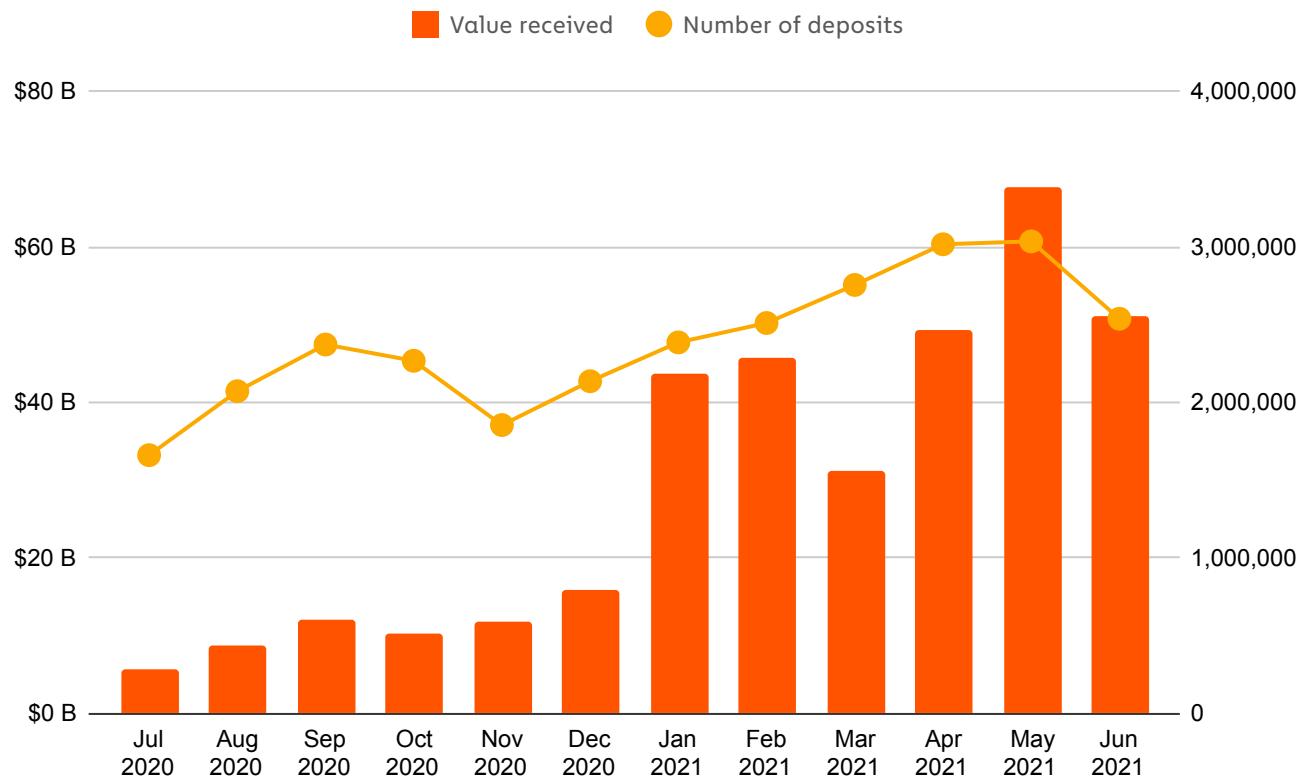




Value received by origin: Domestic vs. foreign | Jul '19 - Jun '20



Value received and transfers to Latin America | Jul '20 - Jun '21





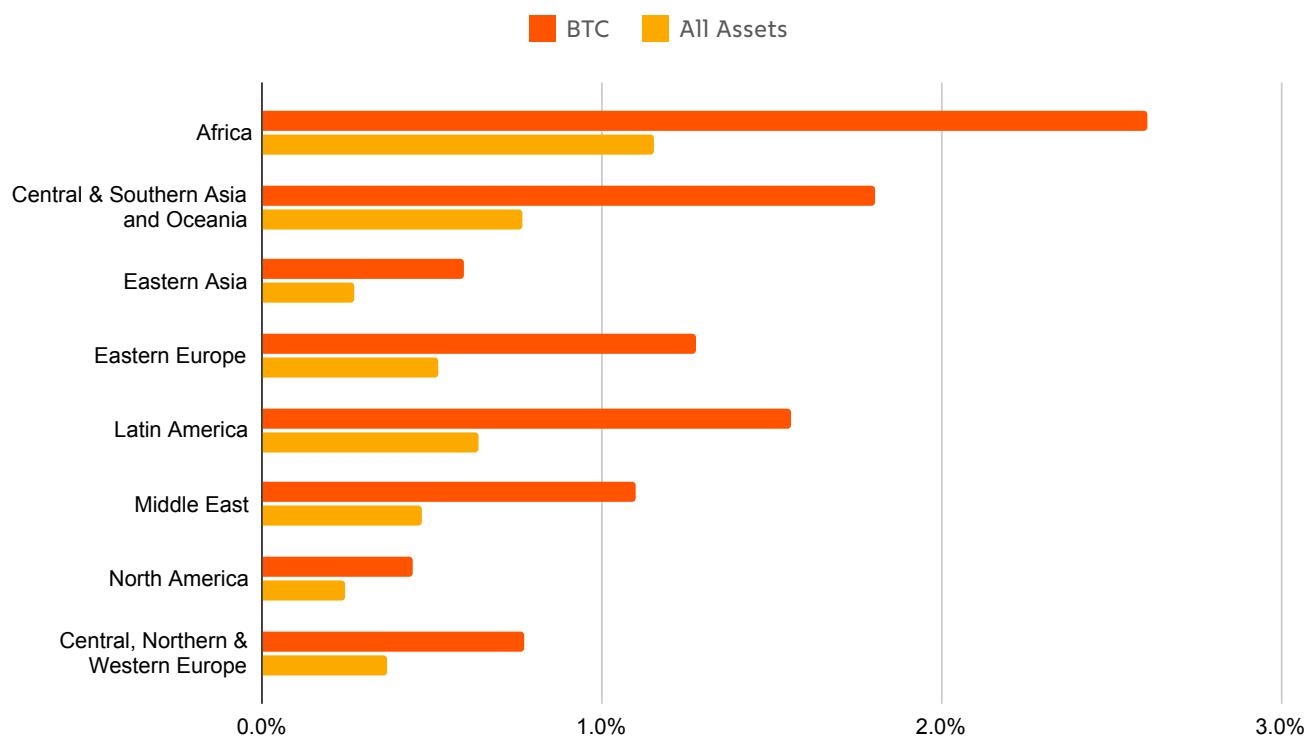
Biggest Markets Have High Grassroots Adoption for Differing Use Cases

Latin America has the sixth largest cryptocurrency economy of the eight regions we study, with \$352.8 billion in cryptocurrency value received between July 2020 and June 2021. Based on that figure, Latin America accounts for roughly 9% of all transaction activity. However, despite being among the smaller markets, Latin America exhibits strong grassroots adoption. Three Latin American countries rank in the top 20 of our Global Crypto Adoption Index: Venezuela at number seven, Argentina at ten, and Brazil at 14. However, as we'll explore, the use cases and maturity of these markets vary greatly, which leads to differences in the types of platforms and currencies they use most.

What drives cryptocurrency activity in Latin America?

Latin America has higher than average P2P activity, a dynamic we see in many emerging markets.

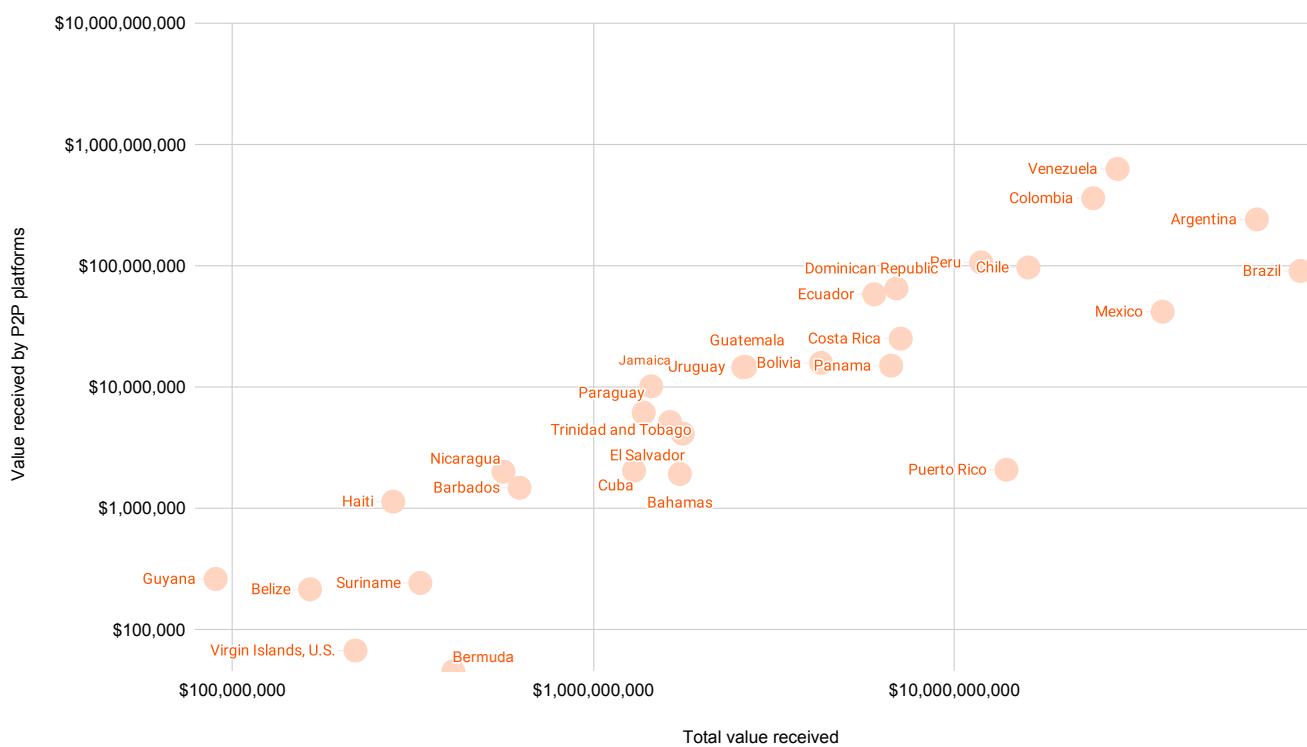
P2P share of all transaction volume by country | July '20 - June '21





However, the level of reliance on P2P platforms varies greatly by country within the region. Venezuela, for instance, is ranked number seven overall on our Global Crypto Adoption Index largely due to P2P activity – the data shows that the country ranks sixth overall in P2P transaction volume when adjusted for the country's purchasing power and number of internet users. But that's not true for every country in the region. While Venezuela leads the way in P2P activity with \$629 million worth of cryptocurrency received, other markets in the region have much less P2P activity despite having larger overall markets.

Total value received vs. Value received by P2P platforms by country | July '20 - June '21



Brazil, for instance, has a much larger cryptocurrency market than Venezuela, with \$90.9 billion received in the last year compared to Venezuela's \$28.3 billion. However, Brazil has received just \$90 million in P2P transactions. That also puts Brazil behind Colombia, Argentina, Peru, and Chile in P2P activity, despite the fact that Brazil has a larger overall market than all of them.

Why have some Latin American countries embraced P2P trading so much more than others? Let's look more closely at Venezuela to get a better understanding of what Latin American users are getting out of P2P platforms.

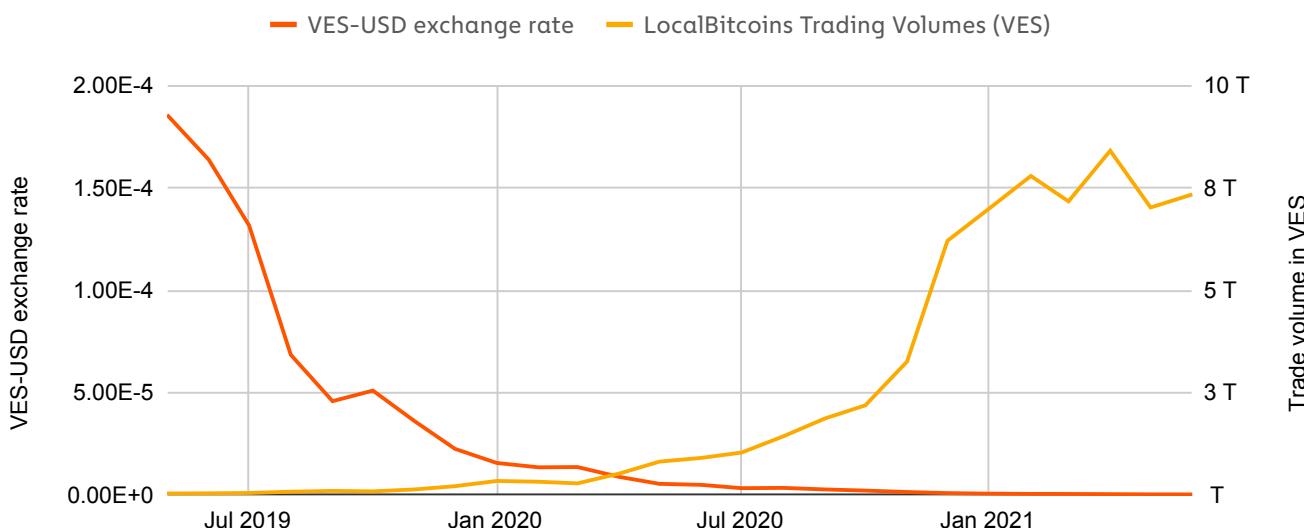


Venezuela: Cryptocurrency adoption driven by necessity

Valiu is a cryptocurrency wallet provider based in the United States whose goal is to enable Latin Americans to transact and save money with stablecoins, starting with Venezuela. We spoke to Valiu CEO Simon Chamorro, CCO Jacob Cohen, and Product Manager Tomas Fox to learn more about cryptocurrency adoption in Venezuela. "So many Latin American countries have economic instability, so the people there aren't really interested in trading cryptocurrency or getting exposure to Bitcoin because it's going to \$80,000," said Fox. "People are trying to survive, so they need the ability to switch between their local currency and cryptocurrency to preserve its value."

We covered Latin American usage of cryptocurrency for savings preservation in the face of currency devaluation in this report last year, including in Venezuela, and the data suggests that this is still happening today. However, hyperinflation makes this more difficult to track in the case of Venezuela specifically. The chart below shows the exchange rate between the U.S. dollar and Venezuelan bolivar on the left-hand Y axis, versus the bolivar's trade volume on LocalBitcoins on the right-hand Y axis. While Venezuela's trading volume rises as the bolivar's value falls, it's difficult to say if this is reflective of a true behavioral change, as hyperinflation means the bolivars being traded have less value over time. In other words, it's difficult to say if a higher percentage of Venezuelan users' wealth is actually moving into cryptocurrency even though trading activity is up.

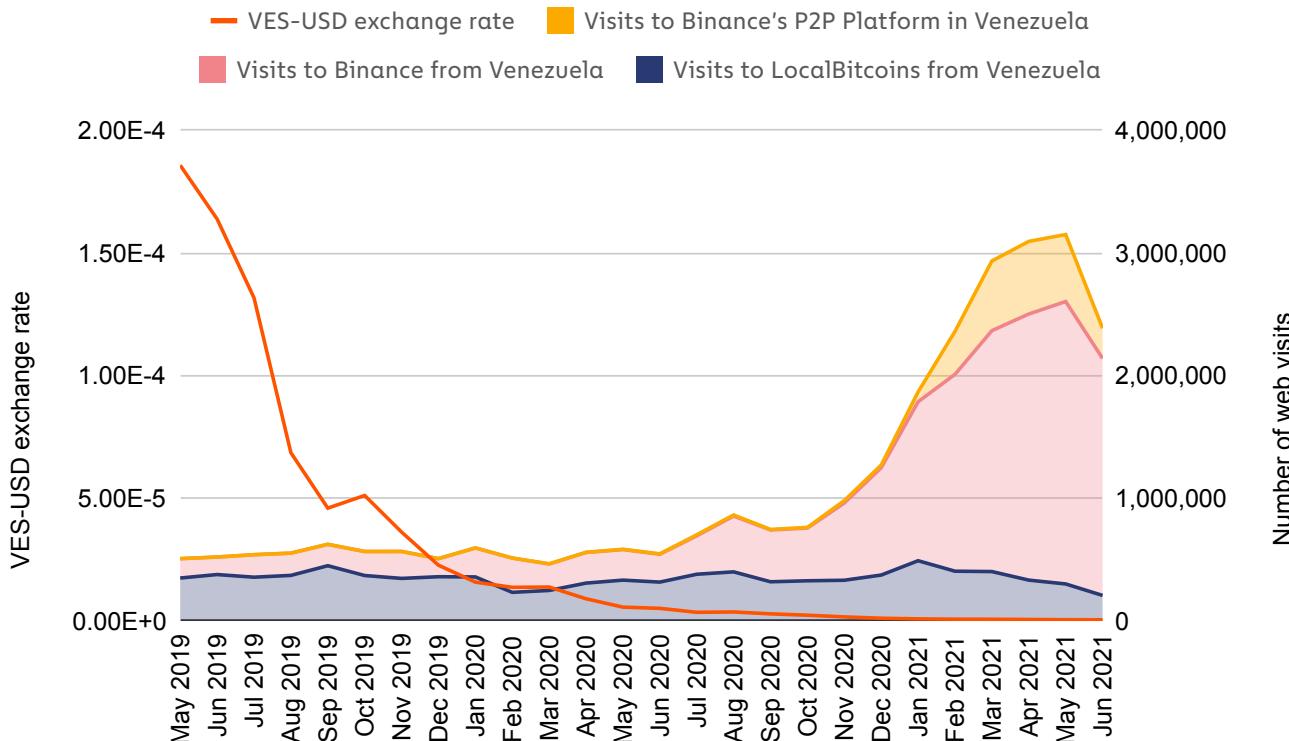
Venezuelan LocalBitcoins trade volume in VES vs. VES-USD exchange rate | May '19 - Jun '21





In order to get a better idea of whether Venezuelan trading activity is actually rising as the bolivar loses value, below we compare the bolivar's exchange rate with the number of Venezuelan web visits to both LocalBitcoins and Binance, whose P2P platform has become increasingly popular in the region over the past year according to the Valiu team.

Venezuela web visits to top P2P platforms vs. VES-USD exchange rate | May '19 - June '21

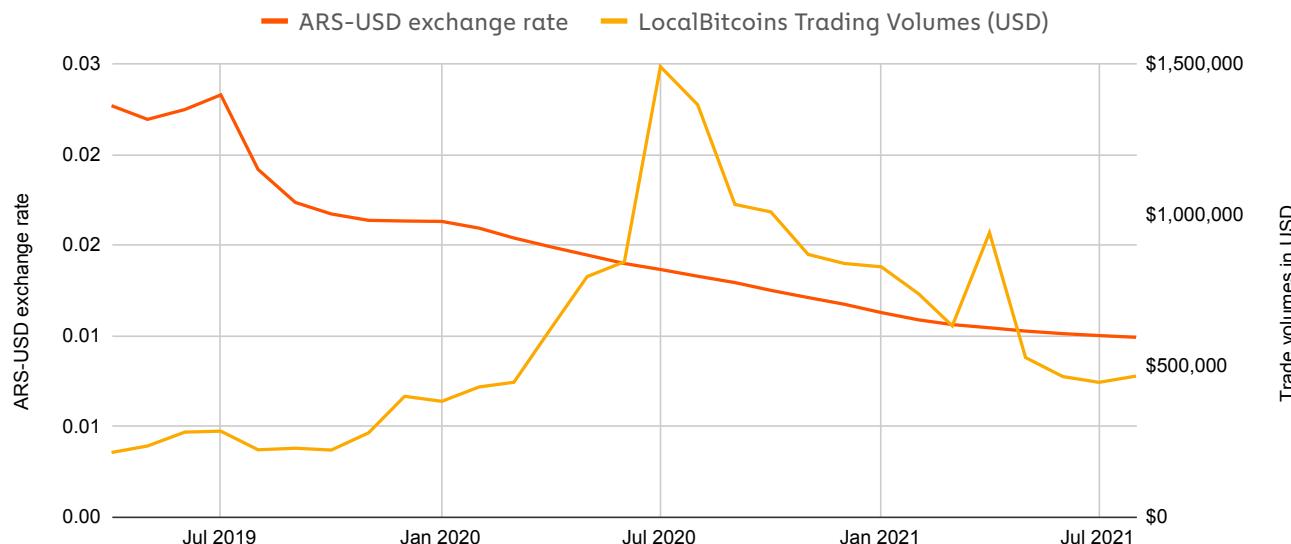


Web visits rise as the bolivar loses value, which suggests that Venezuelan cryptocurrency usage is rising in response to currency devaluation, but we can't say this definitively.

It's easier to measure the relationship between currency devaluation and cryptocurrency usage in Argentina, where the devaluation has been less extreme.



Argentinian LocalBitcoins trade volume in USD vs. ARS-USD exchange rate | May '19 - Jun '21



As the Argentine peso loses value steadily over the time period studied, P2P trade activity tends to increase, though the relationship seems to taper off around August 2020.

These analyses also don't account for the capital control measures governments may implement to combat currency devaluation. Depending on those controls' severity, they can either curtail the need for cryptocurrency or push more people toward adoption. Furthermore, the volatility of cryptoassets can impact people's decisions on whether or not to adopt in the face of fiat currency devaluation. But even with those caveats, we see a noticeable but declining relationship between currency devaluation and P2P cryptocurrency usage in Latin America.

Remittances are another driving force behind Latin American cryptocurrency adoption. This isn't entirely surprising, as traditional, fiat currency remittances are hugely important to many Latin American countries. According to the [World Bank](#), incoming remittances in 2020 represented 2.4% of GDP for Latin America as a whole, more than any other region the organization tracks besides South Asia. In countries like El Salvador and Honduras, remittances represent over 20% of national GDP. While the World Bank doesn't have recent estimates for incoming remittances as a percent of GDP for Venezuela, experts say that these payments are crucial for that country as well. A recent [article](#) from The Dialogue estimates that 35% of Venezuelan households receive remittances from abroad.

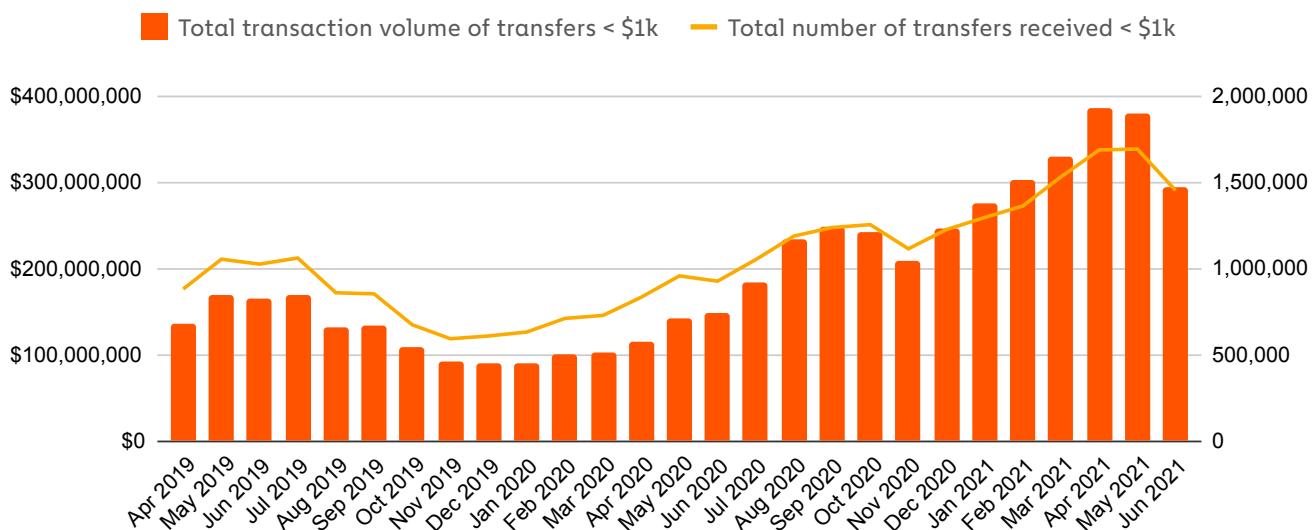


The Valiu team told us more about how cryptocurrency is supporting remittances in Venezuela. "The Venezuelan bolivar is essentially worthless due to hyperinflation," said Chamorro. "Cryptocurrency provides a way for Venezuelans who have left to send money back, and the receivers can then hold that money in a more stable currency." Valiu addresses this need with an app that allows Venezuelans in Colombia to deposit Colombian pesos onto the platform after being onboarded and undergoing KYC checks. Valiu then uses those pesos to buy Bitcoin through P2P platforms, which is then exchanged for Venezuelan bolivars, which can then be deposited to the recipient's bank account in Venezuela.

However, according to the Valiu team, Venezuelans need infrastructure that allows them to buy everyday necessities with cryptocurrency, thereby eliminating the need to convert to and from fiat currency, for crypto-based remittances to be as useful as possible. To that end, Valiu is enabling Venezuelans to exchange their bolivars for an IOU-like instrument called USD Valiu (USDV) denominated in U.S. dollars and backed by USDC to better preserve their savings. The eventual goal is to give merchants the ability to accept USDV so that Venezuelans, and residents of other Latin American countries facing inflation, can both save and transact with a stable, digital U.S. dollar equivalent.

Chainalysis data shows that cryptocurrency-based remittance payments to Venezuela have likely risen steadily over the last year.

Estimated possible cryptocurrency remittance payments in Latin America | Apr '19 - Jun '21



The graph above shows the monthly growth of cryptocurrency payments below \$1,000



in both volume and number of transfers, which we consider the upper boundary of estimated remittance payments sent to Latin American countries.

Brazil vs. Venezuela: Differences in market maturity mean different use cases

Brazil is the largest cryptocurrency market by transaction volume, having received just under \$91 billion worth of cryptocurrency between July 2020 and June 2021. That makes its market over three times larger than Venezuela's, which received roughly \$28 billion in cryptocurrency during the same time period. Brazil also has a stronger economy than Venezuela, with a [PPP per capita](#) of \$15,643 versus \$5,178 for Venezuela. That means that the reasons for adopting cryptocurrency are much different for Brazilian users, and likely more focused on speculation and wealth growth than remittances and savings.

We can see some of those differences reflected in data on transaction sizes in the two countries.

Brazil vs. Venezuela: Transaction volume by transfer size

| Jul '20 - Jun '21



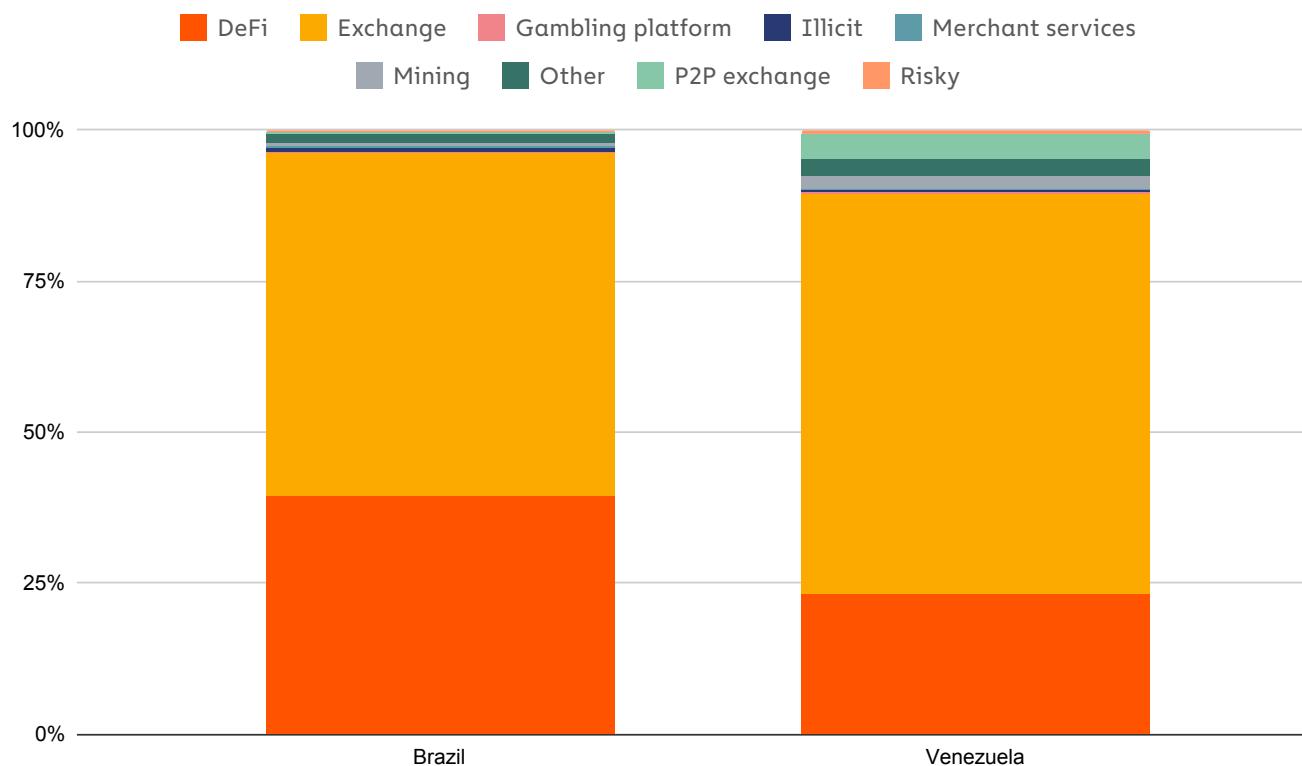


Brazil moves a much bigger share of its total transaction volume in large institutional transactions above \$10 million worth of cryptocurrency at 36%, versus 22% for Venezuela. Brazil's cryptocurrency market provides an interesting comparison to Venezuela's. Likewise, 6.7% of Venezuela's transaction volume is made up of retail-sized transactions, versus 4.7% for Brazil. Brazil's larger transaction sizes suggest that professional investors play a bigger role in its market than in Venezuela.

We also see telling differences in the relative popularity of different types of cryptocurrency platforms between the two countries.

Brazil vs. Venezuela: Share of transaction volume by service type

| Jul '20 - Jun '21



The first thing that stands out is how much more popular DeFi is in Brazil. DeFi accounts for 39% of all transaction volume in Brazil compared to 23% in Venezuela. As we've learned from speaking to DeFi operators, DeFi typically draws seasoned cryptocurrency investors looking for new sources of alpha, which we'd expect to find more of in a country like Brazil with a larger, more established cryptocurrency market and stronger overall economy.

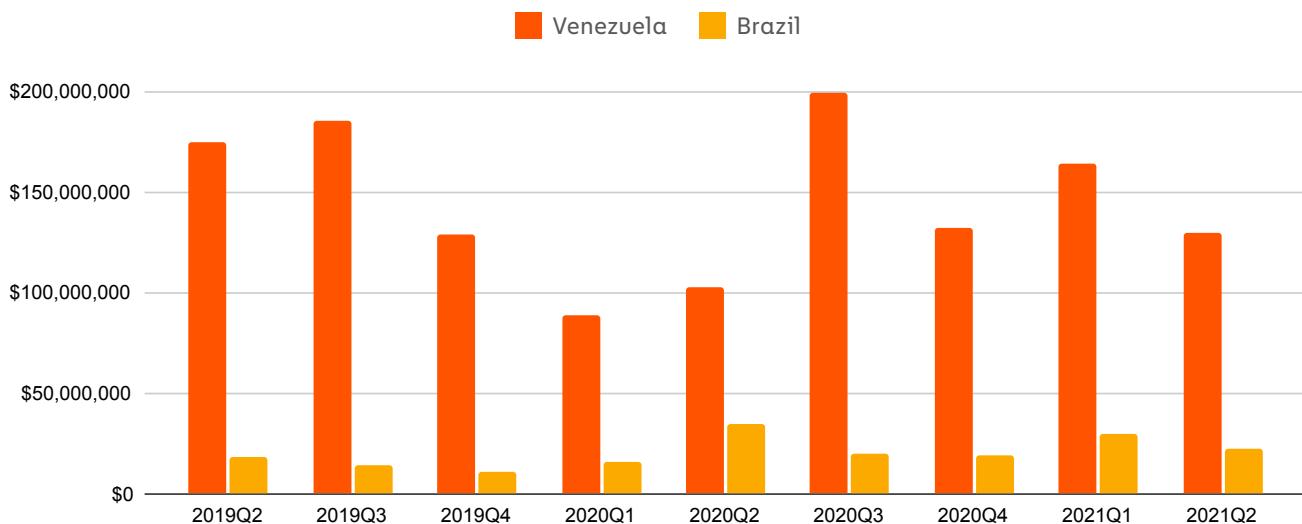
P2P activity is also stronger in Venezuela, which matches the patterns we see in less



advantaged markets. Just under 3% of Venezuela's overall transaction volume is made up of P2P payments, versus just under 0.2% for Brazil. Even with Brazil's much larger overall market, that means Venezuela's raw P2P transaction volume is much higher than Brazil's.

Brazil vs. Venezuela: Quarterly P2P transaction volume

| Jun '21 - Jul '20



In any given quarter, Venezuela's P2P transaction volume is roughly five to eight times more than Brazil's.

Overall, the data confirms what we would expect given the size of the two countries' cryptocurrency markets and comparative strength of their economies: Brazil's market is made up of much larger transactions with a bigger share of activity taking place on DeFi platforms – activity indicative of large-scale investors and traders – while Venezuela's market is made up of smaller transactions and has more P2P activity, which indicates more grassroots adoption driven by necessity.

Central, Northern & Western Europe





Central, Northern & Western Europe's cryptocurrency activity summarized

Cryptocurrency value received by Central, Northern & Western Europe | Compared to rest of world, Jul '20 - Jun '21



25%

share of global
value received by
Central, Northern &
Western Europe

Cryptocurrency value received by Central, Northern & Western Europe | Jul '20 - Jun '21

Jul '20 - Jun '21

\$200,000,000,000

12-month total: \$1 T

\$150,000,000,000

\$100,000,000,000

\$50,000,000,000

\$0

Jul 2020

Sep 2020

Nov 2020

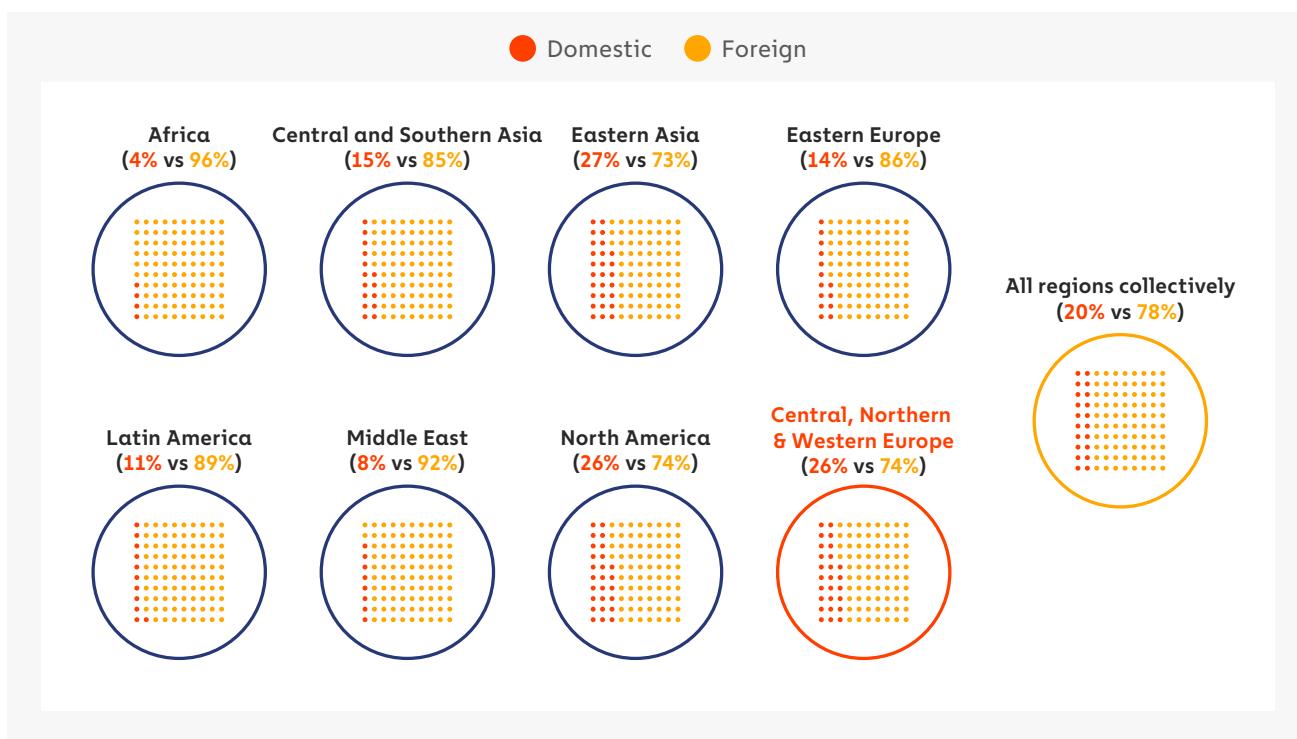
Jan 2021

Mar 2021

May 2021



Value received by origin: Domestic vs. foreign | Jul '19 - Jun '20



Value received and transfers to Central, Northern & Western Europe | Jul '20 - Jun '21



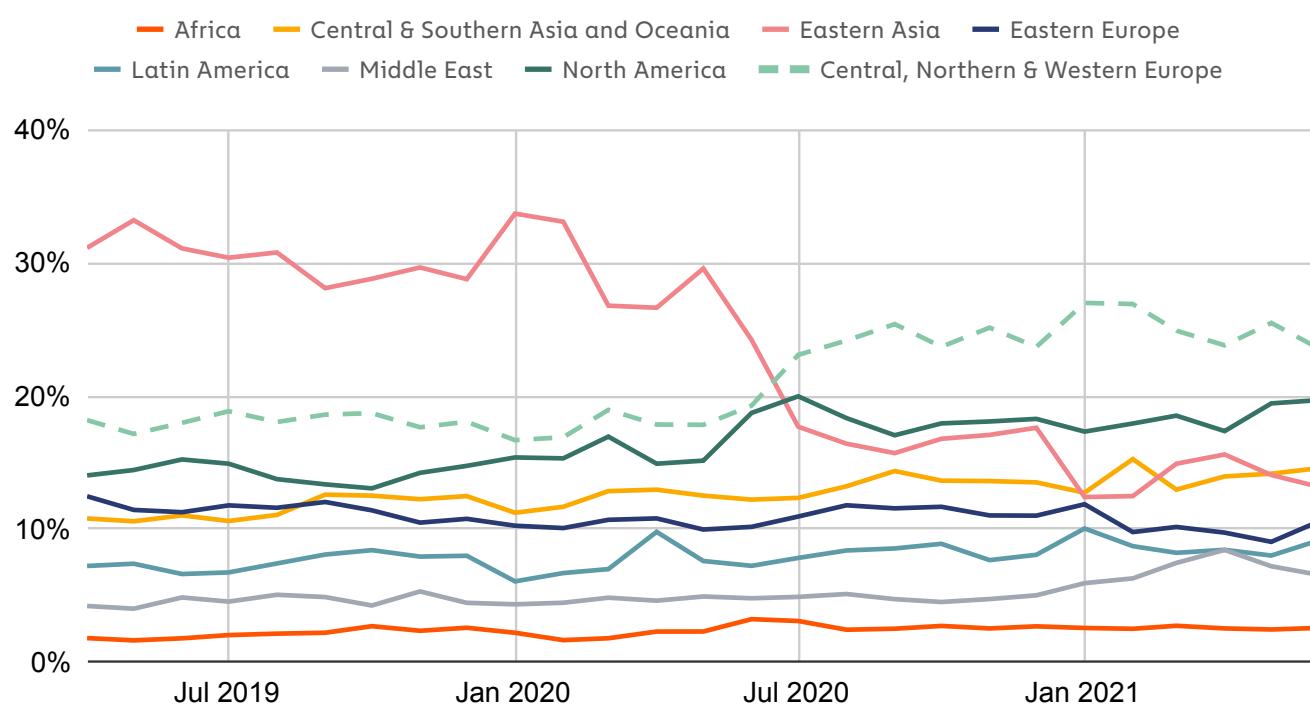


DeFi Whales Turned Central, Northern & Western Europe into the World's Biggest Cryptocurrency Economy

Central, Northern, & Western Europe (CNWE) has the biggest cryptocurrency economy in the world, receiving over \$1 trillion worth of cryptocurrency over the last year, which represents 25% of global activity. Having ranked second last year, CNWE's new position in the top spot is the result of tremendous growth starting in July 2020, combined with a relative decline in activity in Eastern Asia.

Share of global cryptocurrency transaction volume by region

| Apr '19 - Jun '21

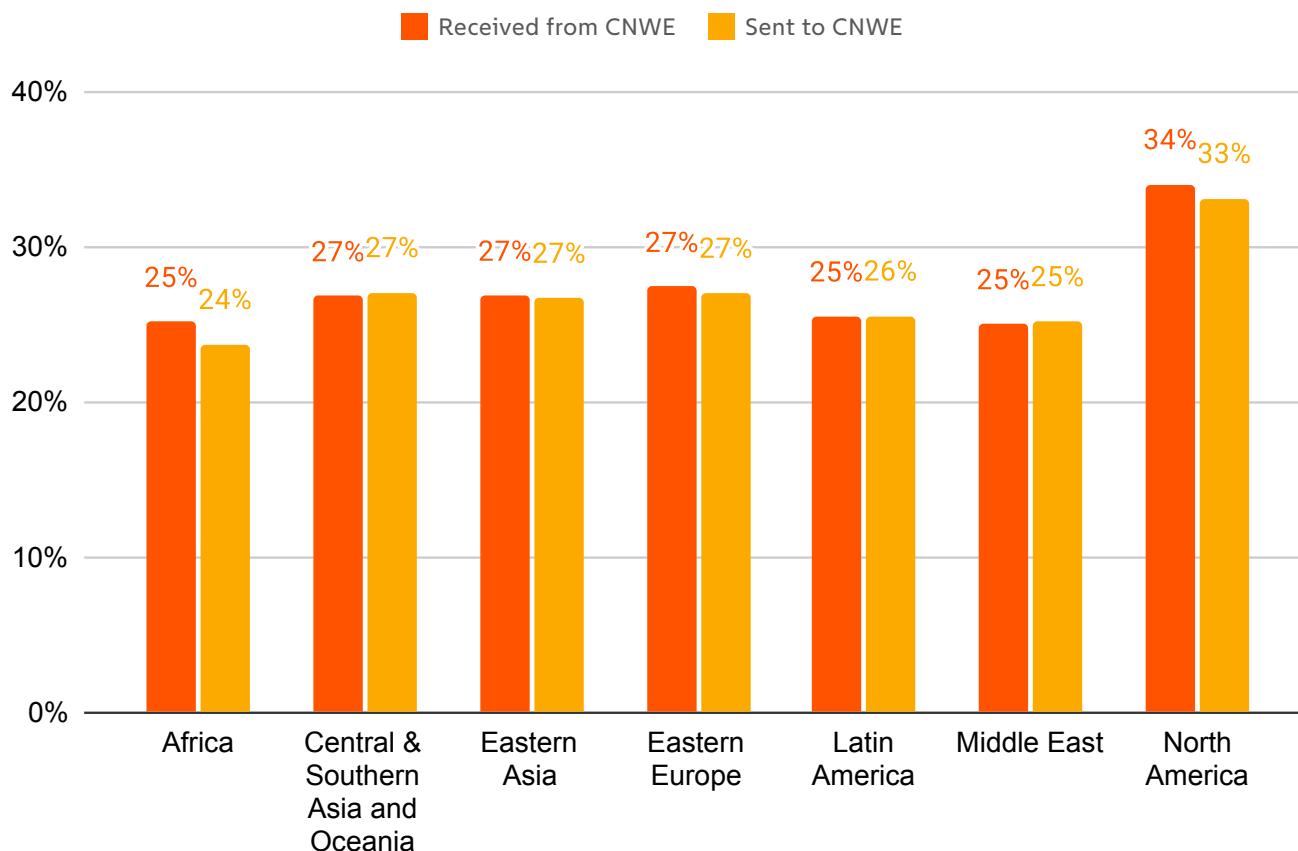


As we'll explore below, CNWE's transaction volume grew significantly across virtually all cryptocurrencies and service types, but especially on DeFi protocols. An influx of institutional investment, signaled by large transactions, drove most of the growth, though retail activity also increased.

Perhaps most interesting is CNWE's unique status as an international hub in the world cryptocurrency economy.



Share of total transaction value with Central, Northern, & Western Europe as counterparty by region | July '20- June '21



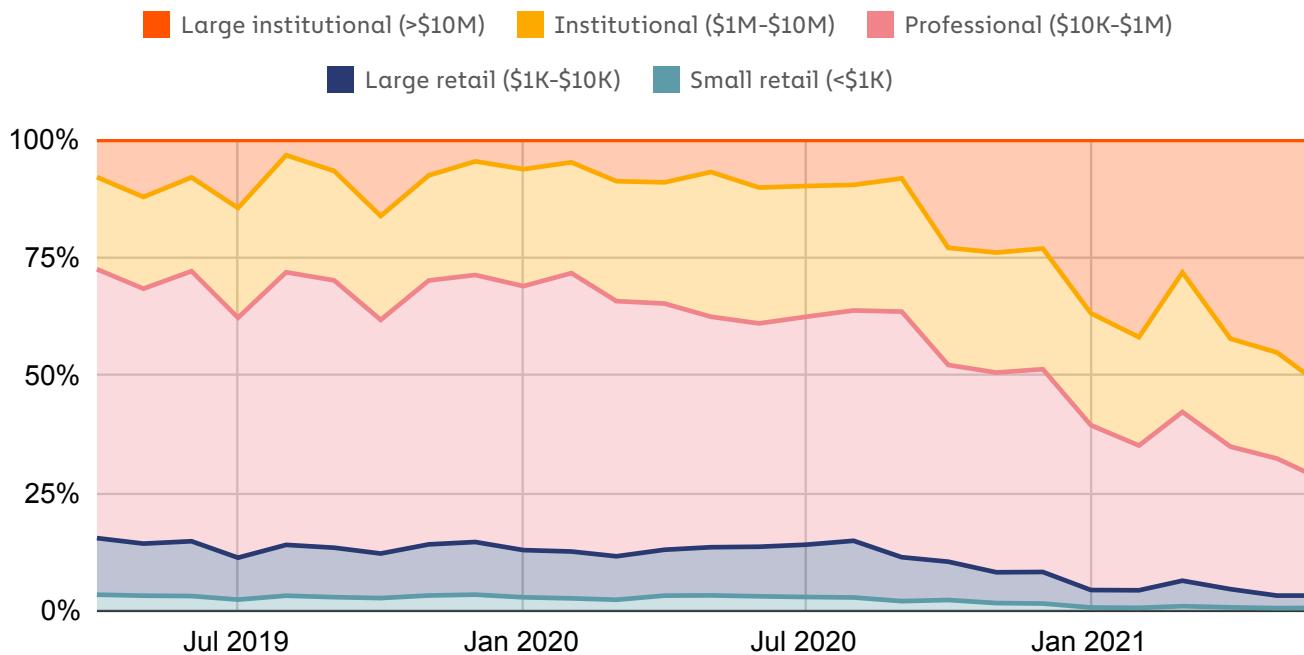
CNWE is the biggest cryptocurrency trading partner for every other region we study, sending at least 25% of all value received by other regions, including a whopping 34% of value received by North America. We'll look more at these trends below, and explain how CNWE's cryptocurrency economy was able to develop into the world's largest over the past year.

What drove Central, Northern & Western Europe's growth over the last year?

As we mentioned above, CNWE's cryptocurrency economy began growing faster in July 2020. At this time, we saw a huge increase in large institutional-sized transactions, meaning transfers above \$10 million worth of cryptocurrency.

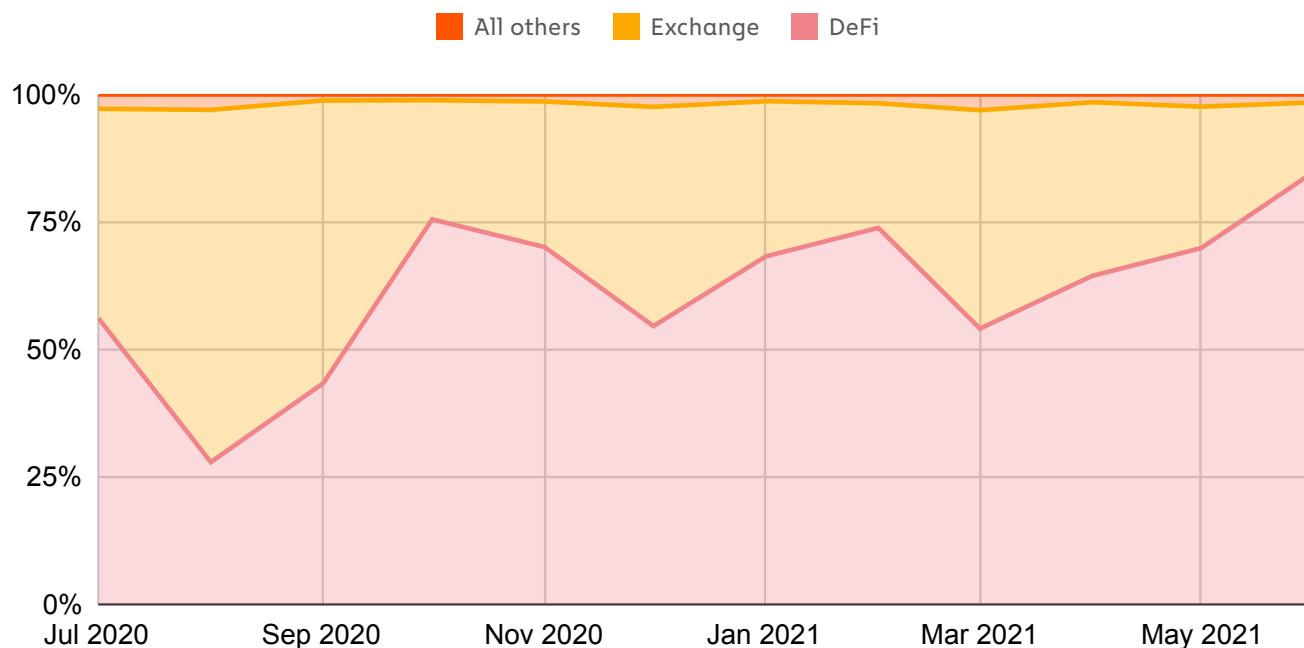


Central, Northern & Western Europe transaction volume by transfer size | Apr '19 - June '21



Large institutional cryptocurrency transaction value grew from \$1.4 billion in July 2020 to \$46.3 billion in June 2021, at which point it made up more than half of all CNWE activity. Where did these large institutional transfers go?

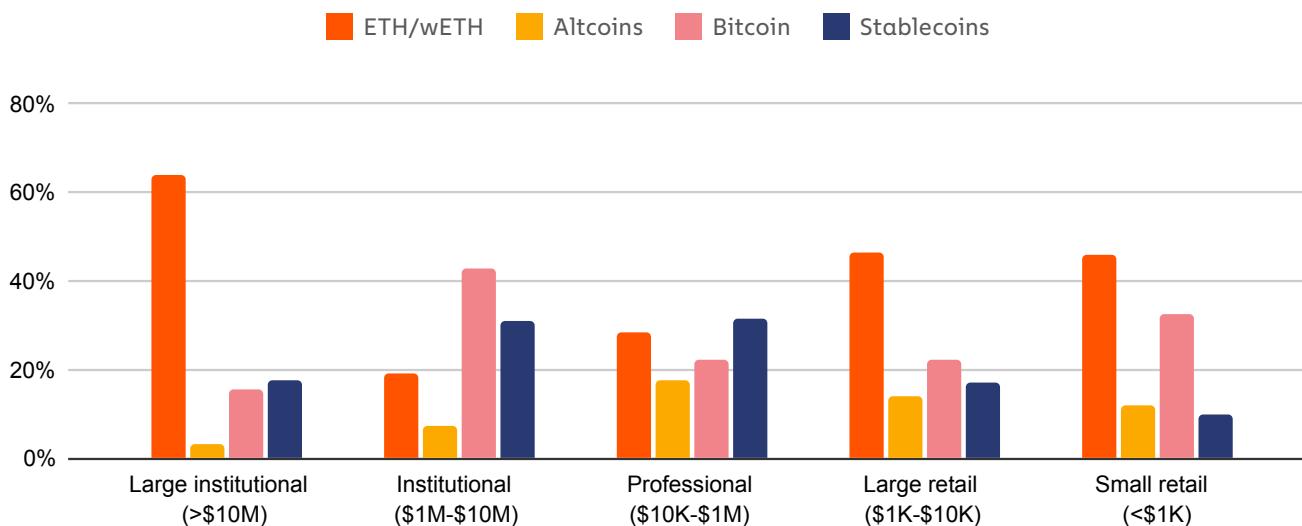
Cryptocurrency services receiving large institutional transfers from Central, Northern & Western Europe | July '20 - June '21





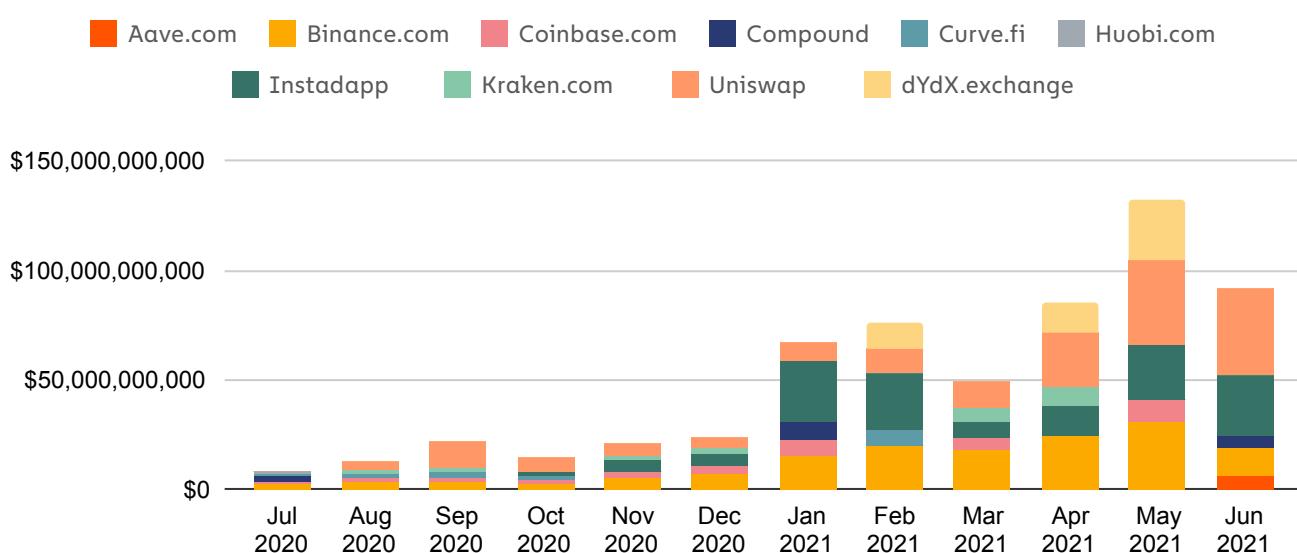
The data shows that over the last 12 months, the majority of large institutional-sized transfers went to DeFi platforms. Given that, it's not surprising that the majority of those large institutional transfers were made in Ethereum and wrapped Ethereum (wETH), an ERC-20 token of equivalent value to Ethereum commonly used in DeFi protocols.

Share of transaction activity by coin type and transfer size in Central, Northern & Western Europe | July '20 - June '21



Looking at CNWE's top five services by transaction volume each month for the last year shows the huge impact DeFi has had.

Top 5 cryptocurrency services receiving funds from Central, Northern & Western Europe by month | July '20 - Jun '21





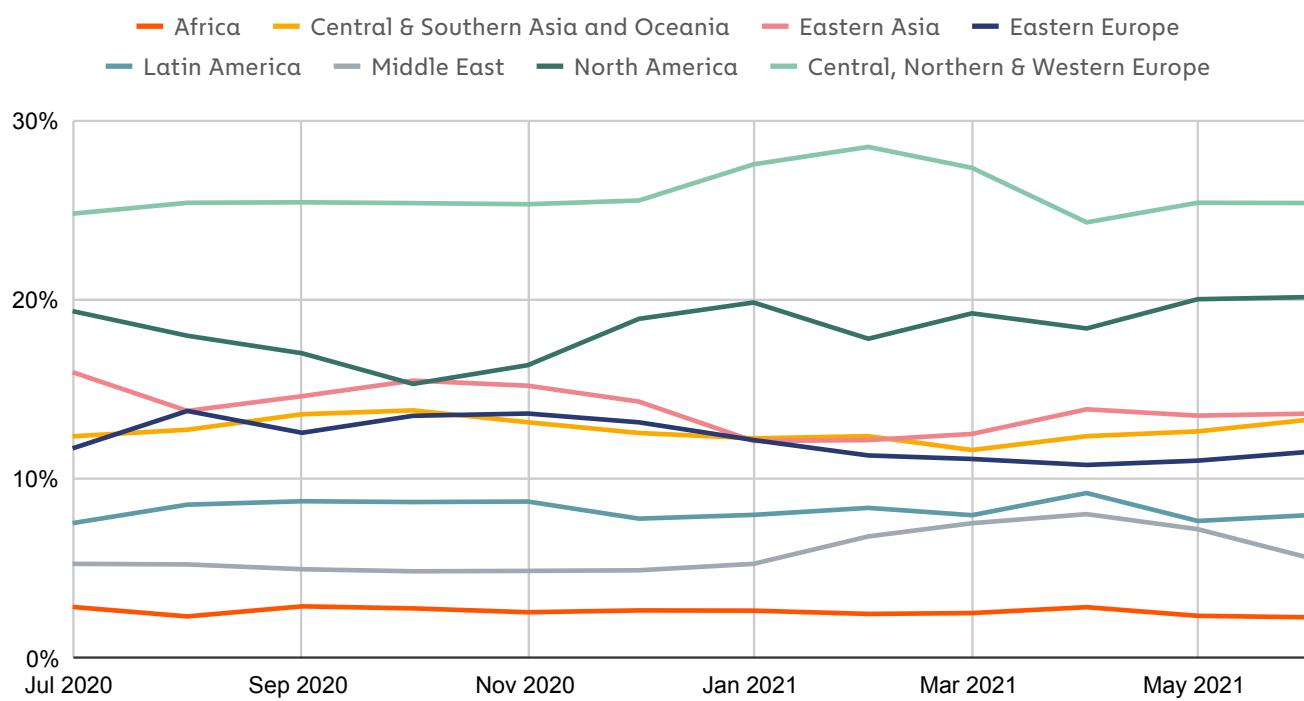
DeFi protocols represent three to four of the top five services in most months, with Uniswap, Instadapp, and dydx making frequent appearances. Binance and Coinbase, meanwhile, remain the most popular centralized exchanges.

According to a recent [CoinTelegraph article](#), many institutional investors who have either embraced cryptocurrency previously or even built their strategy around cryptocurrency are turning to DeFi for staking. With staking, investors can lend their cryptocurrency to DeFi protocols in order to provide them liquidity. Those funds are then lent out to borrowers, and the interest generated goes back to the stakers. Staking allows investors to generate cash without selling their crypto assets, making it a good source of returns for those who wish to hold. Staking with DeFi protocols can be thought of as analogous to a money market in conventional finance, but with lower fees due to the lessened need for human intermediaries given that the protocols run autonomously.

Central, Northern & Western Europe: The hub of the global cryptocurrency economy

As the biggest counterparty to every other region, CNWE is a key source of liquidity to cryptocurrency investors around the world.

Central, Northern & Western Europe trading partners by estimated received transaction volume | July '20 - Jun '21





CNWE's biggest trading partner is North America, followed by Eastern Asia, Central & Southern Asia, and Eastern Europe. The region's status as a global hub becomes even clearer when we look at the overlap of the services most used in CNWE and the rest of the world. The matrix below shows which regions have the heaviest overlap, with each cell showing the number of services for which the region in the column is ranked first in web traffic, and the region in the row is ranked second in web traffic.

Number of cryptocurrency services where regions are ranked 1st and 2nd by web traffic for all region pairs | Jul '20 - Jun '21

	Africa	Central & Southern Asia and Oceania	Eastern Asia	Eastern Europe	Latin America	Middle East	North America	Central, Northern & Western Europe
Africa	0	58	1	8	4	3	17	23
Central & Southern Asia and Oceania	9	0	20	37	18	20	15	38
Eastern Asia	1	19	0	12	7	2	24	24
Eastern Europe	5	81	7	0	23	3	24	160
Latin America	4	12	3	12	0	5	15	22
Middle East	0	5	1	7	4	0	3	20
North America	8	19	7	12	13	2	0	95
Central, Northern & Western Europe	13	49	15	68	32	16	112	0

CNWE has high service overlap with more regions than any other, displaying particularly strong relationships with Eastern Europe, North America, and Central & Southern Asia. Services contributing to this dynamic include eToro, Bitstamp, and CryptoKitties.

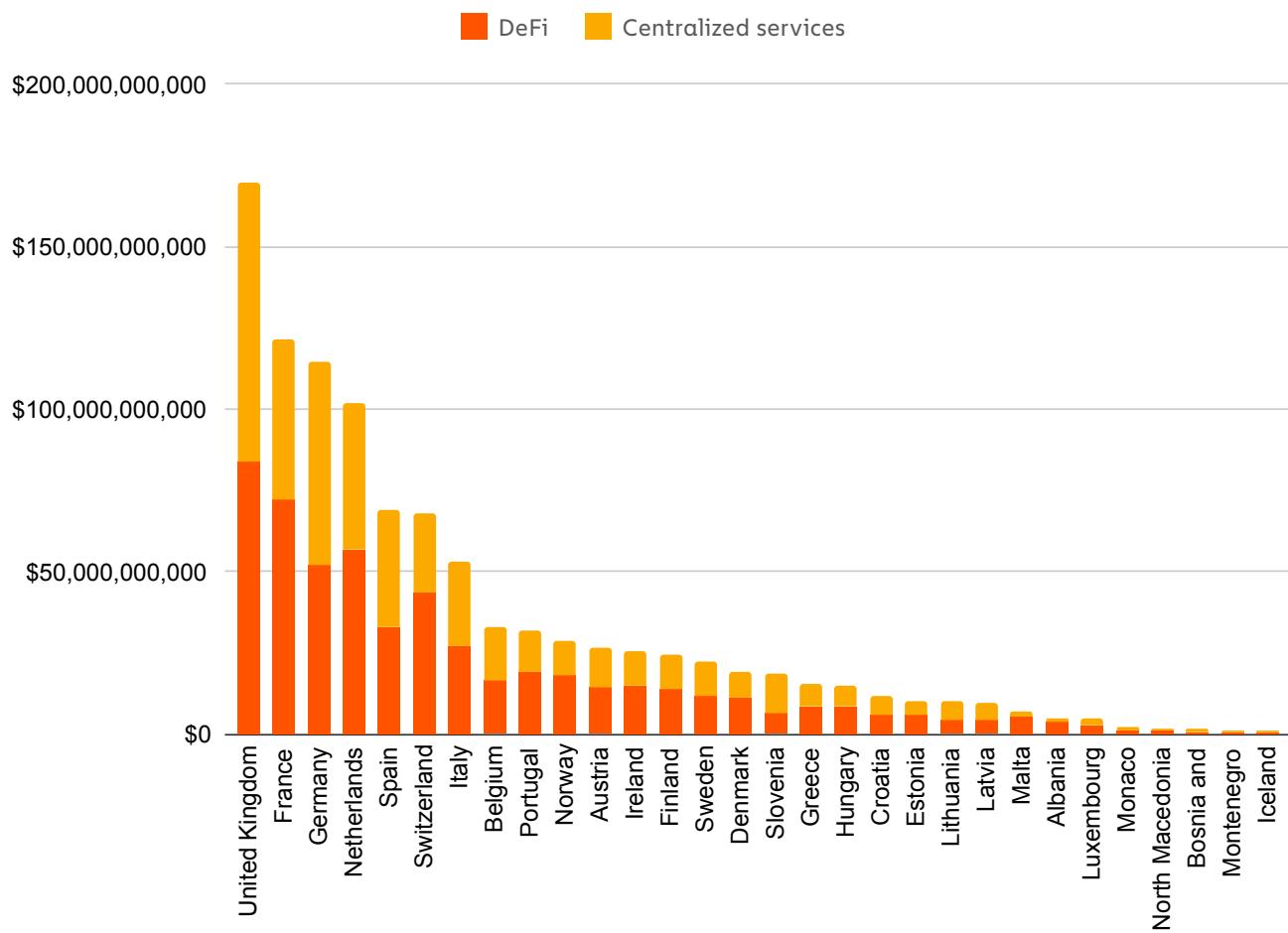


We believe that for some regions like North America, this dynamic reflects a convergence of institutional investors and professional traders on a handful of platforms. On the other hand, for regions like **Eastern Europe** and **Central & Southern Asia**, we believe the service overlap in those cases is also driven by remittance payments being sent from CNWE, as this would mirror remittance activity we see in the fiat world.

Comparing activity across Central, Northern & Western European countries

Which countries are driving the most cryptocurrency activity in CNWE? The chart below shows all countries in the region by value received, with value received by DeFi protocols called out.

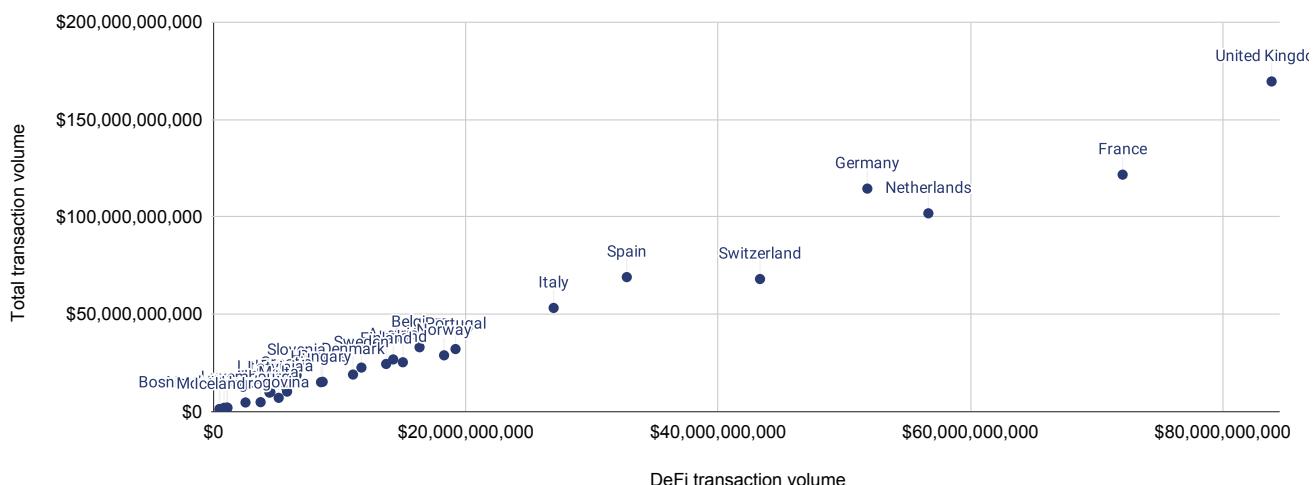
Central, Northern & Western Europe's cryptocurrency value received by country | July '20 - June '21



The United Kingdom leads by a wide margin at \$170 billion, 49% of which is from value sent to DeFi protocols. France, Germany, the Netherlands, and Switzerland round out the top five. DeFi's share of all activity is relatively uniform across all countries in CNWE, though we do see some outliers like Albania, where it makes up nearly half of all activity.

DeFi transaction volume vs. Total transaction volume for Central, Northern & Western European countries

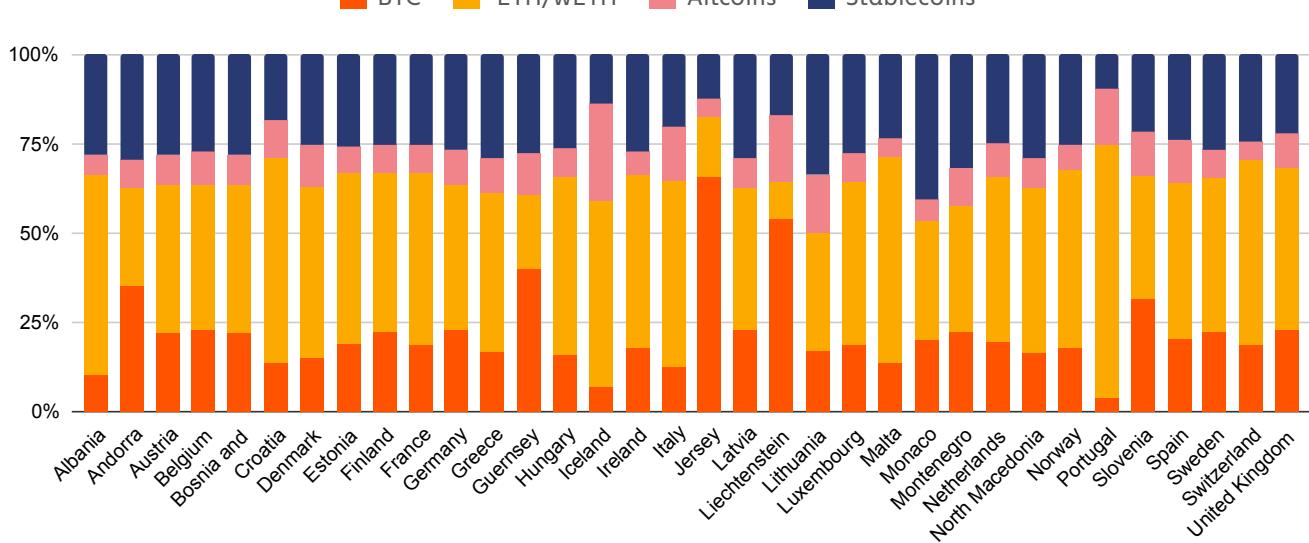
| July '20 - June '21



However, we see a bit more variance in the types of cryptocurrencies used.

Central, Northern & Western European country transaction volume by currency type | Jul '20 - Jun '21

• • • • •





Stablecoin usage is consistently between 25% and 30% of all transaction volume for most countries, save for outliers like Monaco, where stablecoins account for 39% of activity. Altcoin usage is similarly consistent at 8% to 11% for most regions. However, we see more variance in the breakdown between Bitcoin and Ethereum or wETH. Combined, Ethereum and wETH are the most popular cryptocurrency in nearly every country. Looking at the biggest markets, we see that the UK and Germany are similar in this area: Bitcoin makes up 27% of the UK's transaction value while Ethereum and wETH make up 40%. In Germany, Bitcoin makes up 28% of transaction volume while Ethereum and wETH make up 36%. France, on the other hand, devotes just 20% of transaction volume to Bitcoin and 45% to Ethereum and wETH. That figure is likely related to France's slightly higher rate of transaction volume going to DeFi protocols, as Ethereum and wETH are the most commonly used currencies on those platforms.

Overall, though, while there are small differences between the individual countries' exact breakdown of activity, one thing is clear: CNWE has become the world's biggest cryptocurrency market, and its growth over the last year was largely driven by institutional investors and other whales moving into DeFi.

Eastern Europe

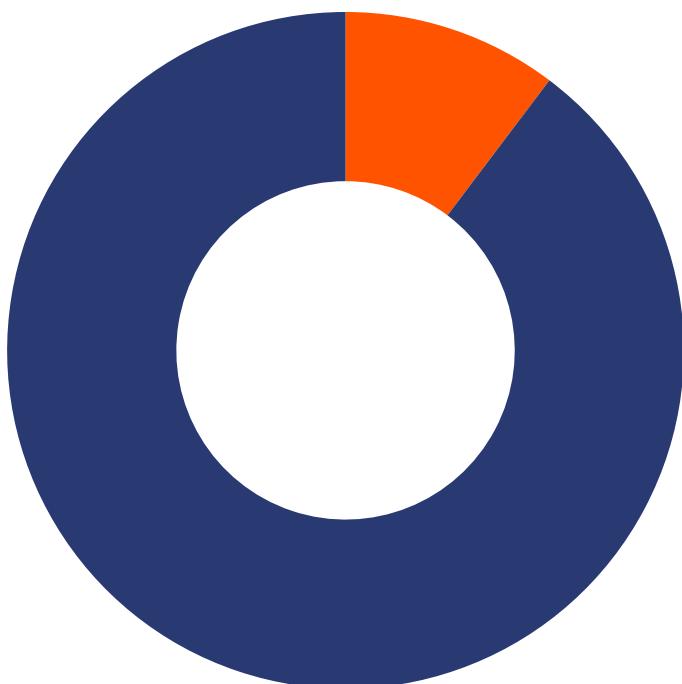




Eastern Europe's cryptocurrency activity summarized

Cryptocurrency value received by Eastern Europe

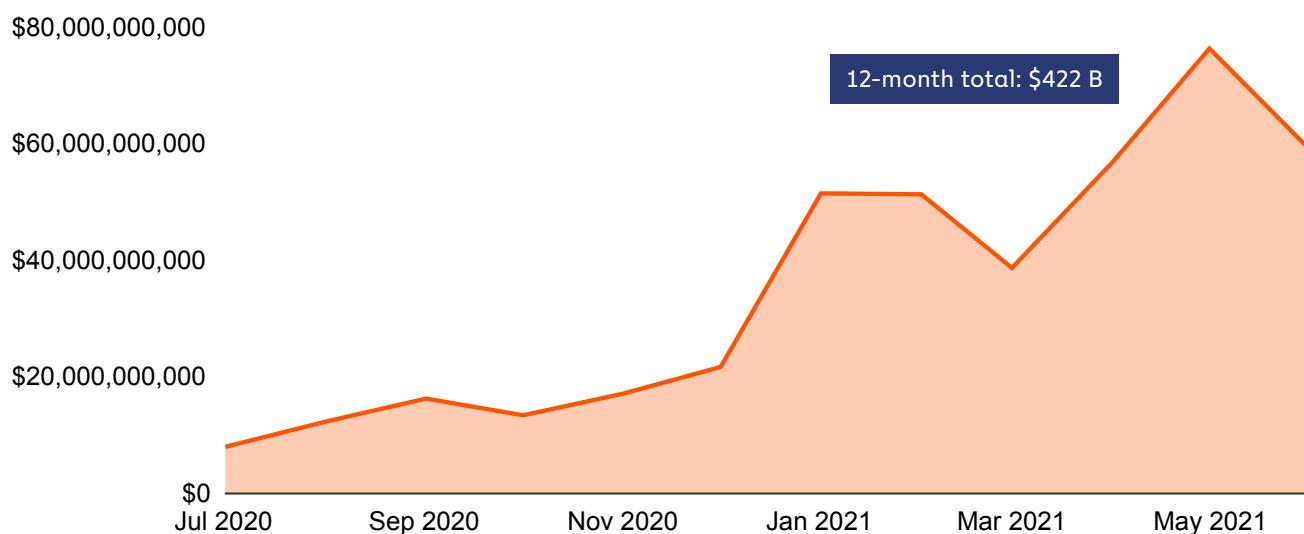
| Compared to rest of world, Jul '20 - Jun '21



10%

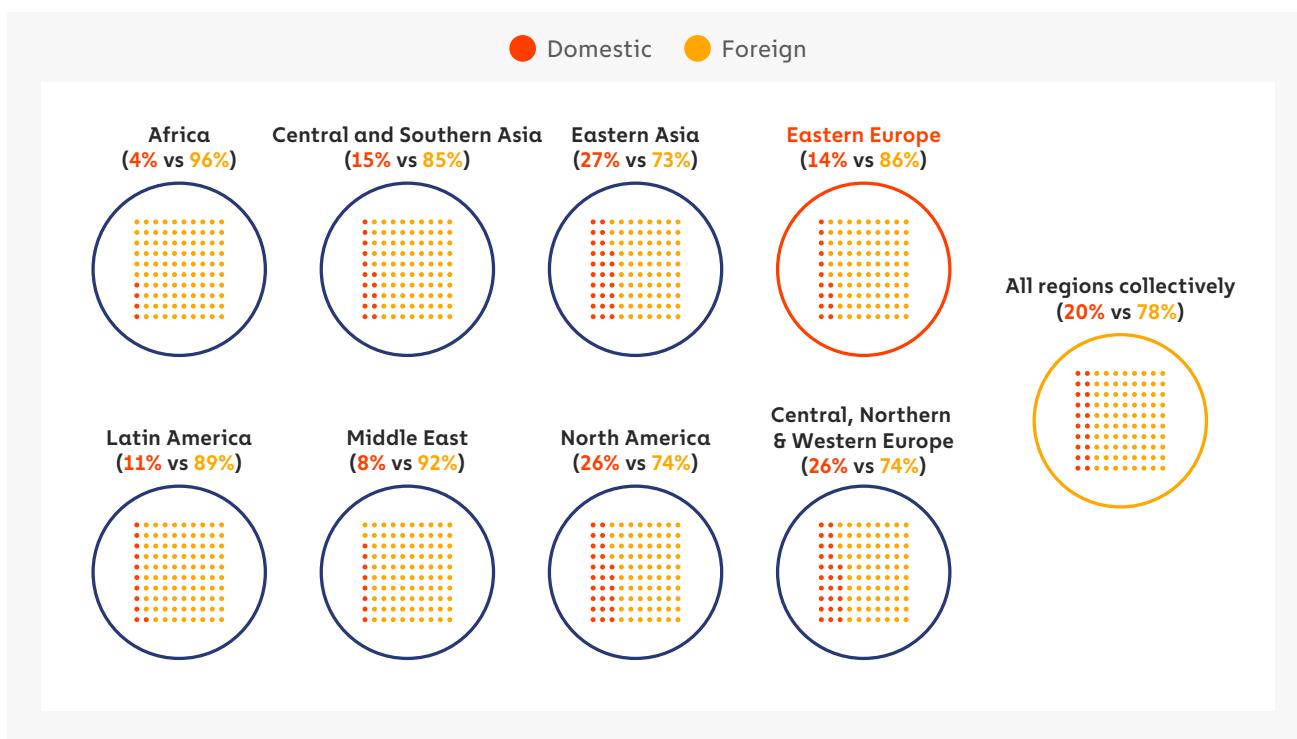
share of global
value received by
Eastern Europe

Cryptocurrency value received by Eastern Europe | Jul '20 - Jun '21





Value received by origin: Domestic vs. foreign | Jul '19 - Jun '20



Value received and transfers to Eastern Europe | Jul '20 - Jun '21





Eastern Europe's Strong Cryptocurrency Adoption Is Complicated By Cybercrime

Eastern Europe has the fifth largest cryptocurrency economy of the regions we analyze, with Eastern European addresses receiving roughly \$422 billion worth of cryptocurrency between July 2020 and June 2021. That represents an 929% increase over last year's total of \$41 billion worth of cryptocurrency, which, while large, is roughly in line with the increases we saw in other regions. Overall, Eastern Europe accounted for 11.8% of all cryptocurrency transaction activity during the time period studied.

Eastern Europe is home to two of the highest-ranked regions on our 2021 Global Crypto Adoption Index: Ukraine and Russia, which placed fourth and 18th respectively. However, both countries fell in the rankings compared to last year, as Ukraine was ranked first overall and Russia second. What accounted for the decline? In both cases, a decline in P2P platform transaction volume, one of the three component metrics of our adoption index. Ukraine tumbled from 11th in this metric to 38th, while Russia fell even further, from 9th to 119th. While both countries' P2P activity did drop relative to other countries, some of this is also due to changes in methodology: This year, we included more P2P exchanges in our analysis, and assigned their activity based primarily on web traffic rather than the fiat currencies in P2P platforms' most popular trading pairs like we did last year.

However, despite the drop in P2P activity, Russia and Ukraine exhibit high transaction volumes on centralized cryptocurrency platforms, both overall and for transactions at the retail level specifically.

What drives cryptocurrency activity in Eastern Europe?

One possible reason for cryptocurrency's popularity in Eastern Europe, and especially in Russia and Ukraine, is widespread distrust of institutions. Russia, for instance, is dead last in the latest edition of the [Edelman Trust Barometer](#), which ranks countries by public trust in government, business, NGOs, and media. Citizens of [Russia](#), along with [Ukraine](#), have historically had high levels of distrust in banks specifically. Many early adopters of cryptocurrency were driven by similar sentiments.



Many former **Soviet states**, and **especially Russia**, have also historically had relatively large populations of skilled computer programmers with less economic opportunity than their counterparts in other countries. Observers have frequently noted this as a reason for why these countries produce so many cybercriminals. It's easy to see how this imbalance of economic opportunity, combined with a widespread distrust of banks and governments, could result in cryptocurrency-friendly societies, as there would then be many people with both the motivation and ability to become early adopters.

Capital flight and tax avoidance

Capital flight and tax avoidance may also be part of the cryptocurrency adoption story in Eastern Europe, particularly in Russia and Ukraine. Both countries make it difficult for citizens to send large sums of money abroad, yet capital flight is still a big issue. Bloomberg estimates that Russia has lost **over \$750 billion** to capital flight since 1994, while the Kyiv Post claims that Ukraine loses **\$50 billion** per year. But while many have discussed cryptocurrency's possible use case as an instrument for capital flight, is it being used on a large scale for that purpose in Eastern Europe?

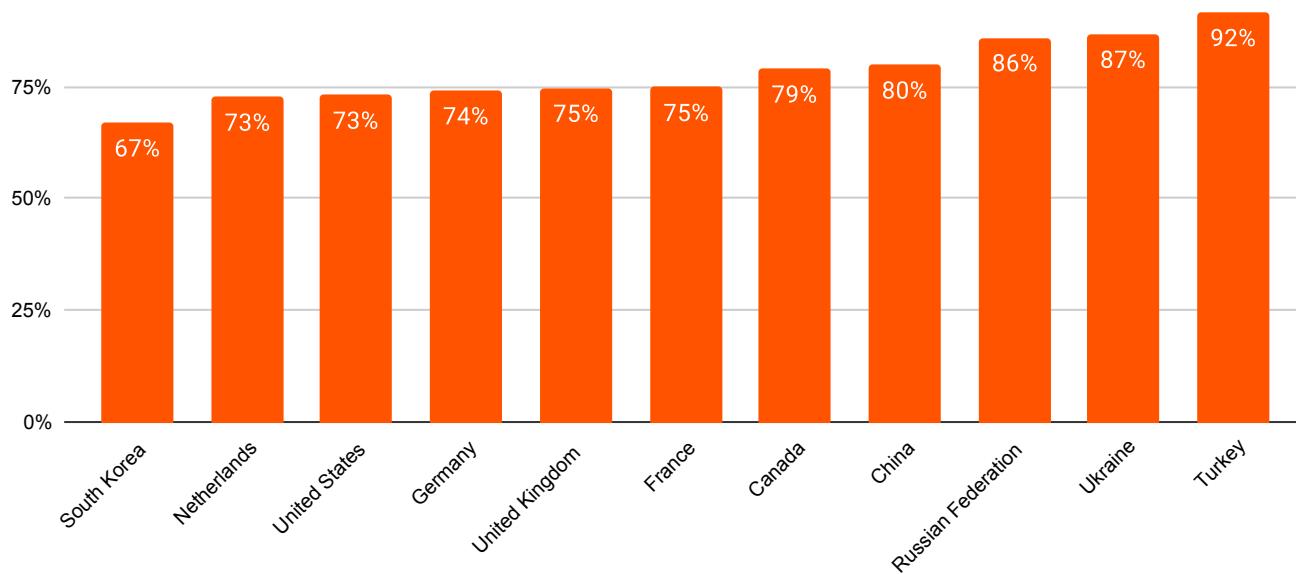
Possibly. It's impossible to say for sure how much cryptocurrency-based capital flight is happening in any given country, but the data suggests it may be happening in Eastern Europe generally and Russia and Ukraine specifically.

International transactions make up a larger share of Eastern Europe's cryptocurrency transaction volume than for comparably sized regions. Just 14% of Eastern Europe's transaction volume is estimated to take place between two Eastern Europe addresses, versus 22% for the global average across all regions, 26% for North America and Western Europe, and 27% for Eastern Asia. Capital flight could account for some of the difference.

Digging into the individual countries, both Russia and Ukraine appear to send a much larger than average share of cryptocurrency to other countries.



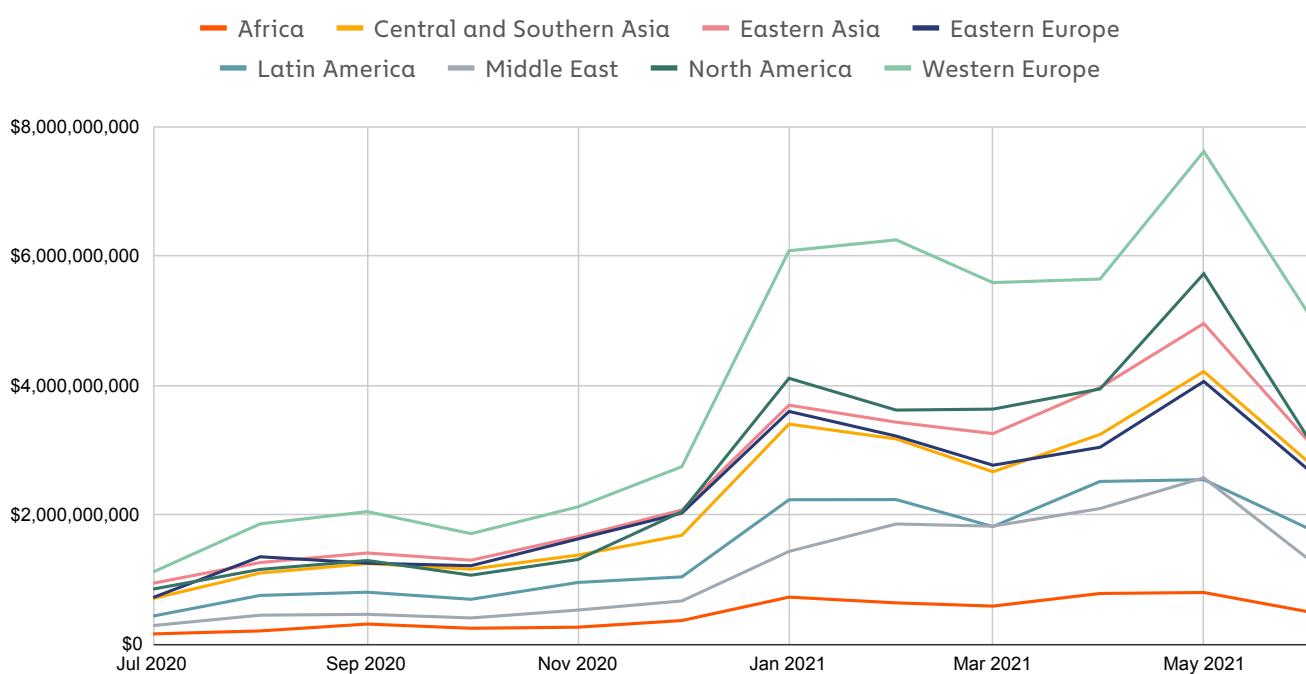
Estimated international share of all cryptocurrency sent by sending country | Jul '20 - Jun '21



An estimated 86% of all cryptocurrency sent from Russia-based addresses and 87% of cryptocurrency sent from Ukraine-based addresses travels to addresses based in another country. Turkey is the only country that sends a bigger share of its cryptocurrency abroad.

Regions receiving cryptocurrency from Eastern Europe

| Jul '20 - Jun '21





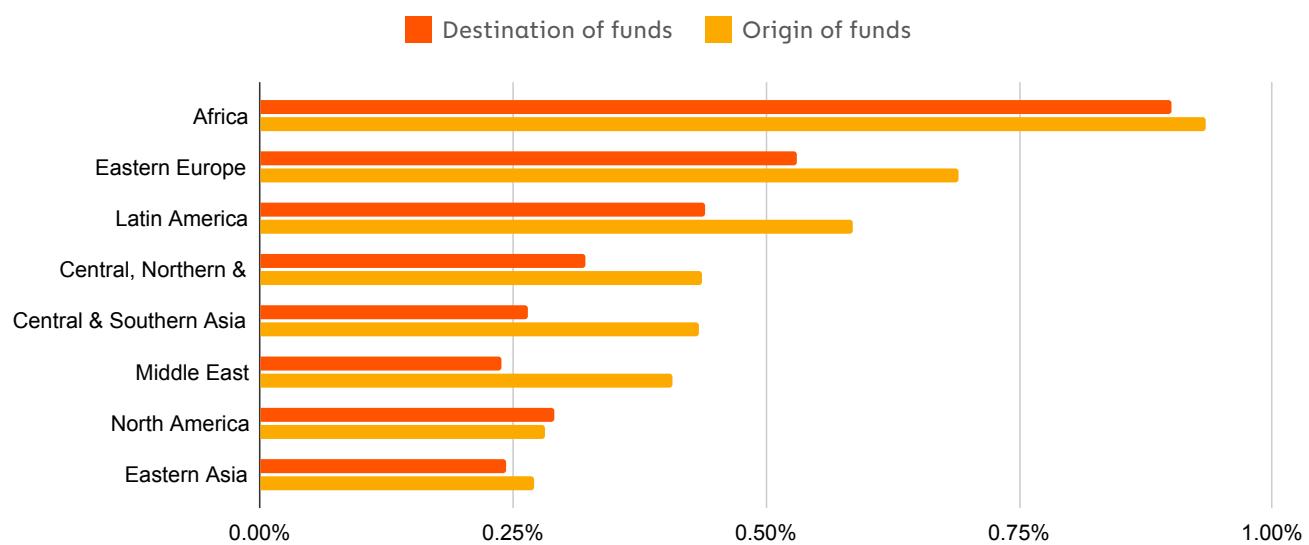
The data suggests that Western Europe is the largest receiver of funds leaving Eastern Europe, followed by North America and Eastern Asia.

Eastern Europe's Crypto Crime Landscape: Scams Dominate, Plus Significant Ransomware Activity

Addresses based in Eastern Europe have the second-highest rate of exposure to illicit addresses behind only Africa.

Illicit share of all cryptocurrency activity by region

| Jul '20 - Jun '21



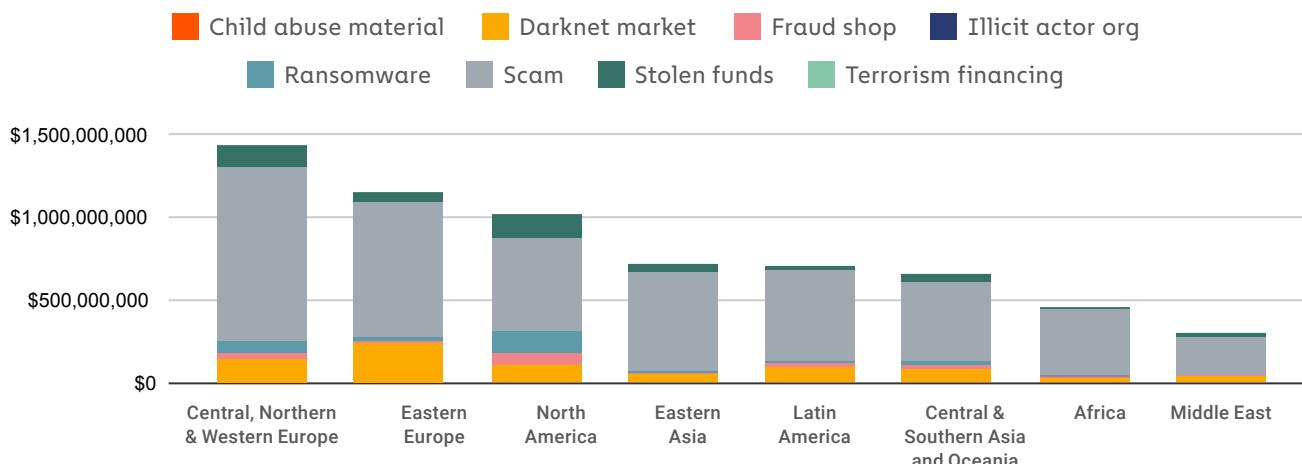
Keep in mind too that Eastern Europe has a much larger overall cryptocurrency economy than Africa, as well as Latin America, the third-ranked region for overall exposure to illicit activity. In fact, Eastern Europe is the only region with a total transaction volume of \$400 million or more for which illicit activity makes up more than 0.5% of total cryptocurrency value sent and received.

In terms of raw value, Eastern Europe has sent the second most cryptocurrency of any region to illicit addresses, behind only Western Europe.



Cryptocurrency value sent to illicit addresses by region

| Jul '20 - Jun '21

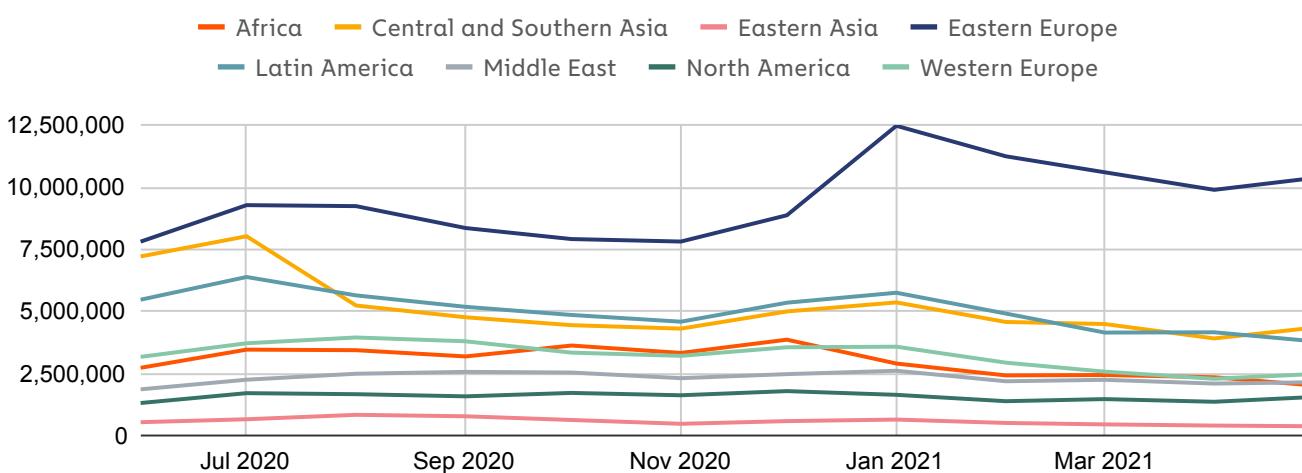


One thing that stands out is that Eastern Europe sends more cryptocurrency to darknet markets than any other region. This is largely due to activity involving [Hydra Market](#). Hydra is the world's biggest darknet market and caters only to users in Russian-speaking countries throughout Eastern Europe. However, as is the case with all regions, scams make up the biggest share of funds sent from Eastern Europe to illicit addresses — we can assume that most of this activity represents victims sending money to scammers. Between June 2020 and July 2021, Eastern Europe-based addresses sent \$815 million to scammers, second only to Western Europe.

Eastern Europe also sent the most web traffic to scam websites during the time period studied by a wide margin.

Total monthly visitors to cryptocurrency scam sites by region

| Jun '20 - Jul '21

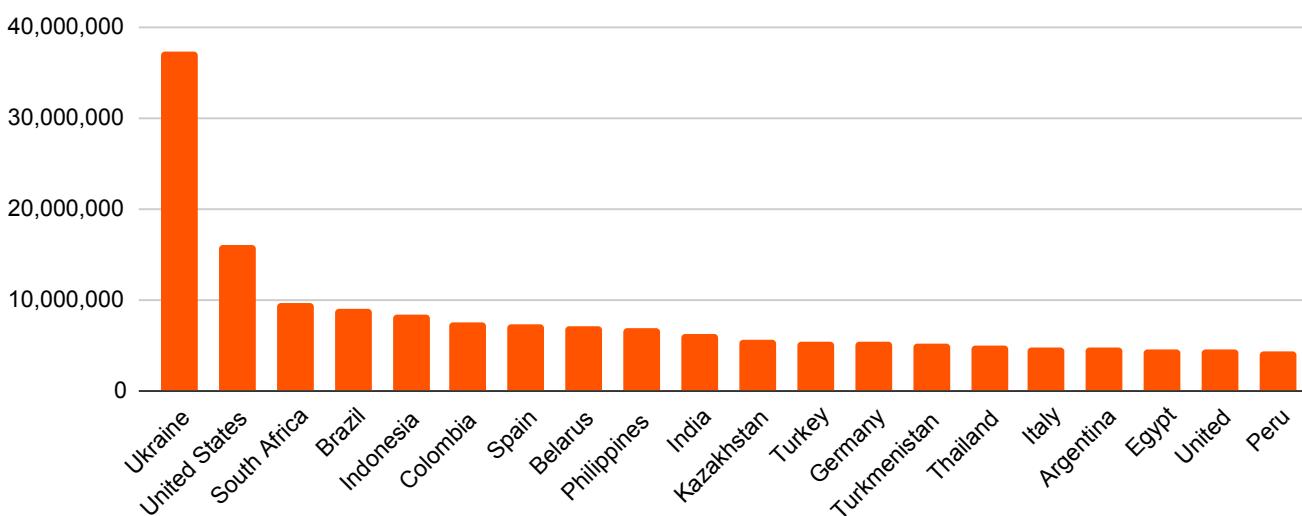




Drilling down to the country level, we see that Ukraine accounted for most of this activity, and sends more web traffic to scam websites than any other country, more than doubling the total web visits of the second-ranked country.

Number of visits to cryptocurrency scam sites by country

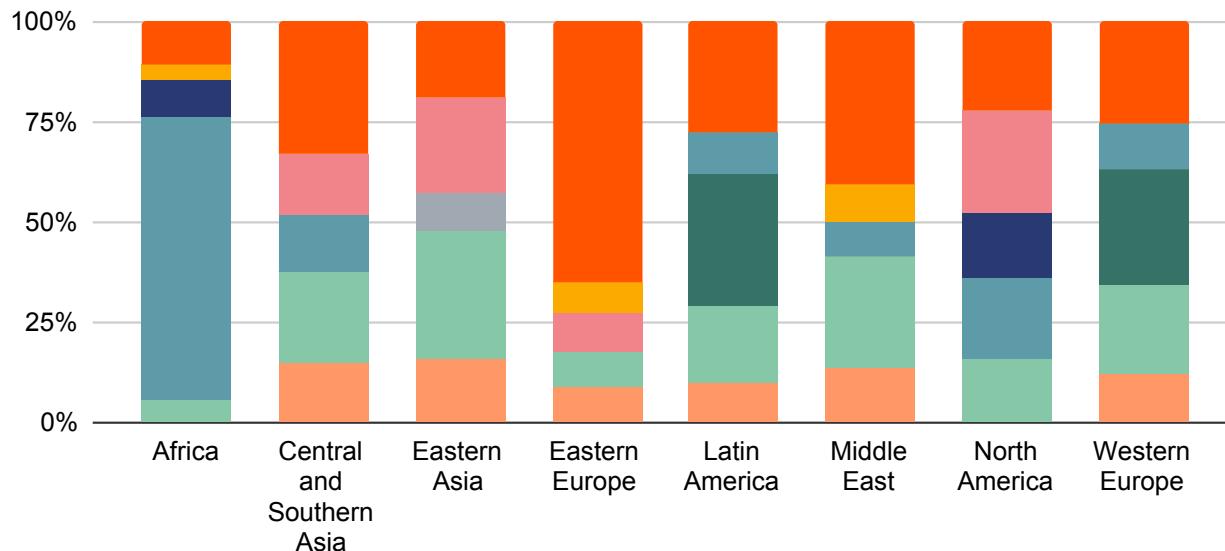
| Jul '20 - Jun '21



What scams are victimizing cryptocurrency users in Eastern Europe? More than half of the value sent to scam addresses from the region went to one scam: Finiko.

Top 5 scams receiving funds from each region | Jul '20 - Jun '21

TheFiniko.com QubitTech.ai PlusToken.asia PGIGlobal.trade MyMTIClub.com
MiningCity.com Mind.capital KuailianDP.com J-enco.com

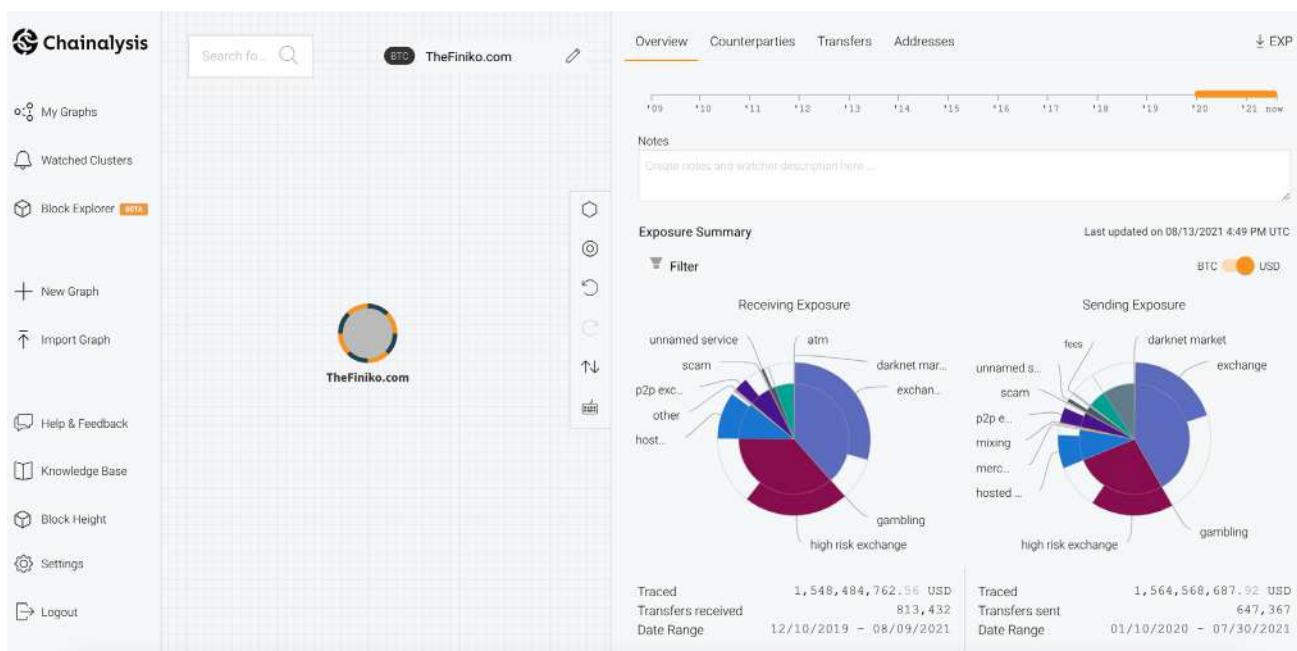




Finiko was a Russia-based Ponzi scheme that collapsed in July 2021, soon after users reported they could no longer withdraw funds from their accounts with the company. Finiko invited users to invest with either Bitcoin or Tether, promising monthly returns of up to 30%, and eventually launched its own coin that traded on several exchanges.



According to the [Moscow Times](#), Finiko was headed up by Kirill Doronin, a popular Instagram influencer who has been associated with other Ponzi schemes. The article notes that Finiko was able to take advantage of difficult economic conditions in Russia exacerbated by the Covid pandemic, attracting users desperate to make extra money. [Chainalysis Reactor](#) shows us how prolific the scam was.

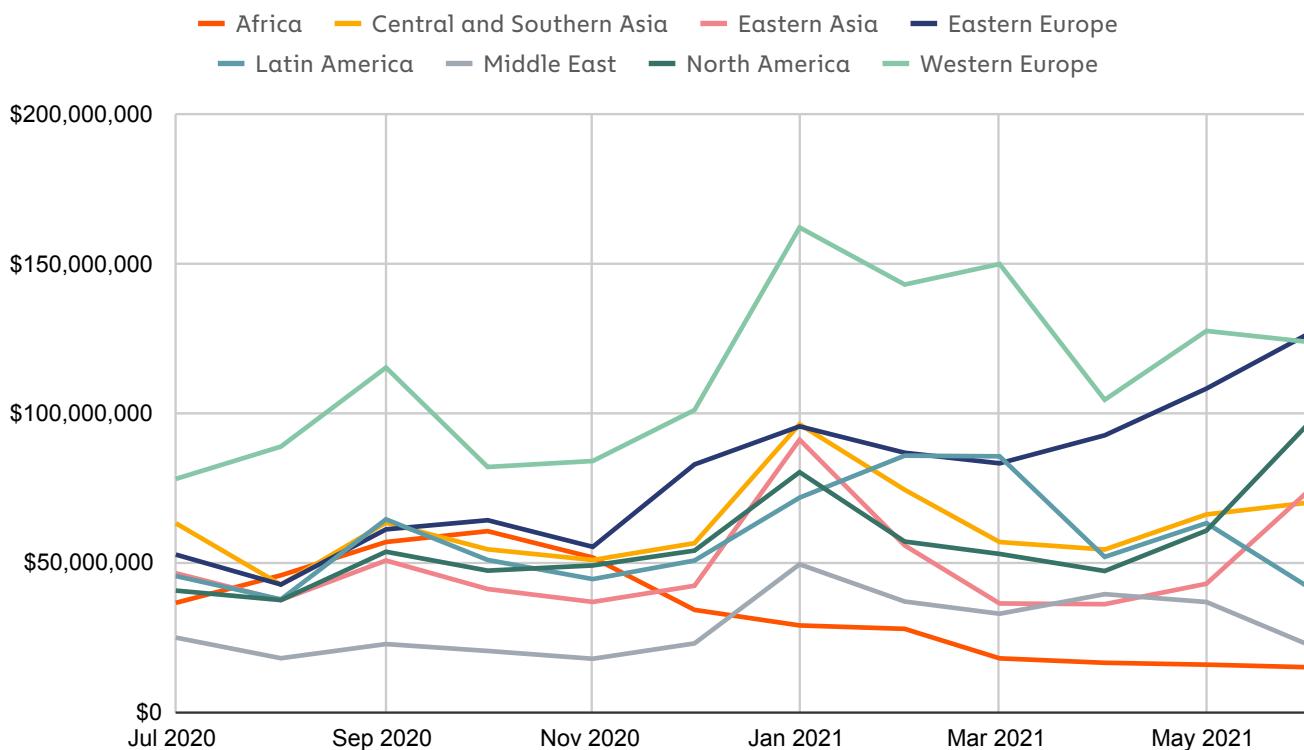


Between December 2019 and August 2021, Finiko received over \$1.5 billion worth of Bitcoin in over 800,000 separate deposits. While it's unclear how many individual victims were responsible for those deposits or how much of that \$1.5 billion was paid out to investors to keep the Ponzi scheme going, it's clear that Finiko represents a massive fraud perpetrated against Eastern European cryptocurrency users, predominantly in Russia and Ukraine.



Eastern European addresses also receive a great deal of funds from scam addresses, suggesting that many scam operators in addition to victims are located in the region.

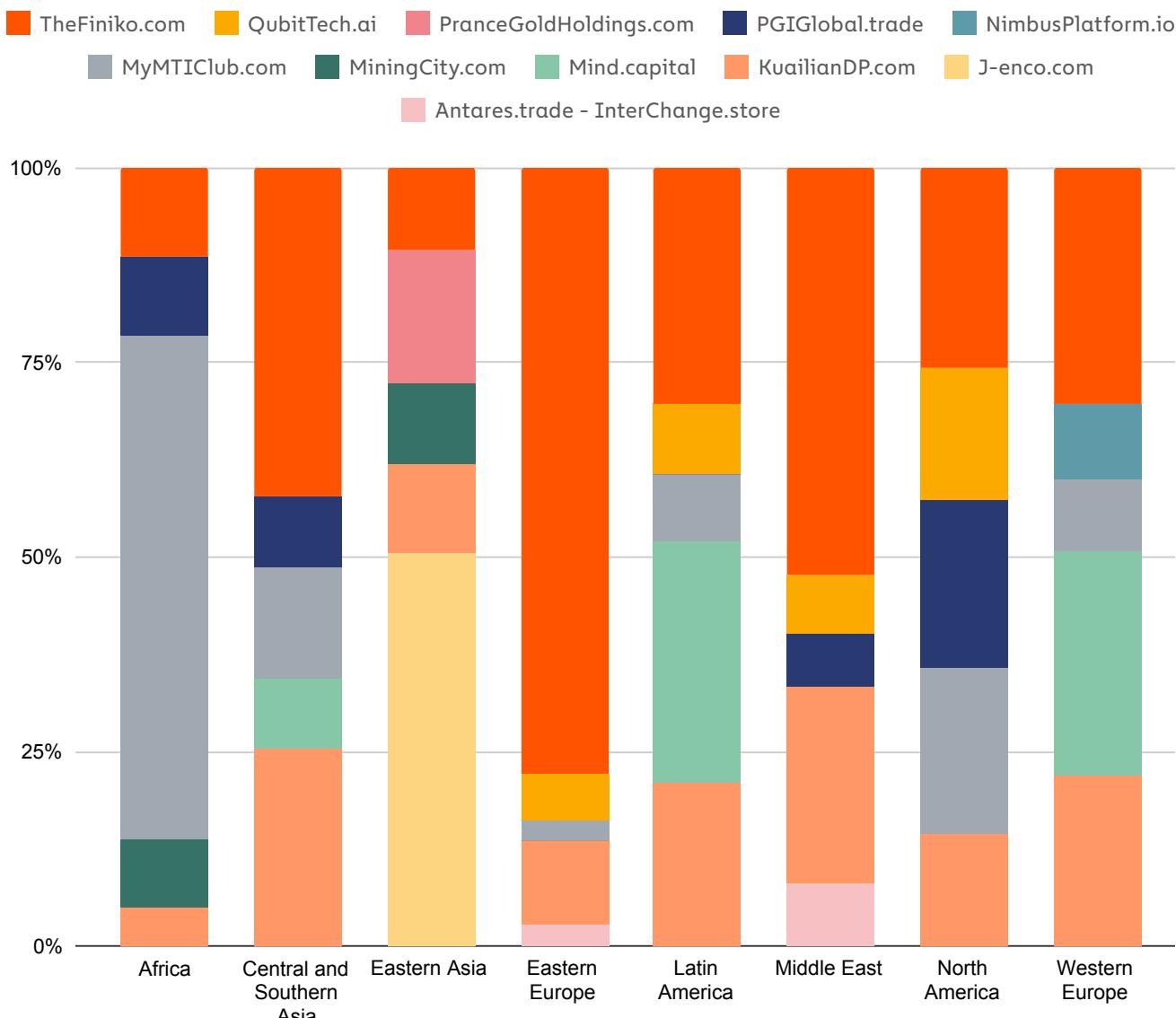
Regional destination of funds sent from scam addresses, monthly | Jul '20 - Jun '21



The chart above shows how the regions receiving the most cryptocurrency value from scams have changed over the last year. During that time period, Eastern European addresses have received roughly \$950 million worth of cryptocurrency from scam addresses, putting it behind only Western Europe. However, Eastern Europe's monthly totals have climbed steadily since March 2021 as Western Europe's have dipped, allowing Eastern Europe to surpass Western Europe in cryptocurrency received from scams in June. Again, Finiko accounts for more than half of that transaction value.



Top 5 scams sending funds to each region | Jul '20 - Jun '21



Eastern Europe-based addresses have also received significant funds from addresses associated with ransomware at \$46 million, behind only Western Europe at \$51 million. However, we believe that at least a portion of the ransomware funds labeled as traveling to Western Europe should likely be attributed to Eastern Europe. Our geographic attribution is based on web traffic to cryptocurrency services, so in cases where two regions use many of the same services, it's more difficult to attribute transaction volume to the correct service. The matrix below shows which regions have the heaviest overlap, with each cell showing the number of services for which the region in the column is ranked first in web traffic, and the region in the row is ranked second in web traffic.



Number of cryptocurrency services where regions are ranked 1st and 2nd by web traffic for all region pairs | Jul '20 - Jun '21

	Africa	Central and Southern Asia	Eastern Asia	Eastern Europe	Latin America	Middle East	North America	Western Europe
Africa	0	58	1	8	4	3	17	23
Central and Southern Asia	9	0	20	37	18	20	15	38
Eastern Asia	1	19	0	12	7	2	24	24
Eastern Europe	5	81	7	0	23	3	24	160
Latin America	4	12	3	12	0	5	15	22
Middle East	0	5	1	7	4	0	3	20
North America	8	19	7	12	13	2	0	95
Western Europe	13	49	15	68	32	16	112	0

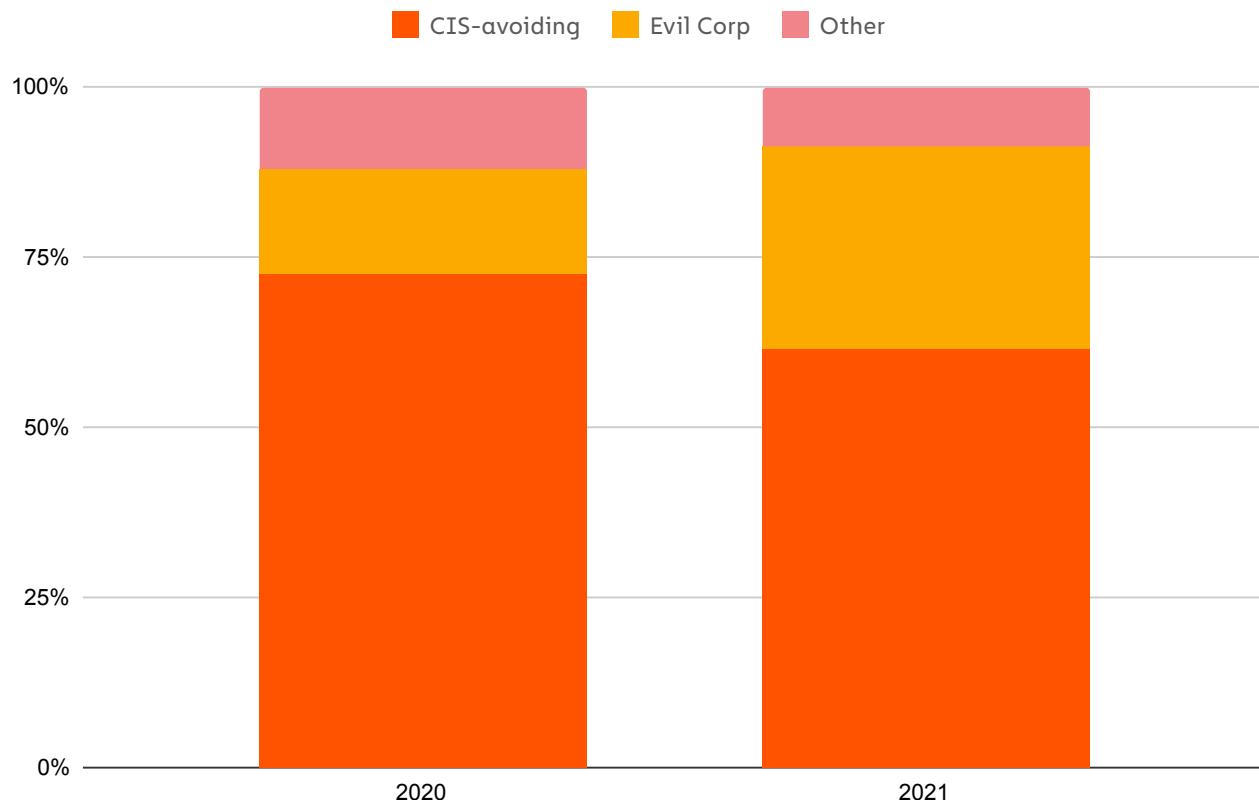
We see from the above that Eastern Europe and Western Europe have the highest overlap of any two regions, with 160 services for which Western Europe is first in web traffic and Eastern Europe second, and 68 for which Eastern Europe is first and Western Europe is second. Because of that, we believe it's likely that some of the cryptocurrency value labeled as traveling from ransomware addresses to Western Europe is in fact traveling to Eastern Europe.

Why are we so confident it isn't the other way around? As we've [covered previously](#), many of the most prolific ransomware strains are associated with cybercriminal groups either based in or affiliated with Russia, such as the notorious Evil Corp, whose leadership [reportedly has ties](#) to the Russian government. However, there's another way to get a sense of how much ransomware activity Eastern European cybercriminals are responsible for besides looking at where ransomware operators send funds to cash out. Many ransomware strains affiliated with Russia and other Eastern European countries have code that prevents them from being deployed against operating systems it detects as being located in a Commonwealth of Independent States (CIS) country – the



CIS is an intergovernmental organization of former Soviet states. On the chart below, we quantify how much of each year's total ransomware revenue went to strains either associated with Evil Corp or that have code designed to avoid CIS countries for 2020 and 2021.

Share of ransomware proceeds for top 10 strains: 2020 vs. 2021



Overall, during the time period studied, 90% of the proceeds for the top ten ransomware strains went to strains associated with Eastern Europe, a share that continues to grow year-on-year.

Central & Southern Asia and Oceania

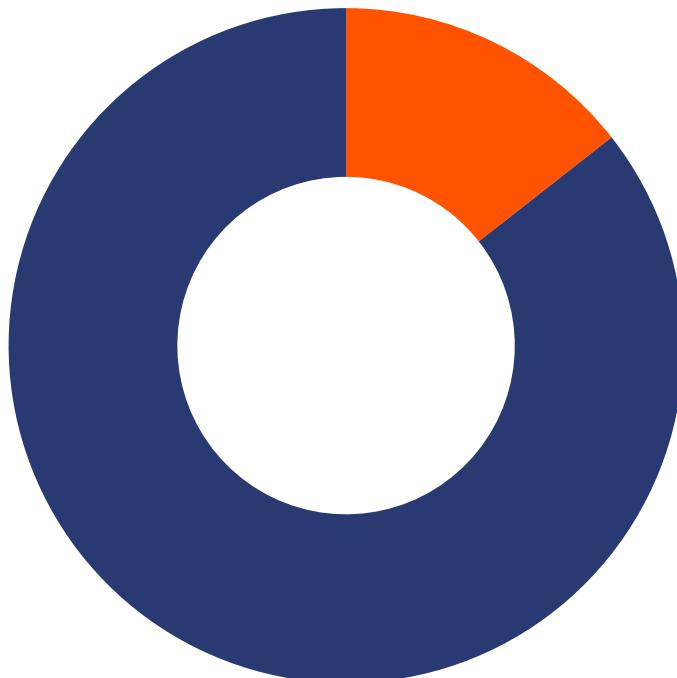




Central & Southern Asia and Oceania's cryptocurrency activity summarized

Cryptocurrency value received by Central and Southern Asia

| Compared to rest of the world, Jul '20 - Jun '21



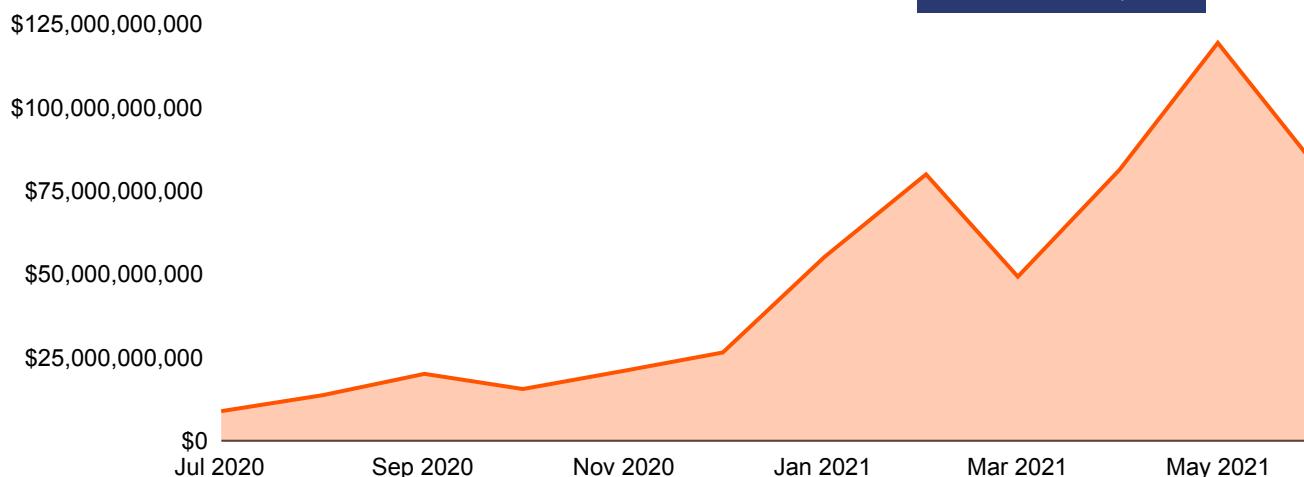
14%

share of global
value received
by Central and
Southern Asia

Cryptocurrency value received by Central and Southern Asia

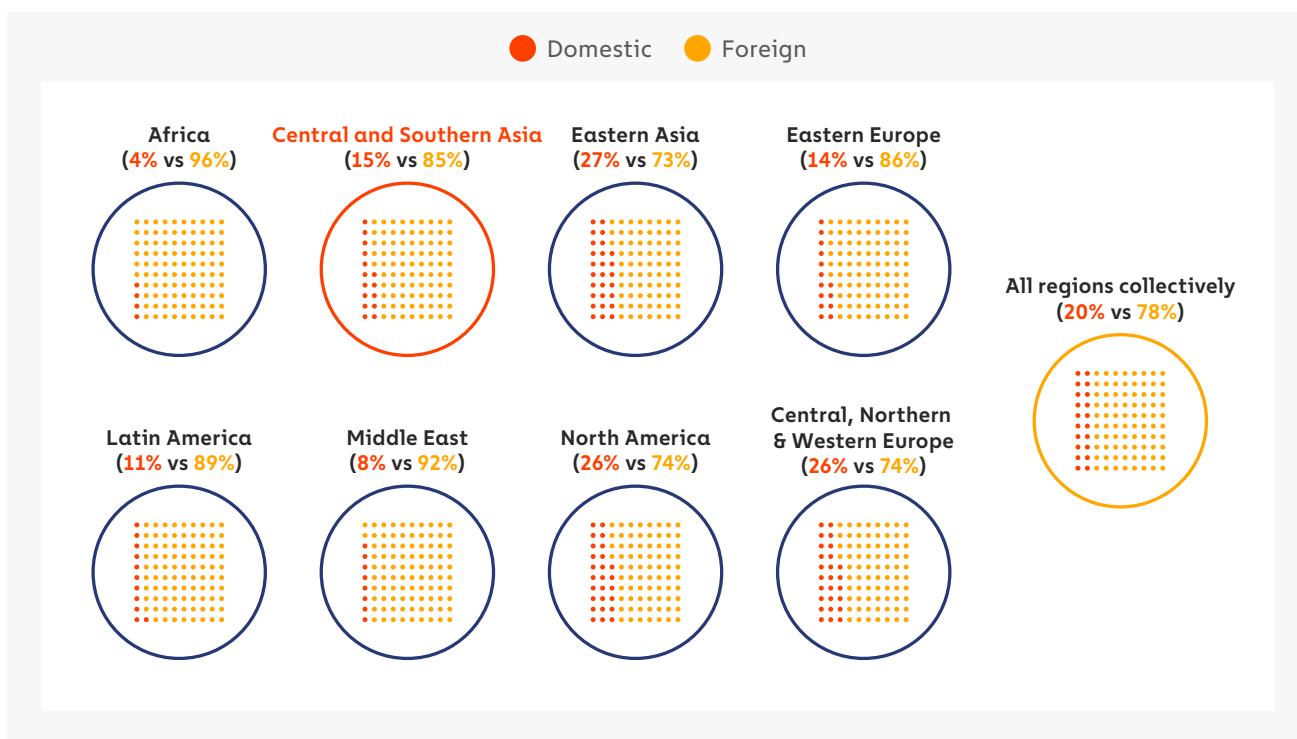
| Jul '20 - Jun '21

12-month total: \$572 B





Value received by origin: Domestic vs. foreign | Jul '19 - Jun '20



Value received and transfers to Central & Southern Asia and Oceania | Jul '20 - Jun '21



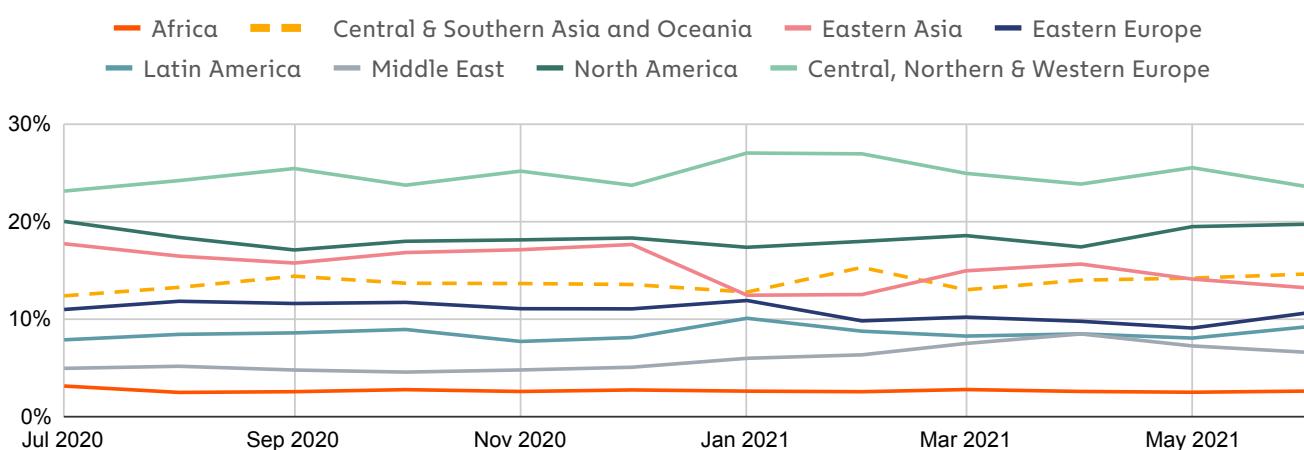


Central & Southern Asia and Oceania Have High Grassroots Adoption But Reasons Vary Greatly Across Countries

Central & Southern Asia and Oceania (CSAO) is the fourth largest cryptocurrency market we study with \$572.5 billion in value received between July 2020 and June 2021, which represents 14% of global transaction value during the time period. CSAO's transaction activity grew by 706% compared to last year in terms of raw value, and its share of global cryptocurrency activity grew by 2%, making CSAO the third-fastest growing region behind the Middle East and Central, Northern, Western Europe.

Regional share of overall cryptocurrency activity

| Jul '20 - Jun '21



But even more impressive is the region's grassroots adoption. CSAO contains the top three countries in our Global Crypto Adoption Index, with Vietnam at number one, India at two, and Pakistan at three. Thailand also placed 12th and the Philippines 15th. Below, we'll analyze key trends in the region and examine the factors that have powered cryptocurrency adoption in the region.

What drives cryptocurrency adoption in Central & Southern Asia and Oceania?

As is the case in other regions, CSAO has seen huge growth in DeFi activity over the last year.



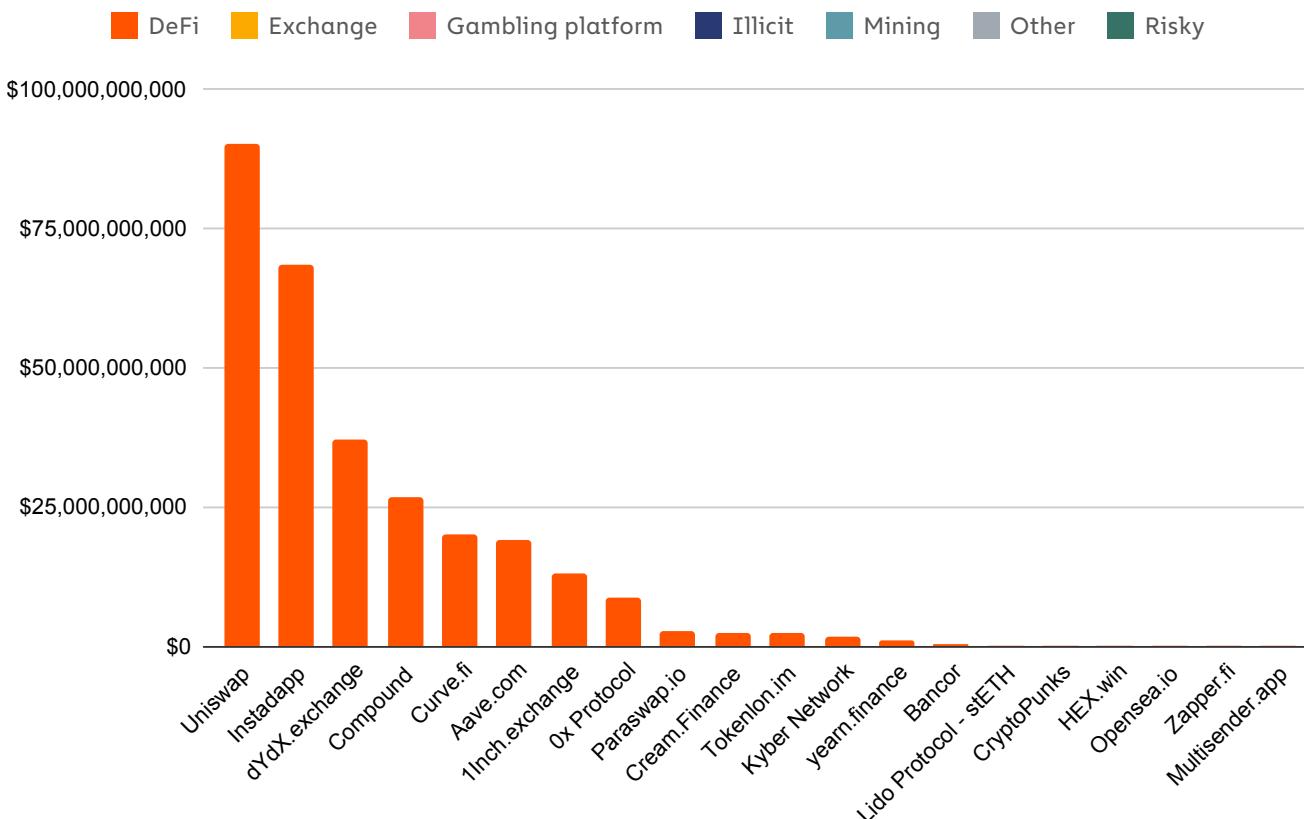
Total cryptocurrency value received by CSAO by service type

| Apr '19 - Jun '21



Starting around May 2020, DeFi activity as a share of all transaction volume skyrockets, reaching above 50% by February. This activity is primarily driven by Uniswap, Instadapp, and dydx, with significant activity on Compound, Curve, AAVE, and 1inch as well.

Top DeFi platforms used in Central and Southern Asia by total cryptocurrency transaction volume | July '20 - June '21



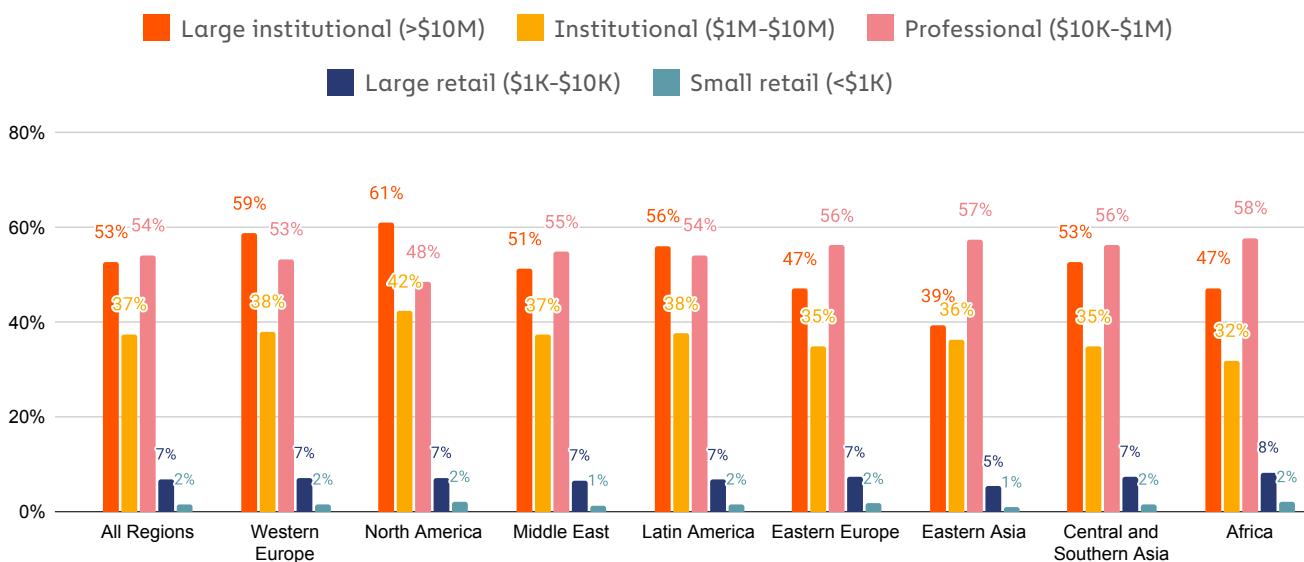
Professional-sized transfers between \$10,000 and \$1 million worth of cryptocurrency



make up the largest share of transaction volume in CSAO.

Share of regional transaction volume by transfer size

| July '20 - June '21

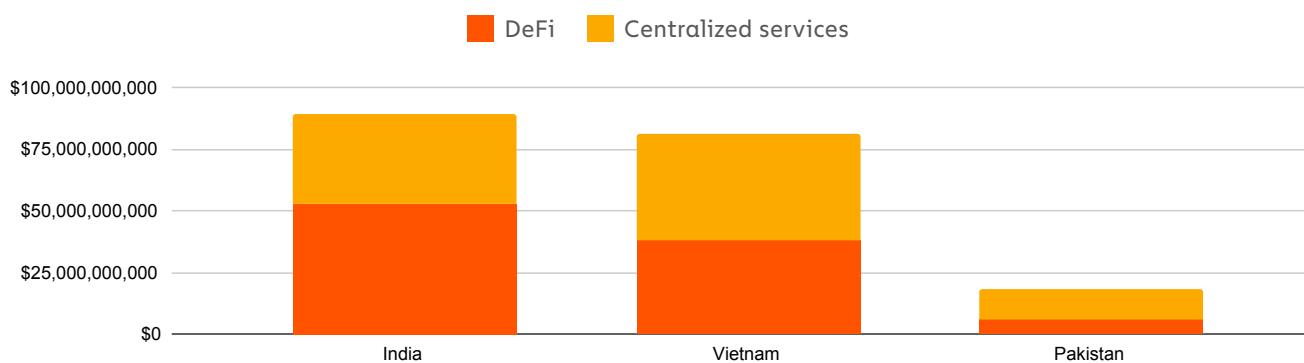


Comparing CSAO countries with the highest grassroots adoption: India vs. Vietnam vs. Pakistan

While India, Vietnam, and Pakistan all have high levels of grassroots cryptocurrency adoption, they're quite different in terms of raw transaction value.

Cryptocurrency value received: India vs. Vietnam vs. Pakistan

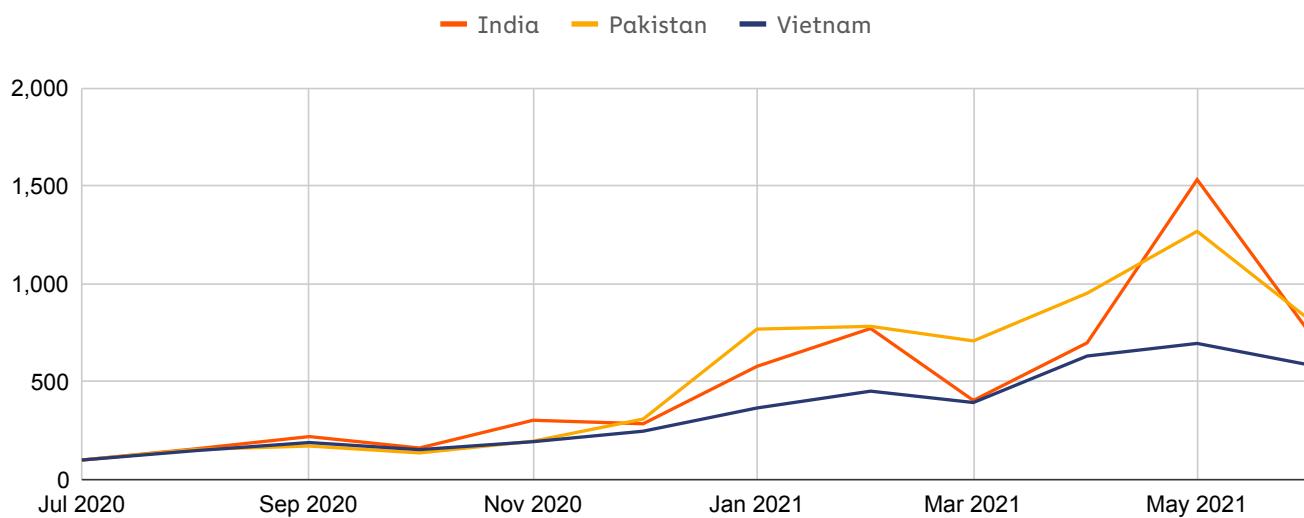
| July '20 - June '21





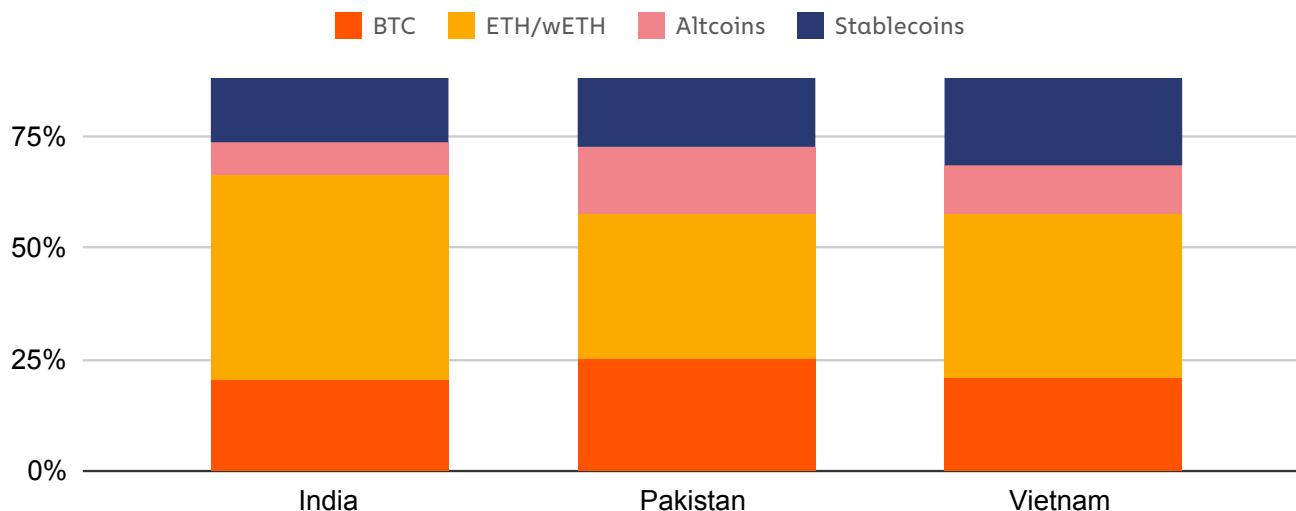
Two things stand out: One is that India and Vietnam's markets are much larger than Pakistan's. The other is that India has a much bigger share of activity taking place on DeFi platforms at 59%, versus 47% for Vietnam and 33% for Pakistan. All three regions grew substantially over the last year. Pakistan experienced the most growth at 711%, just ahead of India at 641%.

Index: Growth in cryptocurrency value received by India, Pakistan, and Vietnam



Interesting differences also emerge when we look at the breakdown of transaction value by currency. For instance, we see that Ethereum and wETH make up a bigger share of Indian activity than of Vietnamese or Pakistani activity.

Share of cryptocurrency activity by currency type in India, Pakistan, and Vietnam | July '20 - June '21



This isn't surprising, as Ethereum and wETH are more commonly used for DeFi transactions.

These breakdowns may also reflect differing levels of sophistication between the markets. We spoke to Binh Nguyen, the Coordinator of the Fintech-Crypto Hub and Senior Program Manager of Finance at the Royal Melbourne Institute of Technology-Vietnam (RMIT), who has studied the local cryptocurrency market extensively. He characterized a lot of the cryptocurrency activity he sees as akin to gambling. "Most forms of gambling are illegal but quite popular in Vietnam, and I think that's one reason people here are willing to invest in high volatility assets like cryptocurrency," he said. According to Binh, while there's a technologically savvy contingent of the Vietnamese cryptocurrency community interested in changing the future of money and building innovative projects, including in DeFi, many of those investing in cryptocurrency don't have high financial literacy or experience managing risk. "Low financial literacy is a driver of excessive risk-taking and may create lucky financial rewards for crypto-investors during a bull market. Lots of sophisticated investors may be waiting five to ten years and missing out."

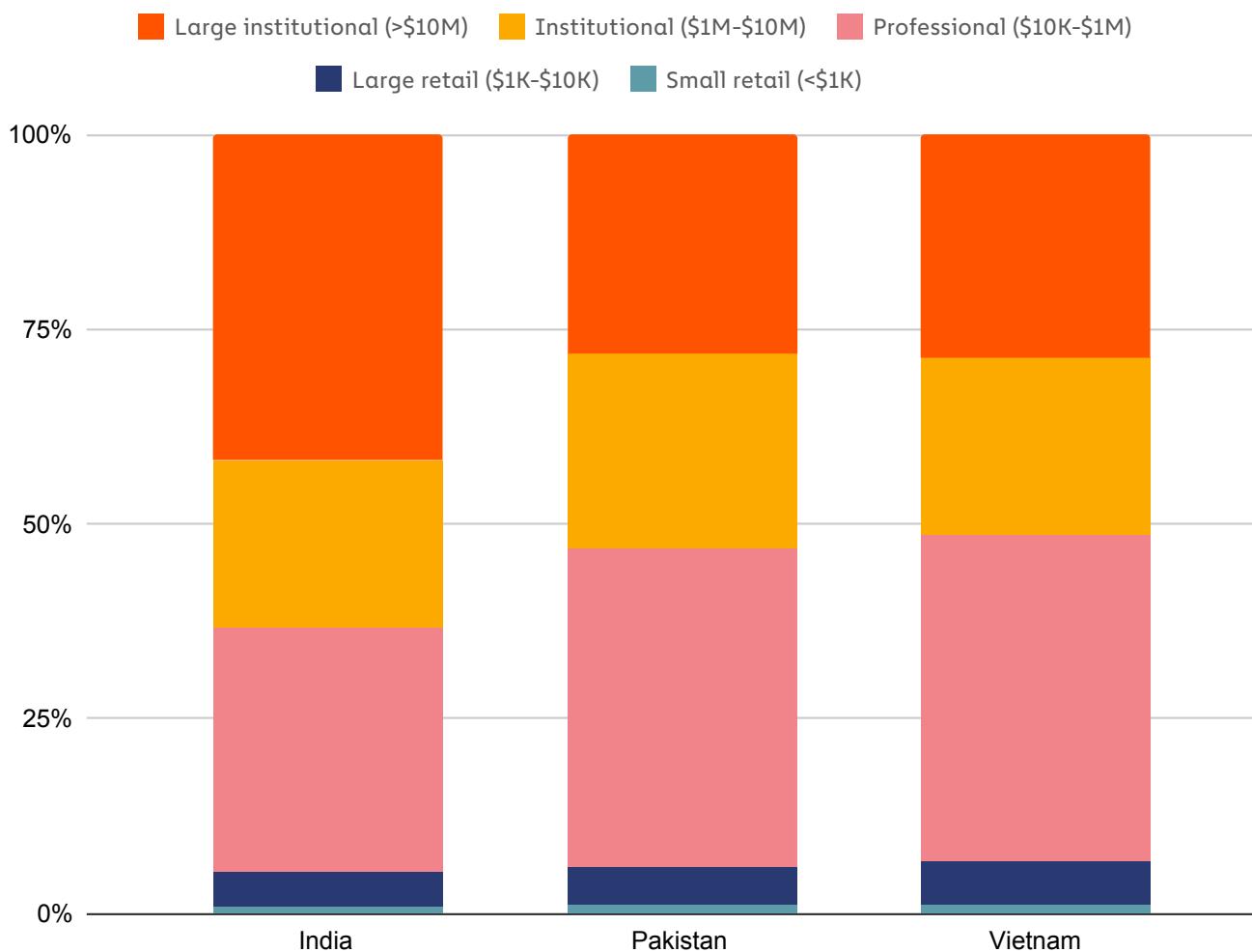
While he characterized Vietnam's cryptocurrency market as retail-driven, Binh didn't think that, at the moment, many in the country were using cryptocurrency to preserve their savings for the long term or protect against inflation, noting that there's relatively low cryptocurrency adoption in poor and remote areas. "Young people here don't have many options for investing. We don't have a well-developed financial market for ETFs, options, or futures and the stock brokerage penetration rate is lower than 5% in Vietnam." said Binh. "If you have \$5,000 to invest, there aren't many other places to put it." Binh expressed hope that with clearer regulatory direction for the government, Vietnam's cryptocurrency market could mature. To that end, he hopes that regulators will soon provide clearer guidance on whether cryptocurrencies are property or not, and advocates for a regulatory sandbox for cryptocurrency projects.

Pakistani cryptocurrency traders we spoke to said similar things about cryptocurrency adoption in their country, whose usage patterns are similar to Vietnam's in terms of frequently used service types and cryptocurrencies. Muhammad, a Paxful Expert Trader, told us that in his experience, most traders are focused on trading altcoins rather than saving. "Everybody wants easy money obviously. But nobody wants to risk or have any loss," he said. Junaid, another Paxful Expert Trader, described the cryptocurrency scene similarly. "I'm trading a lot of altcoins like ADA, TRX, WAVES, SOL, DOT, CAKE, DLT, COMP, SC, SHIB, XRV, and CRV with a USDT pair," he said. "As you know, ADA, WAVES, SOL and many other coins pumped huge amounts and I gained profit by holding them."



India's cryptocurrency market, by comparison, appears more mature. We can see this in the breakdown of transaction sizes in the region.

Share of cryptocurrency value sent by transaction size for India, Pakistan, and Vietnam | July '20-June '21



Large institutional-sized transfers above \$10 million worth of cryptocurrency represent 42% of transactions sent from India-based addresses, versus 28% for Pakistan and 29% for Vietnam. Those numbers suggest that India's cryptocurrency investors are part of larger, more sophisticated organizations.

As we noted above, India's DeFi market is also much bigger (though not when adjusted for population size), and there's been a **big increase** in cryptocurrency-related entrepreneurship and venture capital investment in the region. Joel John, a principal at cryptocurrency investment firm **LedgerPrime**, told us about witnessing the legitimization of cryptocurrency businesses in India in real time. "There used to be



a certain amount of stigma. In 2014, if you were at a VC event and said you were in crypto, you might have someone coming up to you later in the evening asking if you could get them drugs online," said John. "Now, crypto has become the cool place to be." While John noted that while some older investors still treat cryptocurrency with suspicion, the sentiment is overall much more positive now.

John also told us more about what drives the majority of India's cryptocurrency investors. "Investing in equities in India is a long, painful process that requires you to sign lots of documents. It takes about three to four days. Investing in crypto takes less than an hour." John estimates that there are 4x as many cryptocurrency investors in India as there are equity investors. According to him, many of these investors were previously focused on assets, like real estate, whose returns have decreased recently. Cryptocurrency has given them easy access to a new source of alpha. But that's just the high end of the market. On the lower end, John mentioned that many in India's large freelance economy — mostly those doing technology-related work for employers abroad — have started to request being paid in cryptocurrency, due to both convenience and interest in the asset.

Krishna Sriram, Managing Director at Quantstamp, told us more about this. "Tons of Indian developers, fund analysts, and independent freelancers working for overseas employers have started requesting to be paid in cryptocurrency. It's a very bottom up way of adopting," said Sriram. He also noted that most of the people he knows who do this opt to be paid in Ethereum or USDC, receiving payments through centralized exchanges or DEXes. "I think the reason for this is that lots of these people are working fulltime in the Ethereum and DeFi ecosystem. We're seeing huge growth there, with many developers moving into the space after having worked at traditional tech unicorns."

As for the large DeFi market, Krishna attributes much of the popularity to centralized exchanges becoming more difficult to use for users in areas with uncertain regulations like India. "Centralized exchanges are becoming more stringent and harder to use for people in certain jurisdictions. DeFi doesn't discern where you're from or care if it has a relationship with your bank," he said. "It's an open, permissionless system." The past year has seen conflicting reports of India's regulatory perspective on cryptocurrency, with **some reporting** that the country may ban digital assets altogether. More recently though, it appears India's regulators will instead seek to **tax cryptocurrency transactions** rather than ban them.

Indeed, the past year has been tumultuous in terms of understanding India's regulatory perspective on cryptocurrencies. Headlines speculated that the country would ban digital currencies altogether. More recently, the country seems to favor an approach



that taxes cryptocurrency transactions as opposed to banning them.

Sriram also stressed the importance of the development of India's cryptocurrency media and influencer ecosystem. He pointed to Kunal Kapoor, a popular Bollywood actor who's promoted NFTs, and Akshay BD and Tanmay Bhat, social media influencers who have gone on to found the educational cryptocurrency YouTube channel **Superpumped**. "These people aren't just shouting 'Buy bitcoin!' Influencers are discussing the merits of different projects in a nuanced way."

The differences between Central and Southern Asia's biggest markets may reflect the fact that these countries are at different stages of cryptocurrency market development. Many first look to cryptocurrency in search of quick returns on speculative trading of a variety of investments, which can be done on centralized services and conventional P2P platforms, as appears to be the predominant use case in Vietnam and Pakistan. However, in markets like India where the cryptocurrency community has grown and attracted outside investment, we see more development and usage of innovative projects like DeFi protocols.

Eastern Asia





Eastern Asia's cryptocurrency activity summarized

Cryptocurrency value received by Eastern Asia

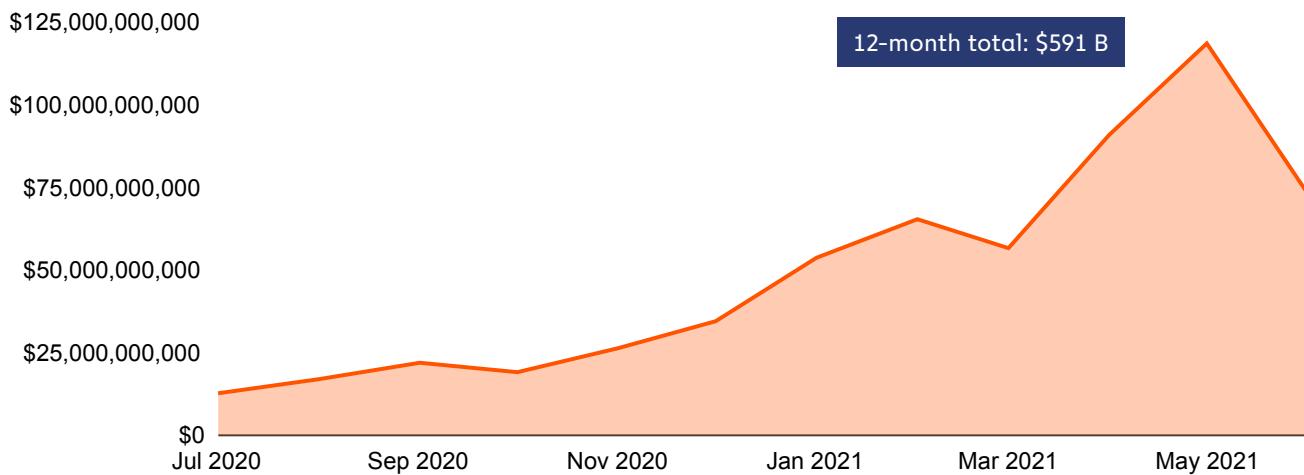
| Compared to rest of world, Jul '20 - Jun '21



14%

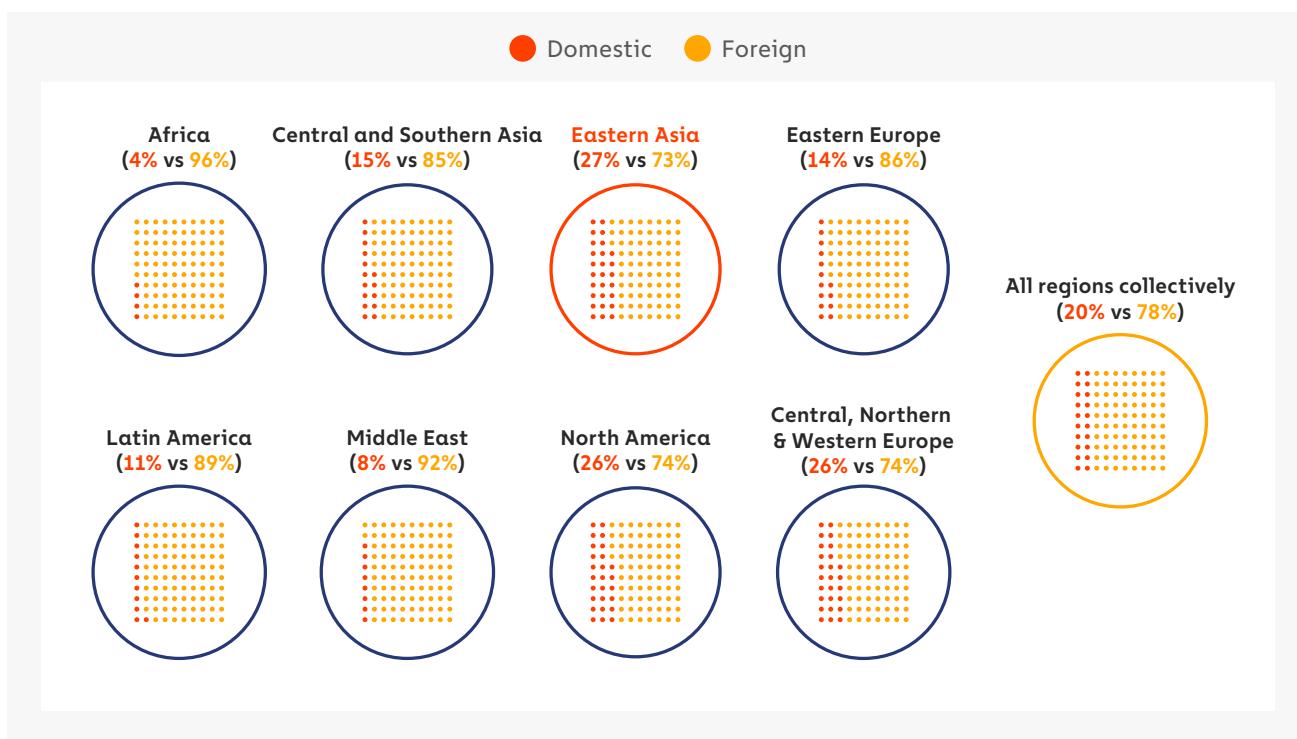
share of global
value received by
Eastern Asia

Cryptocurrency value received by Eastern Asia | Jul '20 - Jun '21

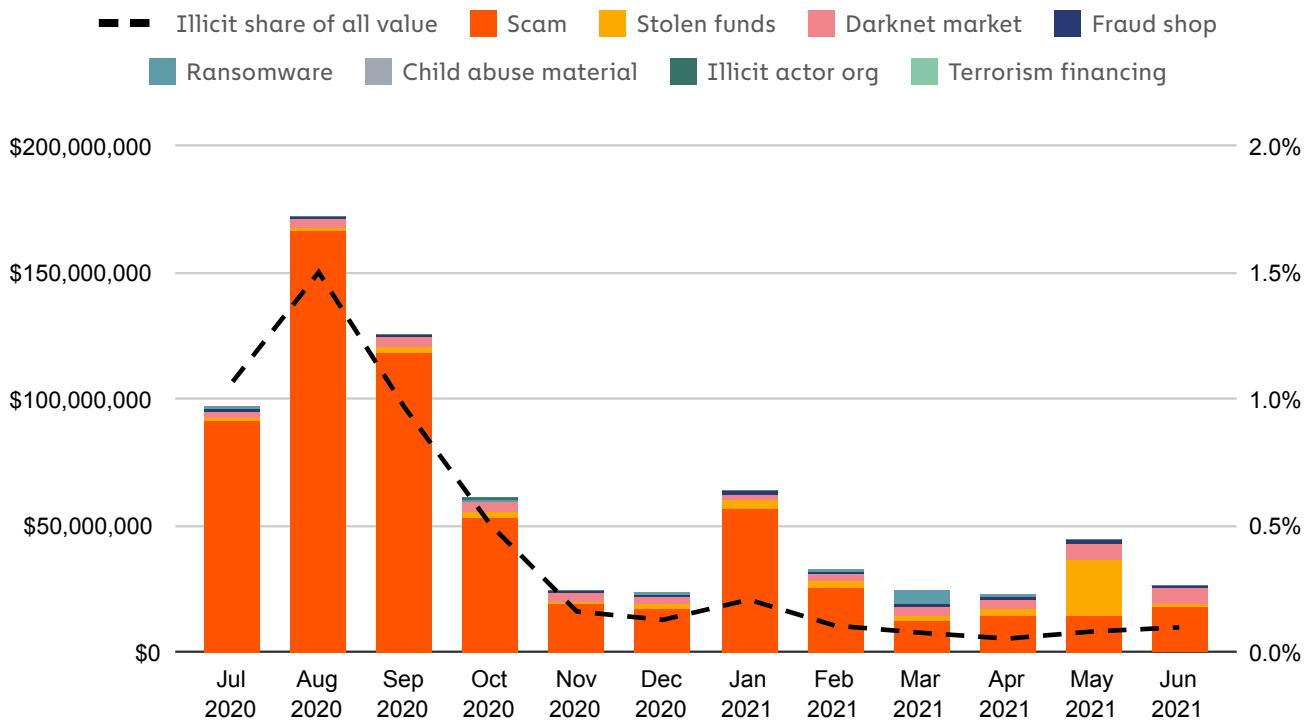




Value received by origin: Domestic vs. foreign | Jul '19 - Jun '20



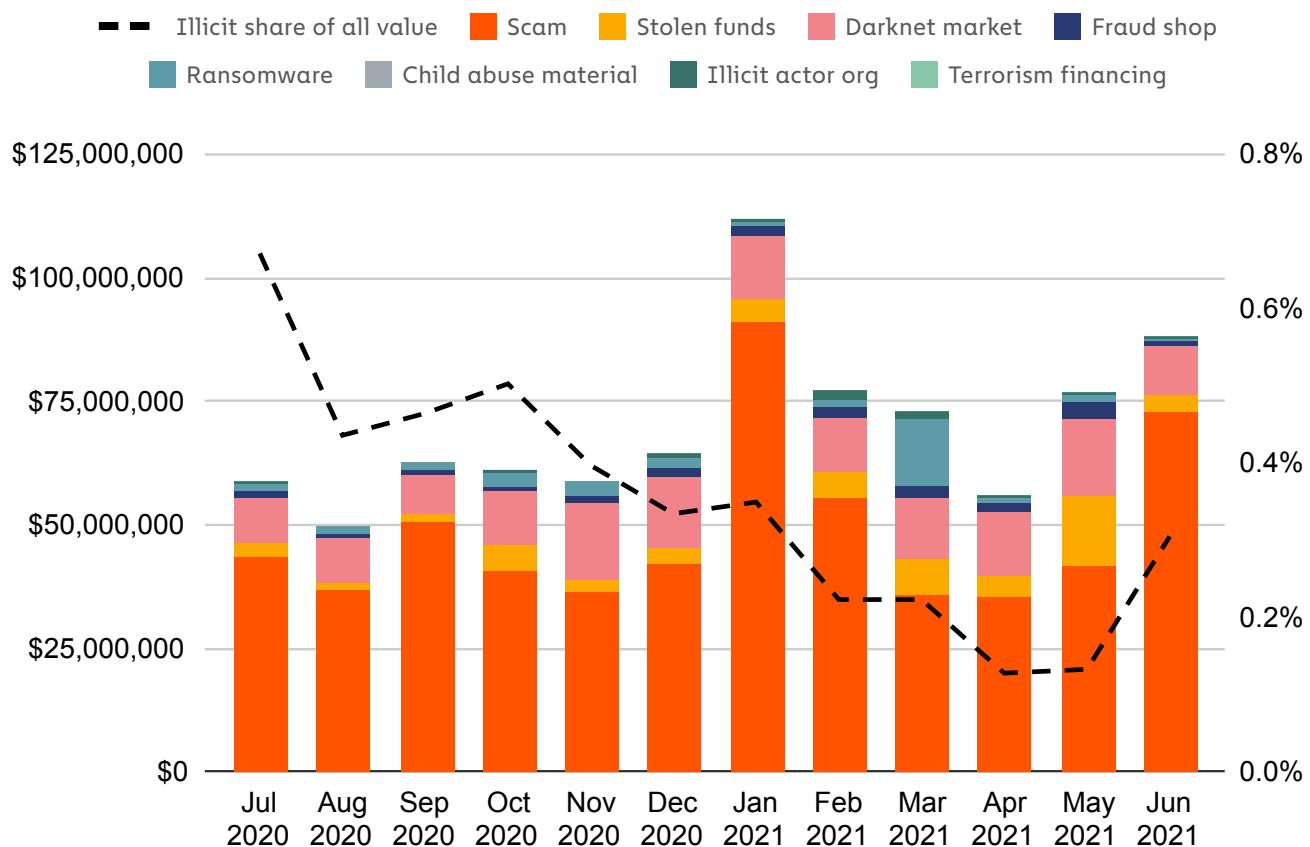
Value sent from Eastern Asia to illicit addresses | Jul '20- June '21





Value received by Eastern Asia from illicit addresses

| Jul '20- June '21



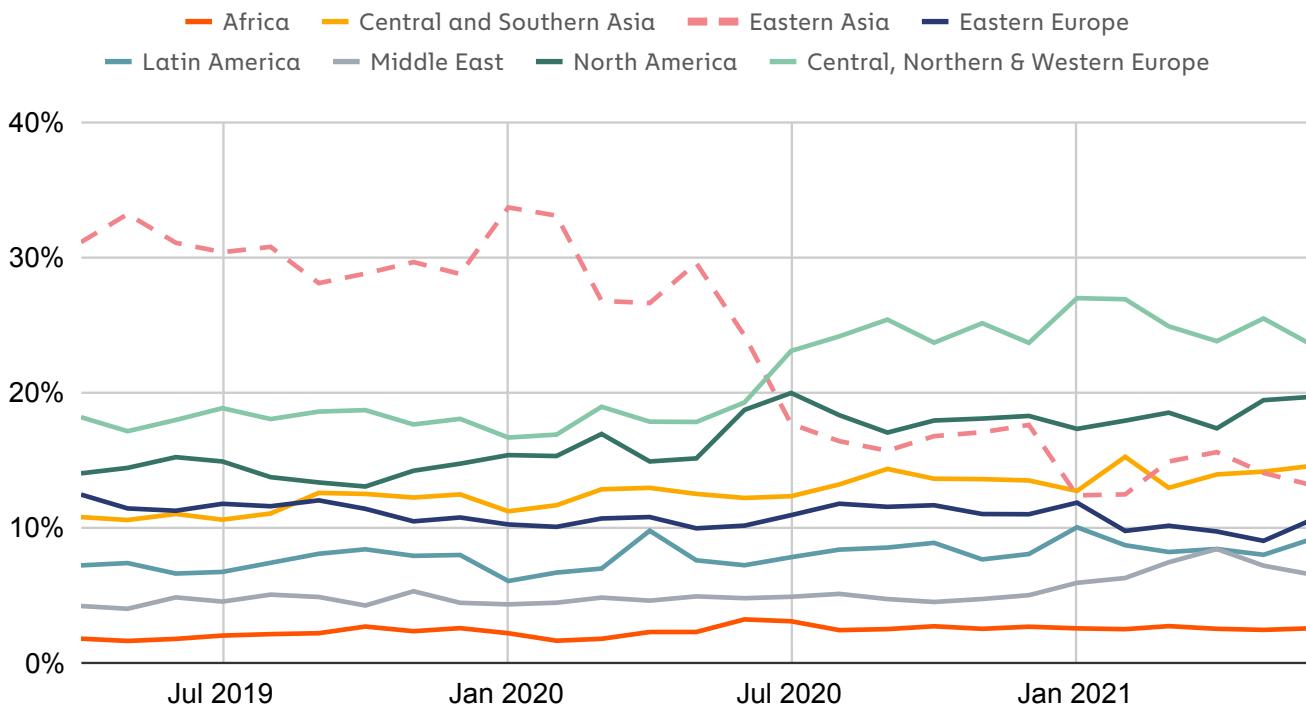
Eastern Asia's Cryptocurrency Economy Declines in Global Rankings Following China's Cryptocurrency Crackdown

Eastern Asia is the third-largest cryptocurrency market we study, having received \$591 billion worth of cryptocurrency between July 2020 and June 2021, which represents 14% of all activity during that time period. The region's overall transaction value grew 452% compared to the previous year, which makes it the slowest-growing region we study. Eastern Asia fell drastically in share of global activity, having accounted for 31% of total transaction value between July 2019 and June 2020, a time when it was by far the world's biggest cryptocurrency economy.



Share of global cryptocurrency transaction volume by region

| Apr '19 - Jun '21



Eastern Asia also shows relatively low grassroots adoption over the last year. At 13th, China is the highest ranking country in Eastern Asia on our Global Adoption index. It fell from fourth place the previous year, largely due to declining P2P trade volumes. Hong Kong is the next highest-ranked for grassroots adoption at 39th, followed by South Korea at 40th and Japan at 82th.

What's behind Eastern Asia's fall in the world rankings? One reason could be China's recent crackdown on the cryptocurrency industry, and in particular mining. China has historically been the biggest cryptocurrency mining country in the world, but in the last year, the Chinese government has moved to ban mining from the country, and also clamped down on trading. Concurrently, China is set to launch the world's first blockchain-based central bank digital currency (CBDC) with the digital yuan. The digital yuan is live on a trial basis now and a wider rollout is expected at the 2022 Winter Olympics in Beijing. We'll explore these trends below, and analyze the factors driving cryptocurrency usage in Eastern Asia.



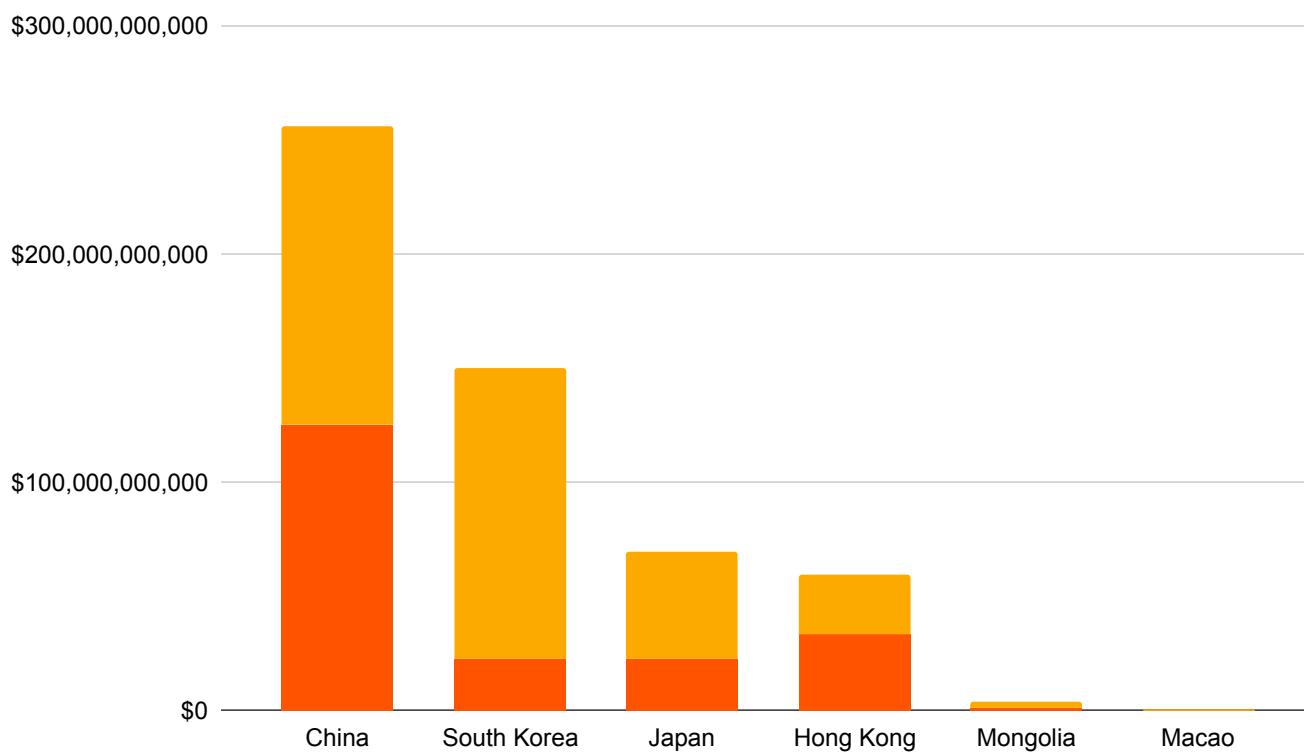
What drives cryptocurrency adoption in Eastern Asia?

The individual countries within Eastern Asia vary by both size and preferred cryptocurrency service type.

Eastern Asia's cryptocurrency value received by country

| Jul '20 - Jun '21

■ DeFi ■ Centralized services



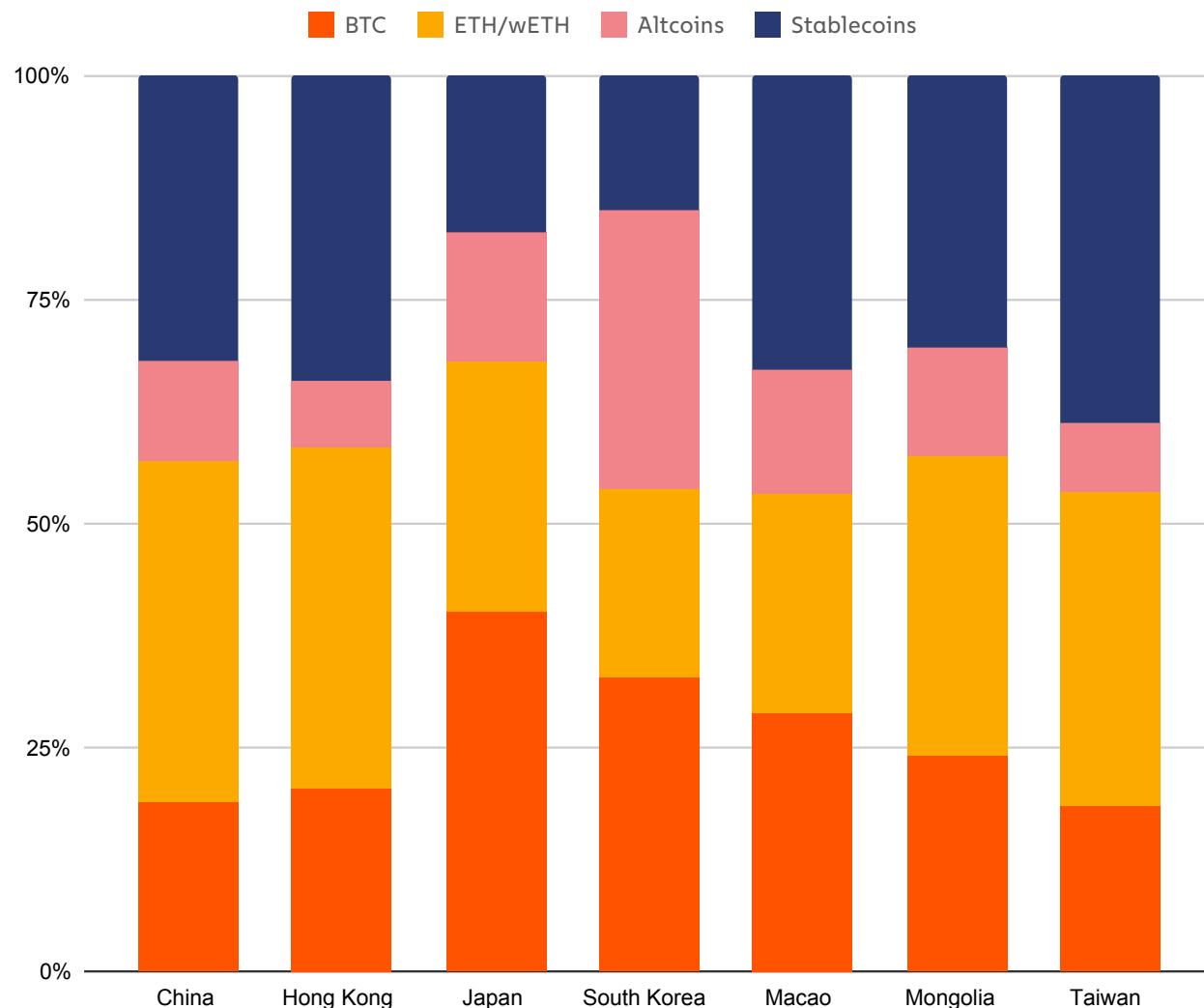
China is the biggest market in the region by far with \$256 billion in cryptocurrency received between July 2020 and June 2021, 49% of which went to DeFi protocols. Hong Kong has a slightly higher skew toward DeFi, with 55% of its incoming \$59.7 billion of cryptocurrency going to protocols.

The other two notable markets in the region, however, see far less DeFi activity. Just 15% of South Korea's \$150 billion of cryptocurrency received went to DeFi protocols, while that figure rises to 32% for Japan. The breakdown of each country's preferred currency types aligns with those trends as well.



Eastern Asia country transaction volume by currency type

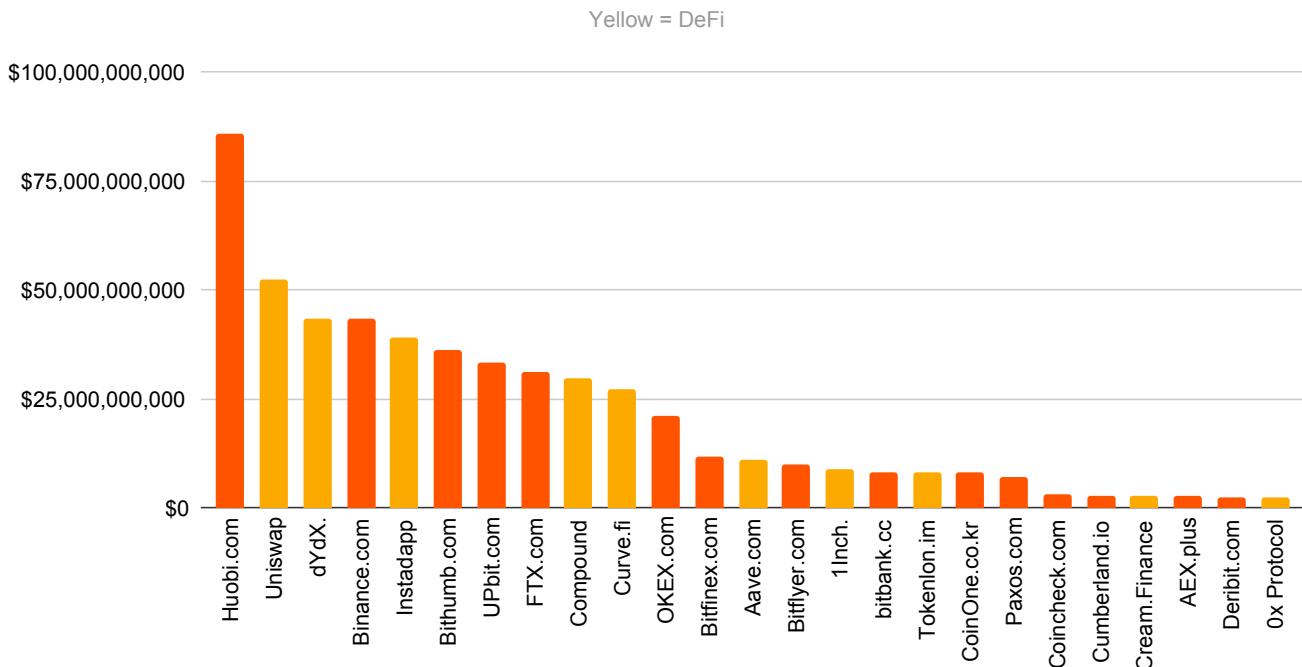
| Jul '20 - Jun '21



Ethereum and wETH account for 21% of South Korea's cryptocurrency transaction volume and 28% of Japan's, versus 38% for both China and Hong Kong. We would expect to see that discrepancy because Ethereum and wETH are the primary cryptocurrencies for DeFi transactions. A [CoinTelegraph article](#) published in May attributes DeFi's relative failure to gain traction in South Korea to the country's uniquely isolated cryptocurrency market. Oleg Smagin, Head of Global Marketing at South Korean cryptocurrency lending and staking firm Delio, explained this phenomenon to the publication. "2019 became a tipping point for the wide adoption of DeFi globally," he said. "But in Korea it was barely recognized, mostly because most of the local retail investors lacked experience using overseas crypto services and the adoption of stablecoins was low." In Japan, meanwhile, DeFi remains [largely unregulated](#), which may contribute to its own lagging adoption. Still, overall adoption trends in Eastern Asia, led by China, have propelled several DeFi platforms to become some of the most popular in the region.



Top cryptocurrency services used in Eastern Asia by total cryptocurrency transaction volume | July '20 - June '21



Centralized exchange Huobi remains the biggest Eastern Asia service by transaction volume, but DeFi protocols Uniswap and dydx take the second and third spots.

Mining declines in China led to less liquidity

China has historically dominated cryptocurrency mining. At times, China-based mining operations controlled as much as **65% of Bitcoin's global hashrate** – the measurement of how much computing power goes toward mining Bitcoin – which has led to increased liquidity for cryptocurrency services serving China and Asia as a whole.

However, China's status as the top cryptocurrency mining country changed drastically in May 2021, when the Chinese Communist Party (CCP) announced its intent to clamp down on cryptocurrency mining and trading, **citing concerns** around financial stability and environmental impact. While this isn't the first time the CCP has adopted anti-cryptocurrency policies, previous enforcement only pushed exchanges and other cryptocurrency businesses out of the country, while traders and miners could still operate. Following the crackdown in May 2021, Bitcoin's overall hashrate fell by **more than 50%**, and while it has since rebounded, it remains below its pre-crackdown peak.

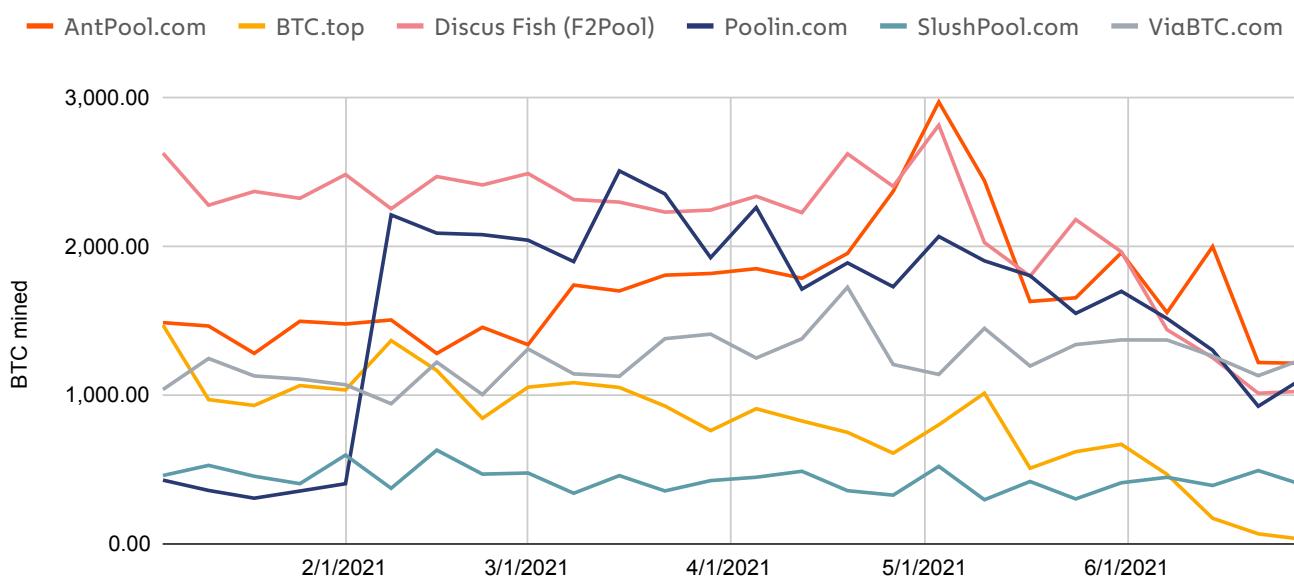


Bitcoin hashrate | Jan '21 - Jun '21



Blockchain analysis can give us a better idea of which mining pools specifically suffered the most. The chart below shows Bitcoin mined by the six biggest mining pools in the months leading up to and immediately following the crackdown.

Bitcoin mined by mining pools | Jan '21 - Jul '21

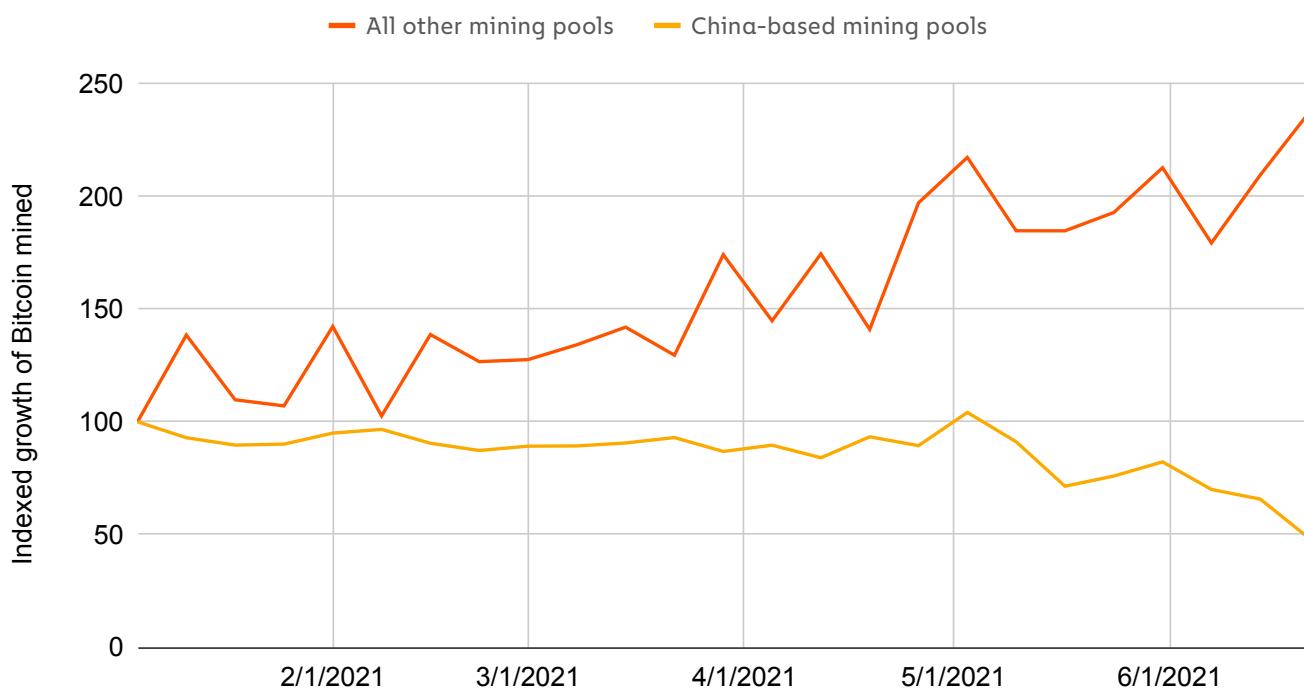


AntPool, Poolin, BTC.top, and F2Pool, all of which are primarily based in China, seem to have seen the steepest declines, while the Czech Republic-based SlushPool has remained steady.



In the index chart below, we expand our analysis to the top 20 mining pools worldwide, and compare the relative growth and contraction of all those based in China versus those based elsewhere.

Index: Change in Bitcoin mined by China-based mining pools vs. all others

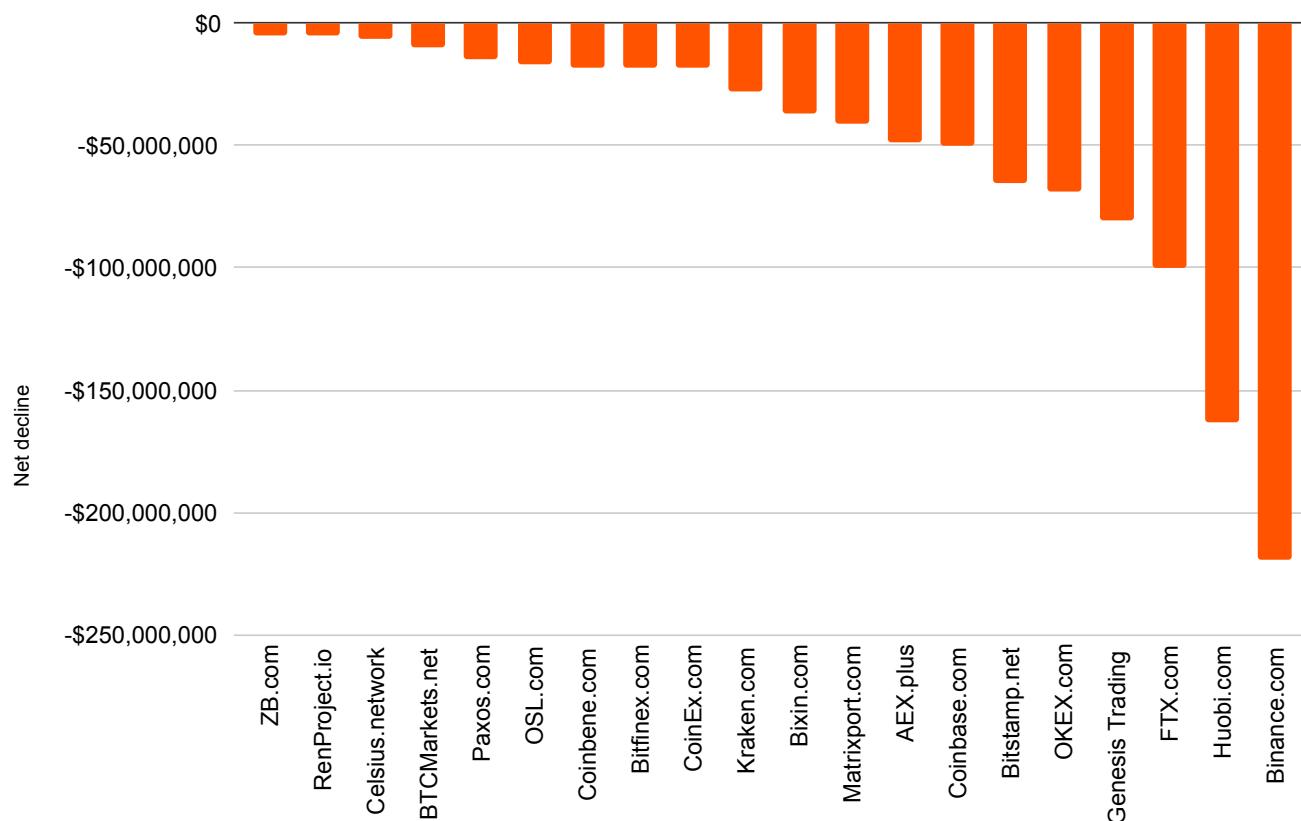


Since the beginning of the year, top 20 mining pools based outside of China have seen their mining proceeds more than double, while those based in China have seen proceeds decline by roughly 50%. Keep in mind, however, that in raw numbers, China-based mining pools together have still mined much more Bitcoin than others, as there are many more of them – 14 of the top 20 are based in China. Still, their revenue has declined significantly while mining pools outside of China have gained.

China-based mining pools have historically been an important source of liquidity for the services to which they send newly-mined cryptocurrency, which also tend to be those popular in China and East Asia generally. One significant knock-on effect of China's mining crackdown is that many of these services appear not to be receiving cryptocurrency they otherwise would have. The chart below shows the 20 services that suffered the biggest drop offs in Bitcoin received from mining pools in June 2021, the month following the crackdown.



Top 20 services with biggest net declines in Bitcoin received from mining pools between May '21 and June '21



Binance suffered the most, with a net decline of over \$200 million worth of Bitcoin received from miners, followed by Huobi, FTX, and Genesis. All of those services, in particular Huobi, are extremely popular in Eastern Asia. The loss of liquidity could account for some of the region's decline in activity.

Of course, mining isn't the only part of China's cryptocurrency economy affected by the crackdown. The government has taken [other actions](#) such as campaigning against cryptocurrency in state-sponsored media, placing official warning messages on cryptocurrency-related apps, and potentially leaning on social media companies to suppress cryptocurrency-related content. These could also contribute to the country's decline in cryptocurrency activity.



Why is China launching a digital yuan?

In April 2020, China **began testing** the digital yuan, becoming one of the first governments to experiment with a Central Bank Digital Currency (CBDC). CBDCs like the digital yuan are government-issued, blockchain-based versions of a country's national currency. Like most conventional cryptocurrencies, CBDCs would provide greater transparency into how people spend in the aggregate, as the currency's blockchain would act as a permanent, immutable ledger of all transactions. China is rolling out the digital yuan through state-owned banks and digital payment apps like WeChat Pay and AliPay, which are much more **widely used** in China than their American or European counterparts. Digital yuan trials **are ongoing**, with many pointing to Beijing's 2022 Winter Olympics as the government's occasion to unveil its new CBDC to the world, as it plans to issue the digital yuan to visiting athletes. As of July 2021, trial users have created more than **20 million digital yuan wallets** and executed **over \$5 billion** worth of transactions with the new CBDC.

CBDCs have far-reaching implications for both domestic and foreign policy, especially when rolled out by an authoritarian regime that sees itself as a growing economic rival to the United States. We spoke to Dovey Wan, a founder of cryptocurrency investment firm **Primitive Ventures** and noted expert on the Asian cryptocurrency market, and asked her what she believes the CCP hopes to achieve with the digital yuan. She outlined two key goals.

The first is relatively benign: more granular control over the economy. Under the fractional reserve banking system all countries use today, central bankers can only interact with the economy indirectly, such as by changing interest rates. If the monetary supply existed entirely in CBDC form, with all transactions recorded on one central ledger, central bankers could exert more control over financial flows. "It would make monetary policy programmable," says Wan. "For instance, if the government wanted to cool down the stock market, they could write a few lines of code and stop money from flowing into the stock market." In addition, Wan pointed out that the digital yuan is meant to be easier for older citizens to use than the mobile payment apps that are so common now, and also cited the CBDC's potential to make transactions cheaper for merchants by eliminating the need for third party transaction settlement.

However, it's easy to see how a centralized, government-owned ledger of citizens' transactions could become a tool for financial surveillance in the CCP's hands. While Chinese citizens don't have financial privacy under their current banking system, the digital yuan would give the government the ability to exclude individuals or businesses from the financial system for any infraction. While it's unclear if or how much the CCP



would elect to use this ability, the possibility of a "financial death sentence" would exist under the digital yuan system.

We also spoke with Yaya Fanusie, an Adjunct Senior Fellow at the Center for a New American Security (CNAS) who has studied the digital yuan and [published a report](#) on the project in January 2021. Fanusie largely agreed that the digital yuan could be a tool of authoritarianism, but put more emphasis on its role in the CCP's broader desire to collect as much data as possible on citizens. "There's never been a centralized database for a government to access records of all citizens' transactions," says Fanusie. "Yes, China can request that data from mobile payment apps, but that takes time, and sometimes they push back."

He also outlined ways financial data generated by the digital yuan could be combined with other types of data that feed into China's controversial [social credit system](#). "The CCP recently released a notice that Mongolian families who didn't send their children to state-mandated schools would be put on a blacklist. The digital yuan would allow the government to combine financial data with lists like that." Fanusie mentioned that the CCP has already voiced its intention to use the digital yuan to monitor for corruption in the government. While that sounds like a reasonable goal, one can easily imagine how those financial surveillance capabilities could be turned on ordinary citizens.

Is the digital yuan a threat to the U.S. dollar?

Many have speculated that China intends to promote international usage of the digital yuan in order to reduce reliance on the U.S. dollar and the SWIFT transaction system. In fact, a [video](#) published by the state-owned China Global Television Network outlines what this might look like, promoting the digital yuan as a way to circumvent sanctions and decrease American influence over world trade.



The digital RMB provides an independent alternative
数字人民币为跨境支付业务提供了独立的替代方案

Source: CGTV

We asked Yaya Fanusie if he sees the digital yuan as a threat to the U.S. dollar. He says that in the short term, this is unlikely, as he believes it will be some time before the CCP promotes usage of the digital yuan outside of China. But in the long term, he believes that the digital yuan, as well as future CBDCs rolled out by other countries, could hurt the dollar's status in the world financial system. "I think they'll try to make arrangements with other countries where they enable CBDC-to-CBDC exchange. Think of it as an atomic swap of CBDCs." Under such an arrangement, somebody in China could send digital yuan to somebody in Malaysia, with a currency exchange automatically taking place in between such that the Malaysian user receives digital Malaysian ringgits without either party having to touch their non-native currency. These transactions wouldn't rely on the SWIFT system. If they became the norm, there would be less need for people outside of the U.S. to hold U.S. dollars. "This isn't a risk for 2022, but probably more for 2032 and beyond," says Fanusie.

In the long term, Fanusie also sees the digital yuan as part of a larger war of data proficiency in which the U.S. risks falling behind. "So far, China has been more innovative than the U.S. with fintech. If that happens with blockchain technology too, the U.S. economy risks missing out on the next wave of data-driven innovation," says Fanusie. It's hard to imagine today what exactly those innovations will be, but they



could be crucial given the massive amounts of data CBDCs would generate, and how governments could use that data to manage their economies more efficiently.

However, Fanusie doesn't think U.S. policymakers should simply create their own CBDC in order to mitigate this risk. While a CBDC project shouldn't be ruled out, Fanusie believes the U.S. needs to think beyond a digital dollar and promote more innovation in blockchain, fintech, and monetary policy across the board, as it's done in the past. "Our federal reserve system is innovative. It's not like other central banks, because the U.S. has a specific character and historical experience that led it to resist a centralized bank for over 100 years," says Fanusie. In other words, he believes that innovation needs to unfold organically rather than be lifted from what other countries are doing. One way Fanusie suggests fostering that innovation is for the U.S. to partner with universities to create a sandbox for the development of blockchain projects. "That's how the U.S. led the development of the internet. There was a directive for universities to create a computer networking system the military could use. That infrastructure was then leveraged for much broader civilian use and unlocked a revolution in business innovation."

One thing is clear: China appears intent on developing a digital yuan for immediate domestic use, and possibly future international use. Improved monetary policy and financial surveillance of Chinese citizens appear to be the project's short-term goals, but in the long term, the proliferation of the digital yuan alongside other CBDCs could compromise the U.S. dollar's status as the world's reserve currency. Any U.S. response to the project or launch of an analogous digital dollar should consider the question of financial data, and how it can be used to build a stronger economy and maintain the country's position in economic competition, while still respecting citizens' privacy.

Middle East

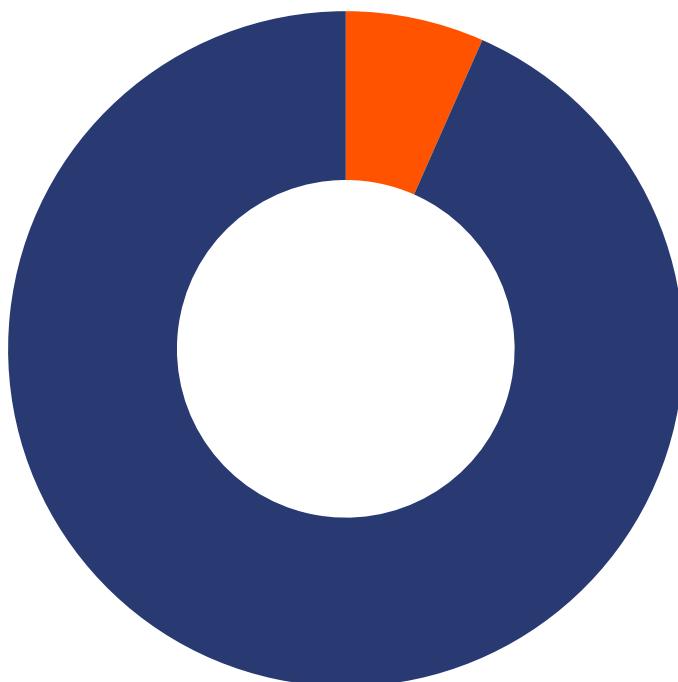




Middle East's cryptocurrency activity summarized

Cryptocurrency value received by the Middle East

| Compared to rest of world, Jul '20 - Jun '21



7%

share of global
value received by
Middle East

Cryptocurrency value received by the Middle East | Jul '20 - Jun '21

\$80,000,000,000

12-month total: \$272 B

\$60,000,000,000

\$40,000,000,000

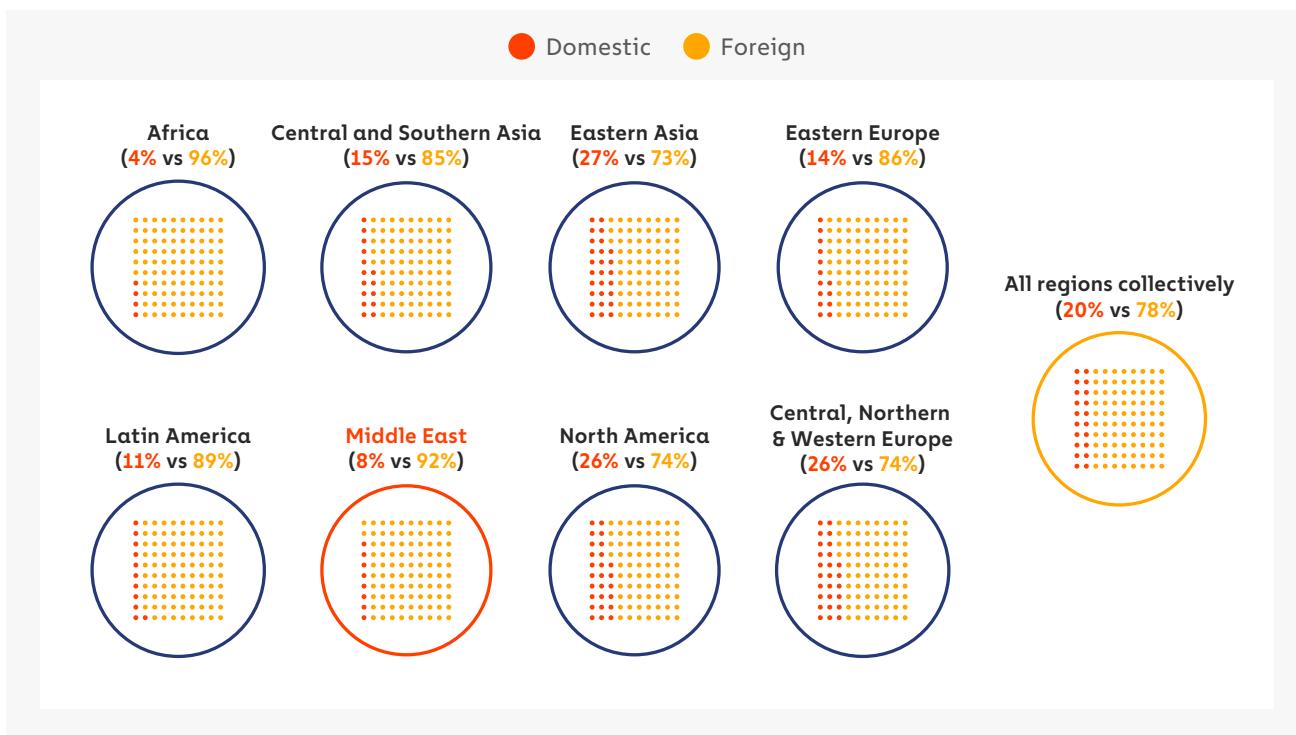
\$20,000,000,000

\$0

Jul 2020 Sep 2020 Nov 2020 Jan 2021 Mar 2021 May 2021



Value received by origin: Domestic vs. foreign | Jul '19 - Jun '20



Middle East's Cryptocurrency Market Grows 1500% as Savings Preservation and Remittances Drive Adoption

The Middle East is the second-smallest cryptocurrency economy we study, having received \$271.7 billion worth of cryptocurrency between July 2020 and June 2021, which represents 6.6% of global activity. However, while that total is low compared to other regions, it represents nearly a 1500% increase over the Middle East's total activity the previous year, making it one of the fastest-growing markets in the world.

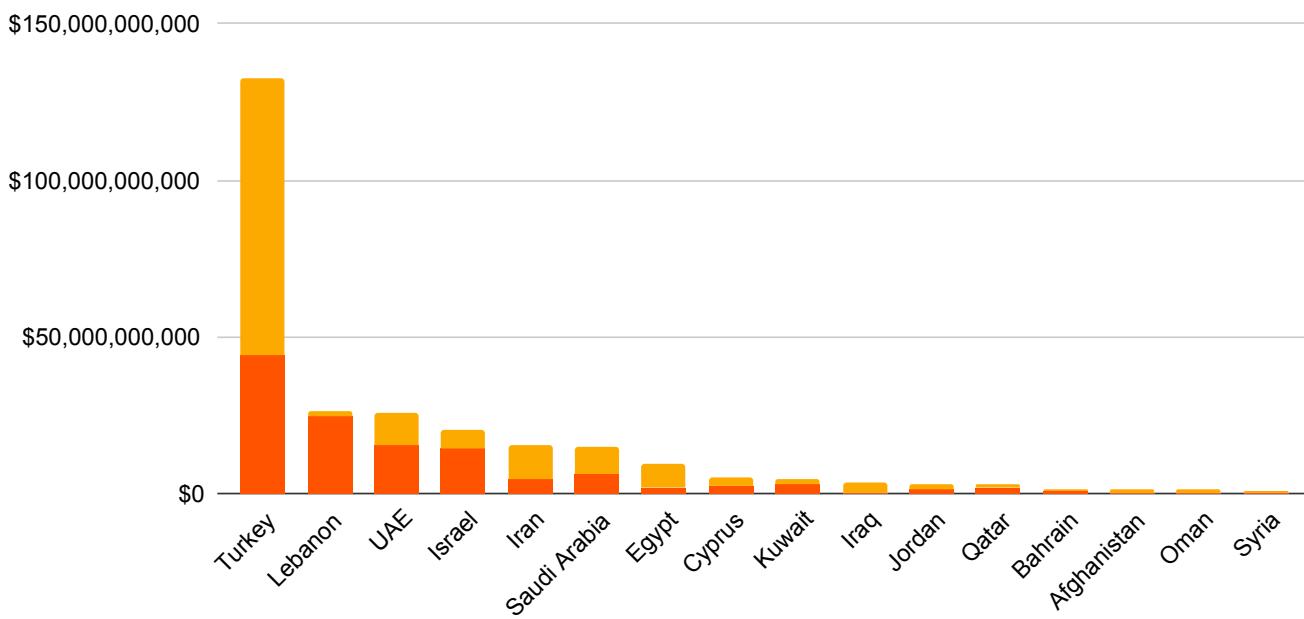
Despite that growth, Middle Eastern countries show relatively low grassroots adoption. Afghanistan is the highest ranked in the region on our Global Crypto Adoption Index at 20, followed by Turkey at 26. However, Turkey has by far the highest transaction volume in the region at \$132.4 billion during the time period studied.



Middle East's cryptocurrency value received by country

| Jul '20 - Jun '21

DeFi Centralized services



Afghanistan's total transaction value is minuscule in comparison, but because of the country's comparatively low internet using population and purchasing power per capita, that transaction volume represents a much higher-than-expected level of adoption.

We also see big differences between countries in terms of DeFi adoption. 33% of all transaction activity in Turkey, for instance, can be attributed to DeFi platforms, while the figure is as high as 95% in Lebanon and as low as 16% in Iraq. Below, we'll analyze these trends and explore what drives cryptocurrency adoption and usage in the Middle East.

What drives cryptocurrency adoption in the Middle East?

Research suggests that many in the Middle East have turned to cryptocurrency to preserve their savings against currency devaluation, a trend we see in other emerging markets like Africa and Latin America. *Reuters* covered this phenomenon in Turkey last March, at a time when the Turkish lira's value had fallen 13% following President Tayyip Erdogan's decision to fire the governor of Turkey's Central Bank. One Turkish cryptocurrency trader, Izzet Emre Ari, put his calculus bluntly: "If my savings are in lira,

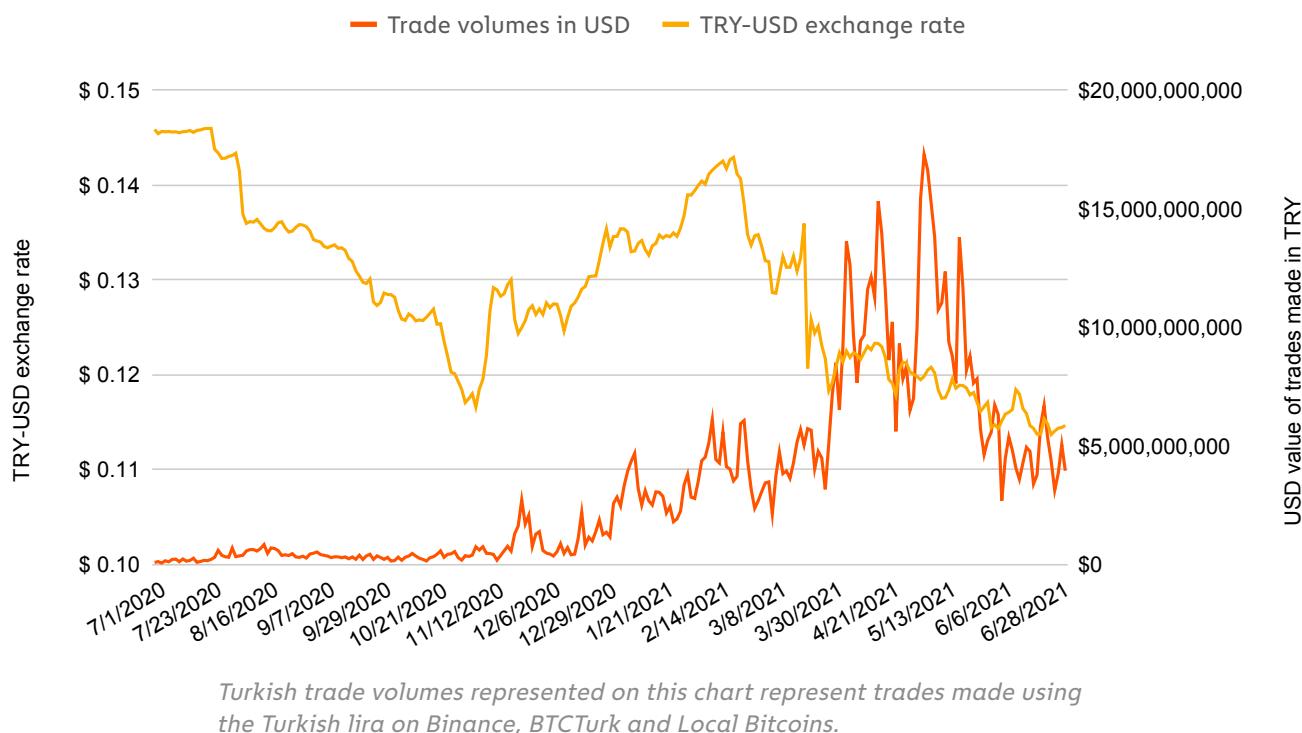


they are losing value." Currency devaluation unfortunately is nothing new to Turkey — later in the article, Ozgur Guneri, CEO of popular Turkish cryptocurrency exchange BtcTurk, said that previous generations of Turks have mitigated the issue by investing in more stable assets like gold and real estate. Cryptocurrency appears to be the next alternative investment fulfilling the need for stability.

Our data suggests the article's findings are likely true. The chart below shows the Turkish lira's exchange rate with the US dollar compared with the lira's trade volume on exchanges between July 2020 and June 2021.

Turkish trade volumes in TRY vs. TRY-USD exchange rate

| Jul '20 - Jun '21



In statistical terms, we see a highly significant relationship between lira devaluation and lira trading on cryptocurrency exchanges, but not a strong enough one to conclude there's a causal relationship. The relationship between the two was strongest in the early part of the year, when Turkish users were much more likely to trade cryptocurrency when the lira lost value. However, this relationship dissipated in the latter part of the year when several cryptocurrencies — especially Bitcoin — saw prices decline. This could suggest that Turkish users see cryptocurrency as a more viable savings mechanism when its price is trending upward.

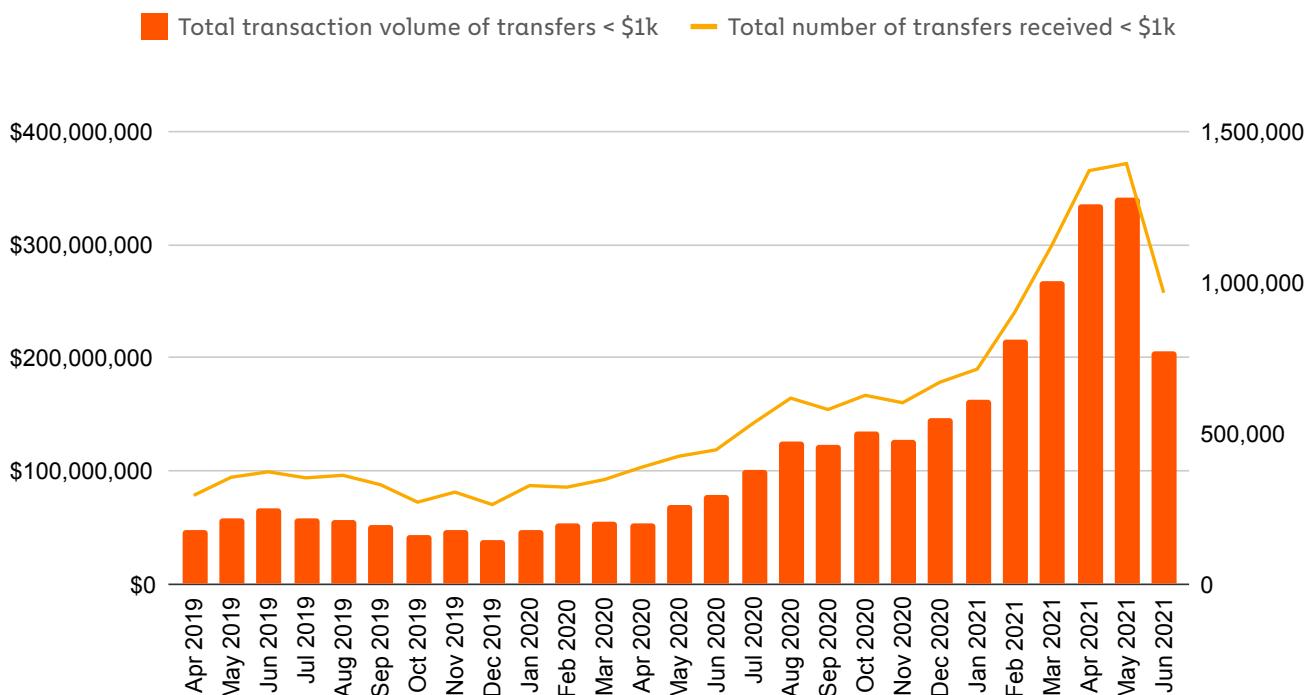


A recent [CNBC article](#) suggests that many in Afghanistan are turning to cryptocurrency for savings preservation amongst similar economic uncertainty, exacerbated by a recent run on banks following the Taliban's return to power and resultant chaos in Afghanistan's Central Bank. However, there isn't enough data available on trades involving the Afghani dollar to fully investigate the extent of this activity.

Remittances are another prevalent use case for cryptocurrency in many Middle Eastern countries, a trend we observe in other emerging markets. According to the [World Bank](#), remittances make up 2.4% of total GDP for the Middle East, though the figure is much higher for some countries like Lebanon where they represent 18.9% of GDP, and Egypt, where they represent 8.2%. Many of these remittances come from other, wealthier countries in the Middle East, like Saudi Arabia and the UAE. Both countries employ guest workers from all over the world, and as a result are the [second and third-biggest senders](#) of remittances in the world. Middle Eastern countries with significant numbers of guest workers in those countries include Egypt, Syria, and Afghanistan, among others.

The graph below shows the monthly growth of cryptocurrency payments below \$1,000 in both volume and number of transfers, which we consider the upper boundary of estimated remittance payments sent to Middle Eastern countries.

Estimated possible cryptocurrency remittance payments in the Middle East | Apr '19 - Jun '21

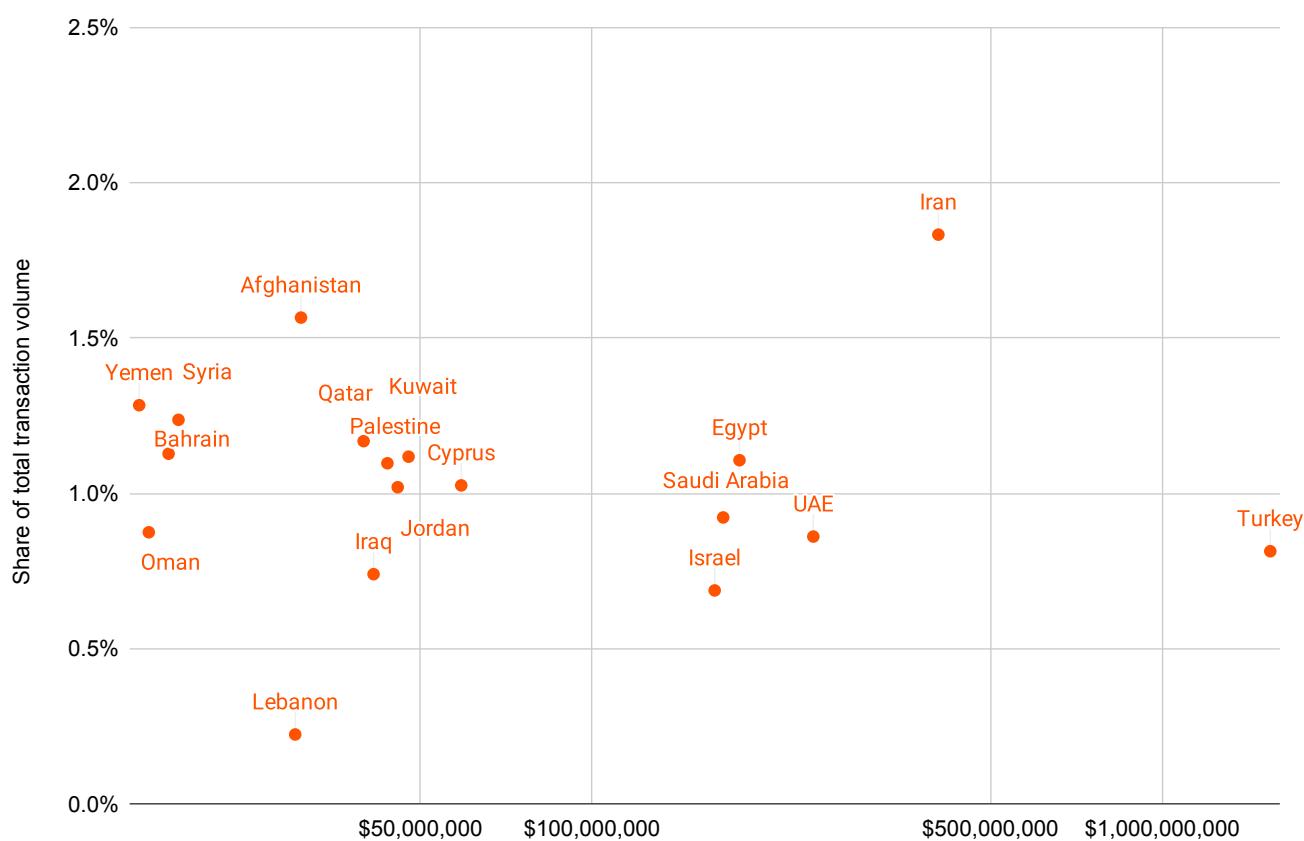




The data suggests that remittance payments are likely rising in the region. Who are those remittances going to? The graph below shows which countries are receiving the highest share of all cryptocurrency received in remittance-sized payments under \$1,000 in value.

Middle East total value received in transfers under \$1k and share of total transaction volume made up of transfers under \$1k

| Apr '19 - June '21



Several countries that have historically relied heavily on fiat remittances lead the way in share of cryptocurrency activity made up of remittance-sized payments, including Egypt, Syria, and Afghanistan. The data suggests that some remittance activity for those countries may be shifting to cryptocurrency.



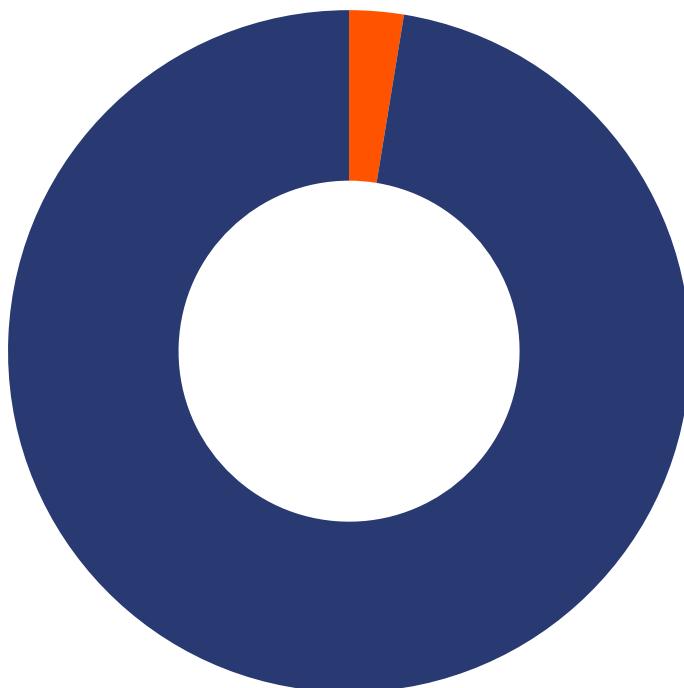
Africa



Africa's cryptocurrency activity summarized

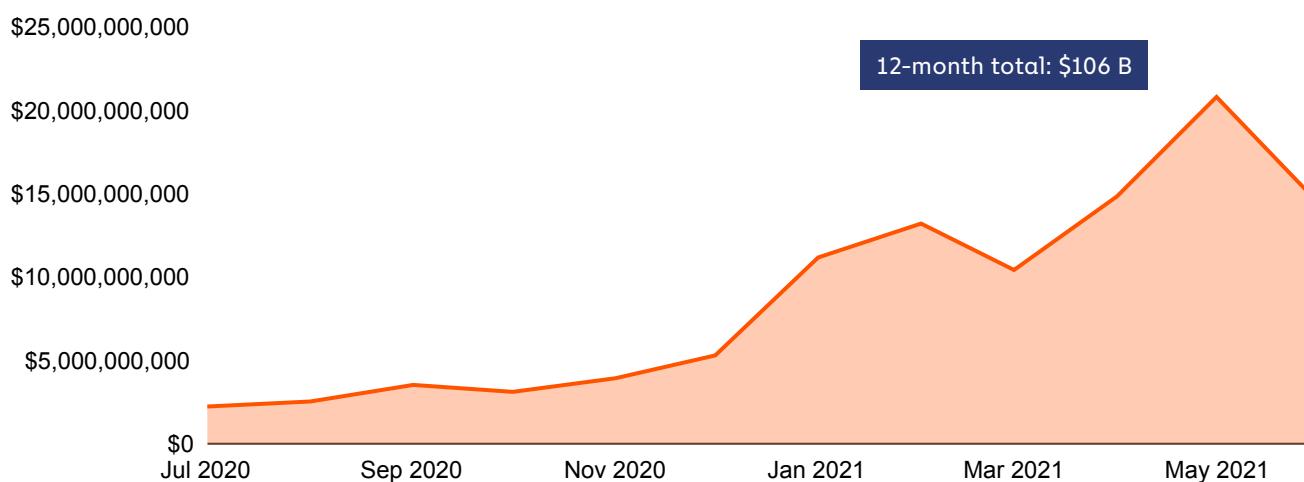
Cryptocurrency value received by Africa

| Compared to rest of world, Jul '20 - Jun '21



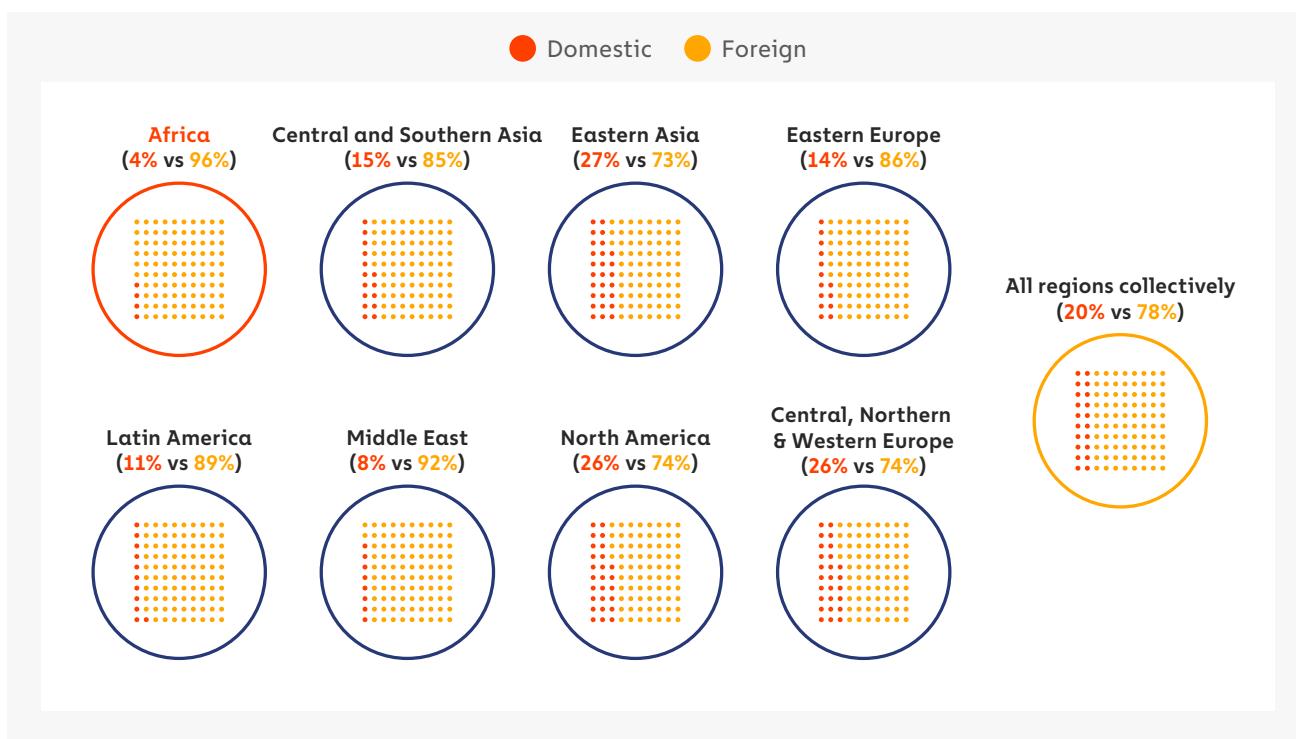
3%
share of global
value received
by Africa

Cryptocurrency value received by Africa | Jul '20 - Jun '21

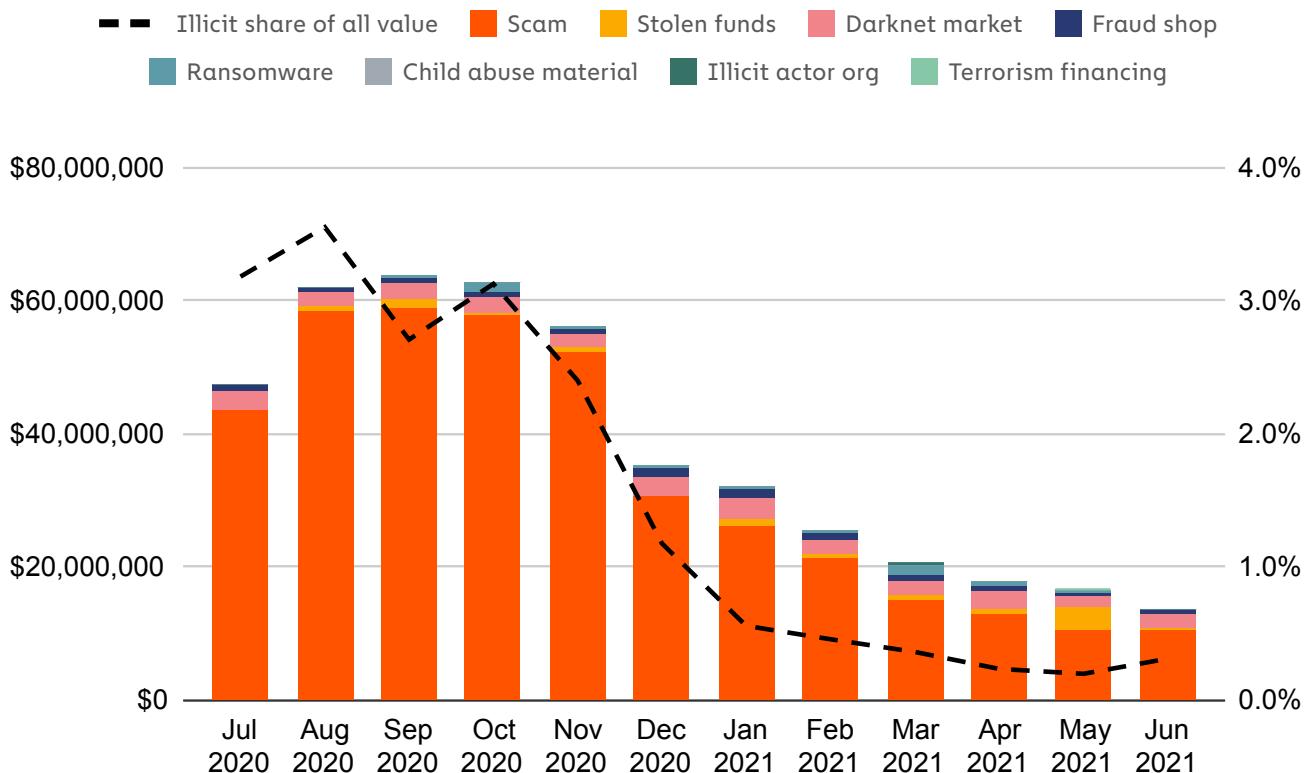




Value received by origin: Domestic vs. foreign | Jul '19 - Jun '20

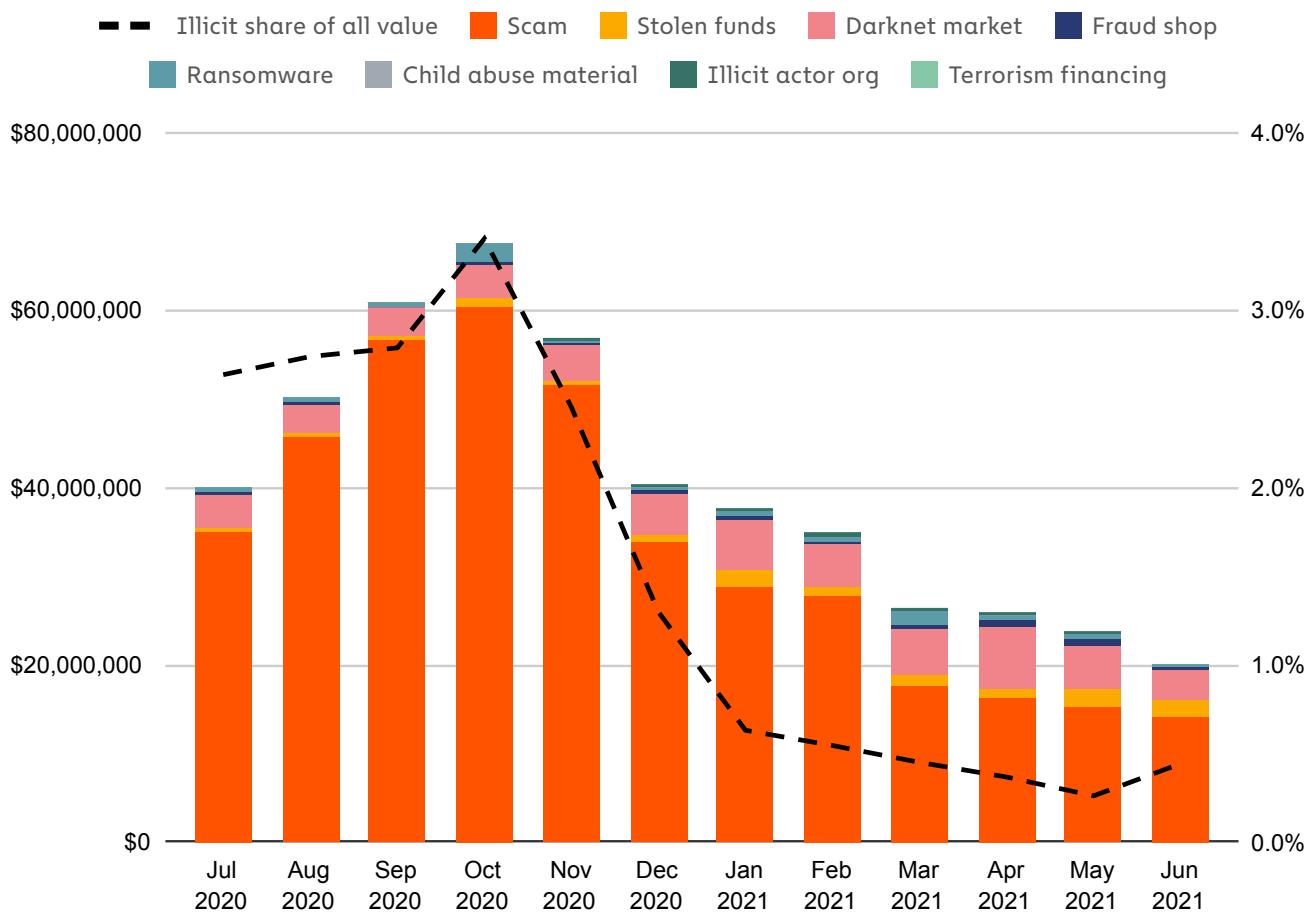


Value sent from Africa to illicit addresses | Jul '20- June '21





Value received by Africa from illicit addresses | Jul '20 - June '21



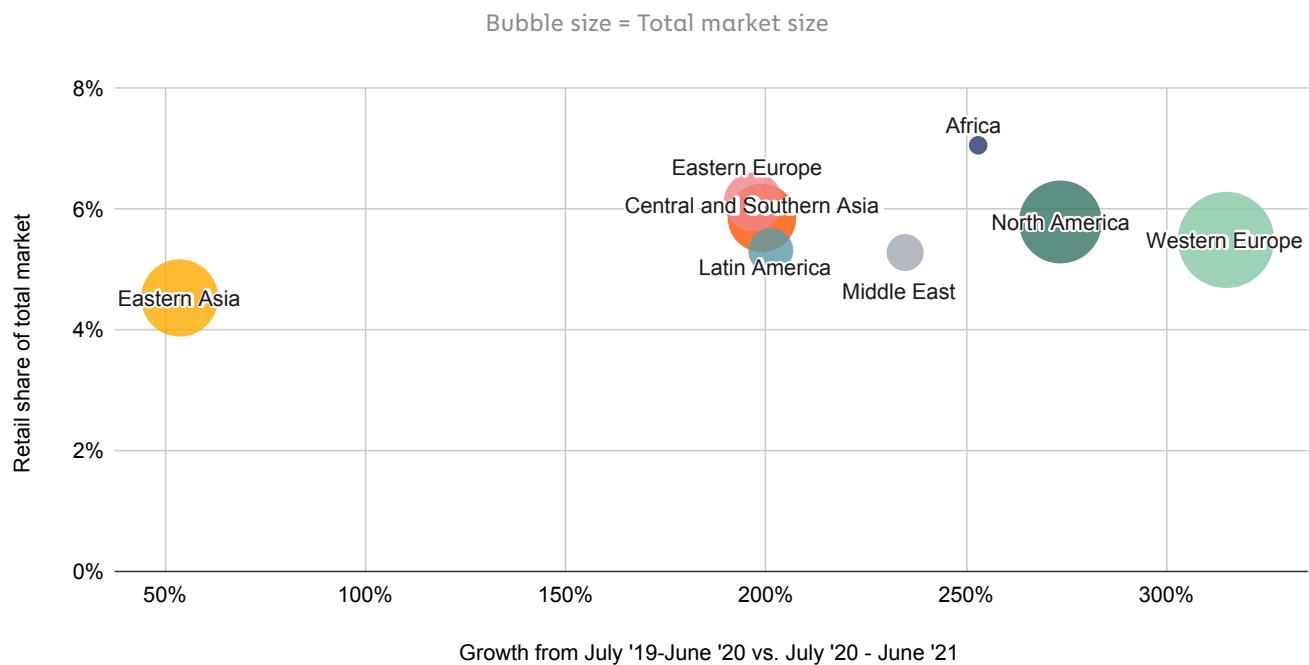
P2P Platforms, Remittances, and Savings Needs Power Africa's Grassroots Cryptocurrency Adoption

Africa has the smallest cryptocurrency economy of any region we study, having received \$105.6 billion worth of cryptocurrency between July 2020 and June 2021, but despite that it's also one of the most dynamic and exciting.

Not only has Africa's cryptocurrency market grown over 1200% by value received in the last year, but the region also has some of the highest grassroots adoption in the world, with Kenya, Nigeria, South Africa, and Tanzania all ranking in the top 20 of our [Global Crypto Adoption Index](#). In addition to being the third-fastest growing cryptocurrency economy, Africa also has a bigger share of its overall transaction volume made up of retail-sized transfers than any other region at just over 7%, versus the global average of 5.5%

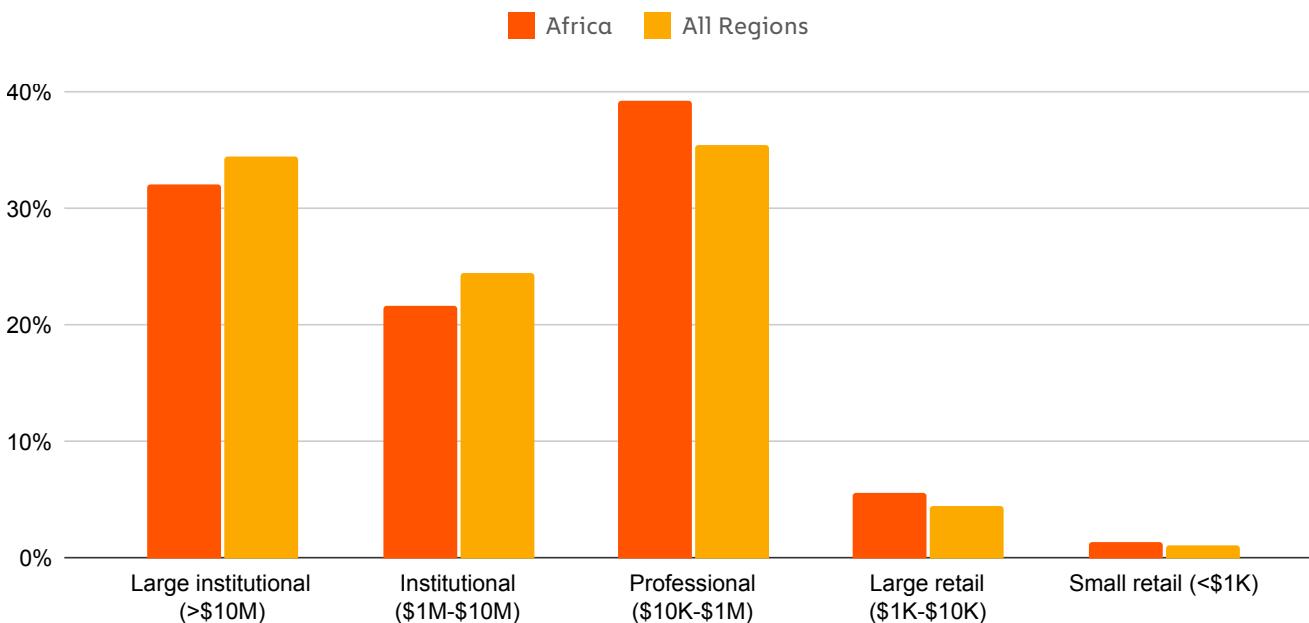


Market growth vs. Retail share of market vs. Total market size by region | Jul '20 - Jun '21



Drilling down further, Africa also sees a bigger share of its transaction volume made up of professional, large retail, and small retail-sized payments than the global average.

Transaction volume share by transfer size: Africa vs. All regions | July '20 - June '21





These numbers are a big part of why so many African countries rank high on our adoption index, as smaller transfer sizes suggest higher grassroots adoption amongst everyday users.

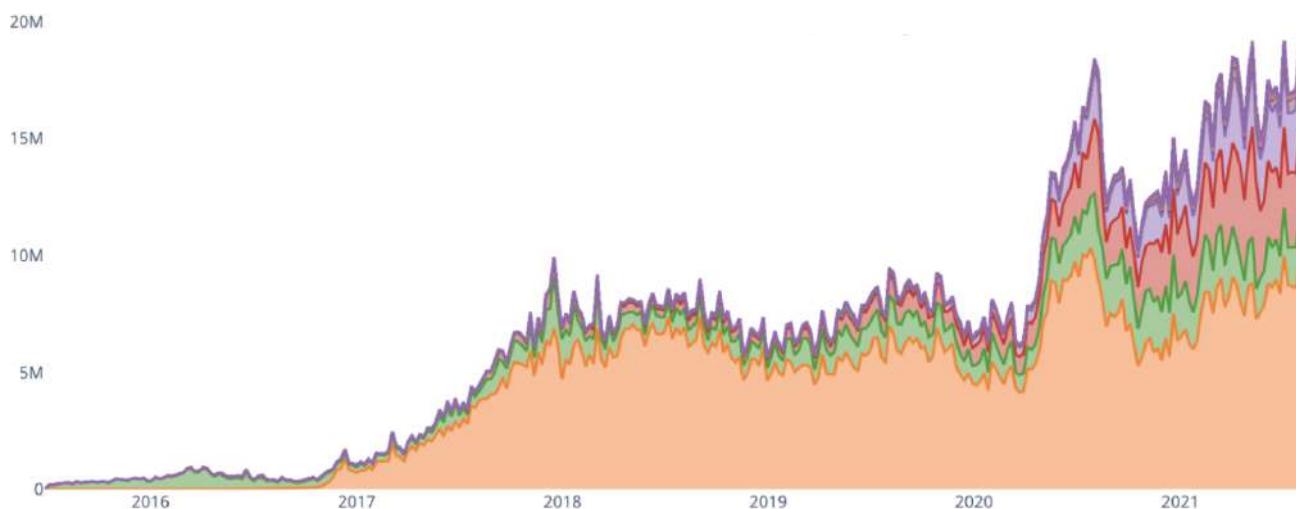
As we'll explore, P2P platforms are especially popular in Africa relative to other regions, with many African cryptocurrency users relying on P2P platforms not only as an on-ramp into cryptocurrency, but as a tool for sending remittances and engaging in commercial transactions. Cross-region transfers also make up a bigger share of Africa's cryptocurrency market than any other region at 96% of all transaction volume, versus 78% for all regions combined. Below, we'll explore the unique use cases and needs driving these trends in Africa.

What drives cryptocurrency usage in Africa?

One important trend in Africa has been the continued growth of P2P cryptocurrency exchanges over the last year. The chart below shows how trading volumes for several African currencies have grown on Local Bitcoins and Paxful – the world's two biggest P2P platforms by transaction volume – since 2016.

African trade volume by country on Local Bitcoins and Paxful | Jul '20 - Jun '21

Order book trading volumes for Africa and LocalBitcoins and Paxful in USD from usefultulips.org

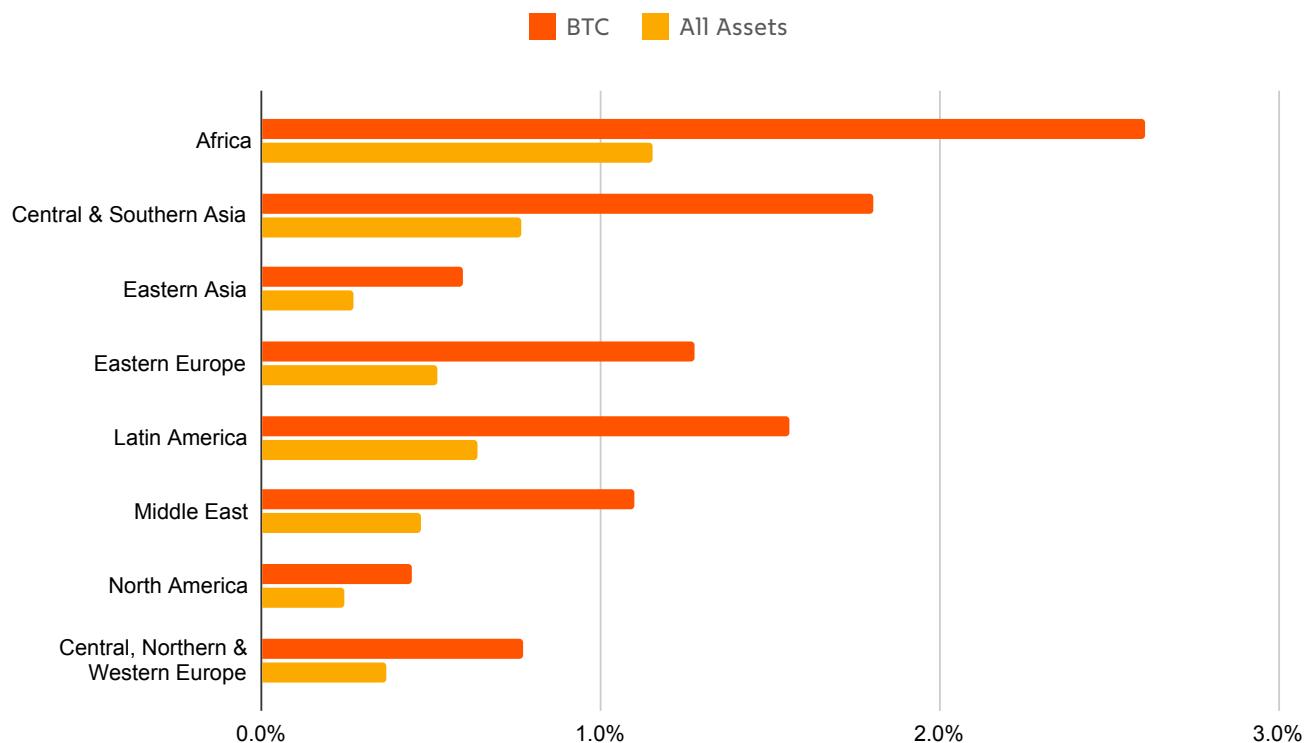


The above chart comes from Matt Ahlborg's [Useful Tulips](#) and is based on Local Bitcoins and Paxful order book data.



Thanks in part to this recent growth, no region uses P2P platforms at a higher rate than African cryptocurrency users, as they account for 1.2% of all African transaction volume and 2.6% of all volume for Bitcoin specifically.

P2P share of all transaction volume by country | July '20 - June '21



Why are P2P platforms so popular in Africa? One reason is that some countries, such as [Nigeria](#) and [Kenya](#), have made it difficult for customers to send money to cryptocurrency businesses from their bank accounts, either by passing laws or by advising banks not to allow these transfers. However, this isn't an issue for P2P platforms, which are non-custodial and let customers trade cash for cryptocurrency amongst themselves. From there, users can send cryptocurrency to centralized exchanges for more trading options if they so choose. Adedeji Owonibi, CEO and founder of a Nigerian blockchain consultancy company [Convexity](#) and the associated 1st cryptocurrency community Hub [CBHUB](#), told us about how Nigeria's cryptocurrency economy has changed since the country's central bank disallowed banks from facilitating cryptocurrency transactions.

"Binance used to be the most popular platform by far, but after the central bank's sanction, many are moving to P2P platforms, like Paxful and Remitano" he said. However, according to Owonibi, lots of P2P activity is taking place over informal group chats on messaging apps rather than on conventional platforms. "Informal P2P trading is huge in Nigeria on Whatsapp and Telegram. I've seen young people and businessmen

in these groups carry out transactions for several millions with popular OTC merchants." Keep in mind it's not possible to capture the activity of these informal P2P trades in our dataset, so we have to recognize that the rate of P2P activity in Africa is even greater than the chart above would indicate.

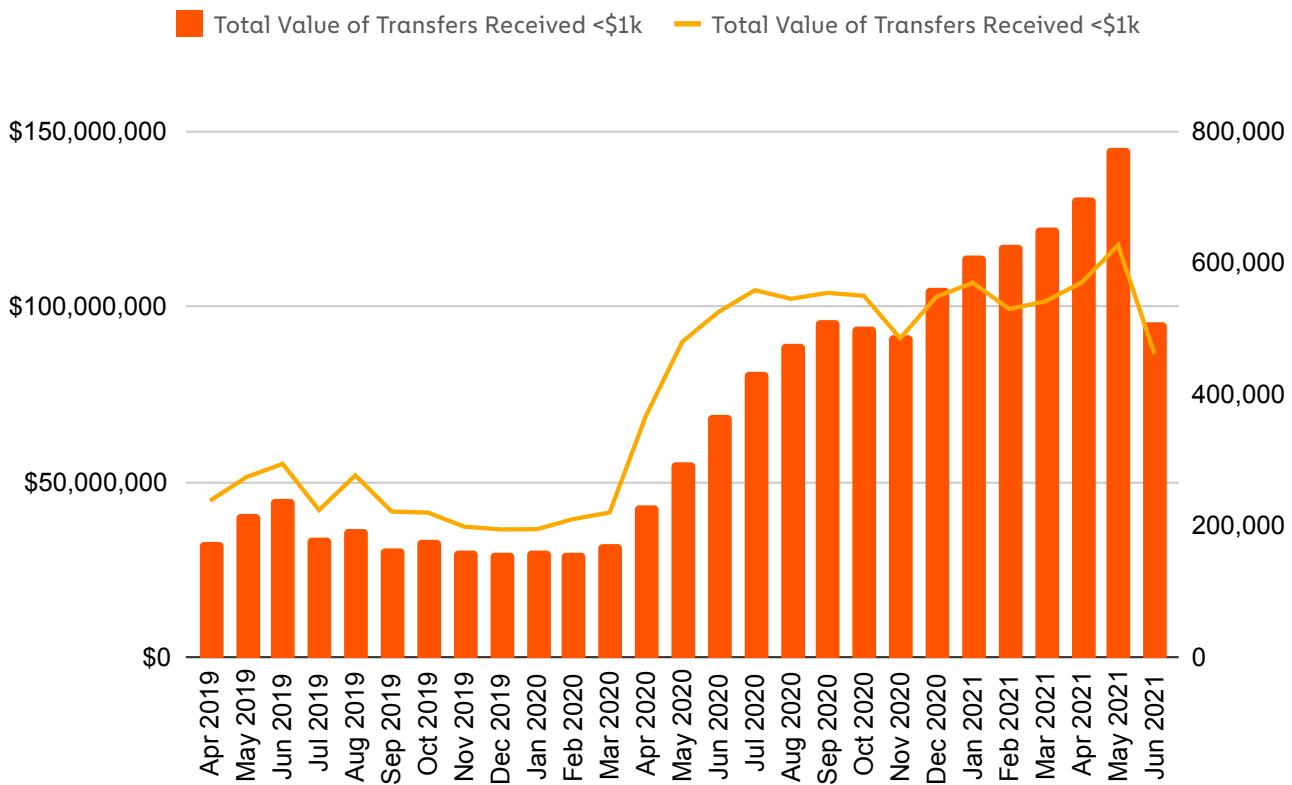
Artur Schaback, COO and cofounder of popular P2P exchange Paxful, confirmed that he's seeing similar trends, and told us that his platform has seen 57% growth in Nigeria over the last year and 300% growth in Kenya. "In many of these frontier markets, people can't send money from their bank accounts to a centralized exchange, so they rely on P2P." He also highlighted the importance of UI improvements by P2P platforms to attracting new users in these markets over the past year. "Crypto products are getting more user friendly, so they can onboard more people into the crypto economy and help them see that crypto is faster, cheaper, and more convenient."

What needs is cryptocurrency fulfilling for African users once they've acquired it using P2P platforms? Remittances is one. In 2019, [Sub-Saharan Africa received](#) at least \$48 billion worth of estimated remittances, about half of which went to Nigeria, according to a Brookings Institute study. While most of that money is moving to Africa from Europe and North America, there's also a large volume of remittance payments among African countries. However, some African countries have implemented strict controls on how much currency can be moved abroad. In Nigeria, for example, some banks limit customers to sending as little as \$500 out of the country at a time. Schaback told us that this has created another use case for cryptocurrency. "If the government is strictly limiting the amount of money people can send abroad, they'll get creative and turn to cryptocurrency," he told us.

Blockchain analysis confirms that cryptocurrency-based remittance payments are likely increasing in Africa. The graph below shows the monthly growth of cryptocurrency payments below \$1,000 in both volume and number of transfers, which we consider the upper boundary of estimated remittance payments sent to African countries.



Estimated possible cryptocurrency remittance payments in Africa | Apr '19 - Jun '21



Possible cryptocurrency remittance payments have grown consistently since April 2020, save for a recent drop in June.

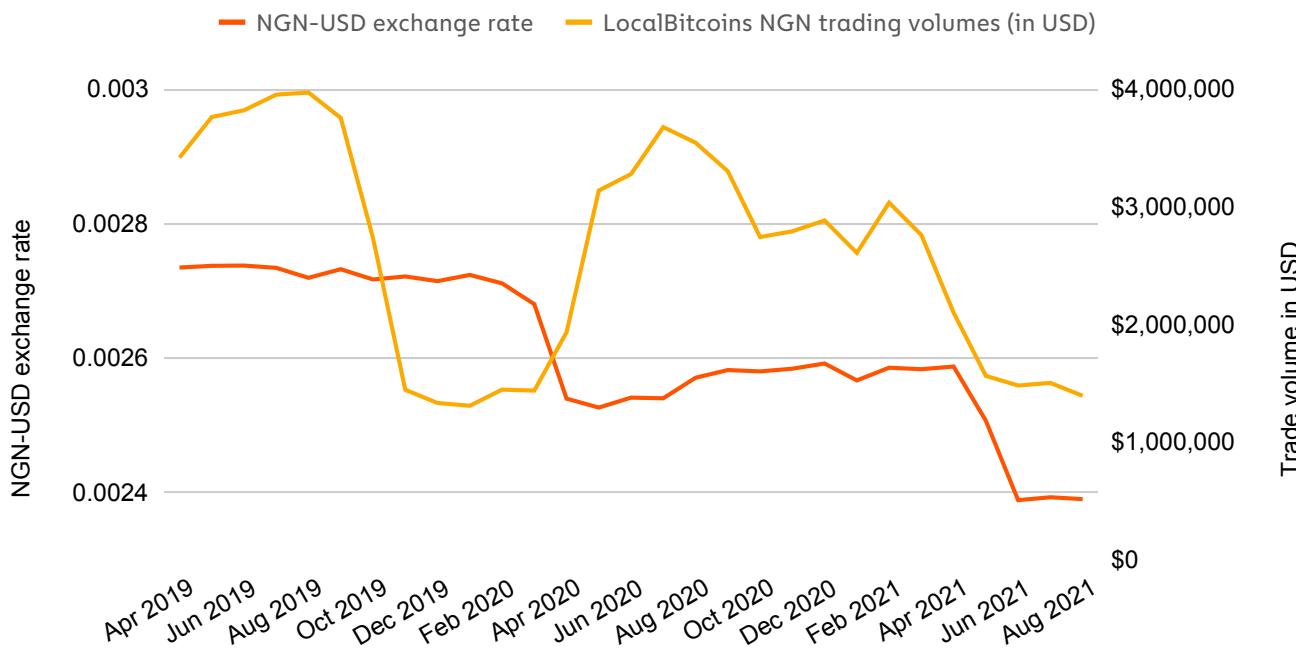
Many African users also rely on cryptocurrency transactions for international commercial transactions. Both Owonibi and Schaback told us about several examples of African business owners using cryptocurrency to pay for goods to import and sell at home. "If you're working with a partner in China to import goods to sell in Nigeria or Kenya, it can be hard to send enough fiat currency to China to complete your purchases," said Schaback. "It's often easier to just buy Bitcoin locally on a P2P exchange and then send it to your partner."

Finally, many African users are turning to cryptocurrency to preserve their savings amidst harsh economic conditions. Schaback told us that Paxful's growth accelerated in Nigeria this past year during times of currency devaluation. Our data confirms this as well. The graph below shows the value of the Nigerian naira in U.S. dollars on the left-hand axis compared to naira trading volumes on P2P platforms on the right-hand axis.



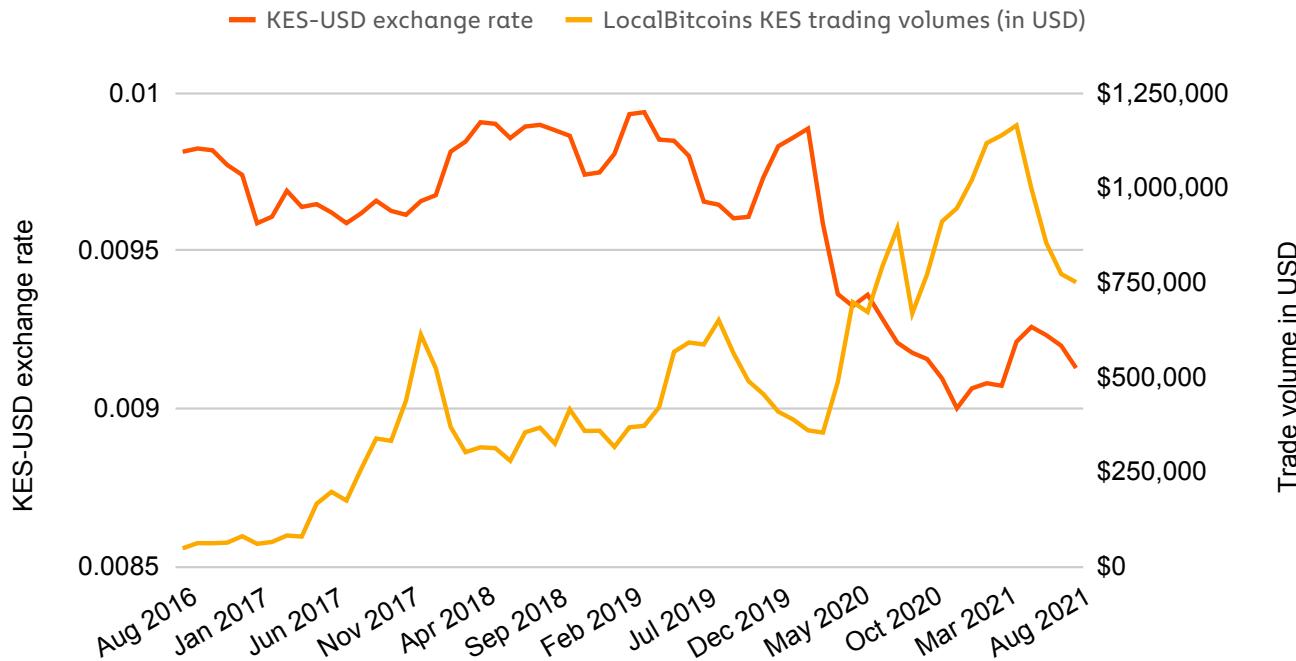
Nigerian naira P2P trading volume vs. Naira-USD exchange rate

| Apr '19 - Jun '21



The data indicates that when the naira's value falls, naira trade volumes increase. We see a similar trend in Kenya as well.

Kenyan shilling P2P trading volume vs. Shilling-USD exchange rate | Apr '19 - Jun '21





Owonibi shed more light on this, and pointed out the nuance in how different socio-economic groups in Nigeria use cryptocurrency in different ways. "I hear many young people say, 'Don't rely on the naira, it's too unstable, put your wealth in stablecoins instead,'" he says. "But that's the middle class move. Richer people who want to make money are going for Bitcoin and other more speculative cryptocurrencies." As Africa's middle class **continues to grow**, it'll be interesting to see how cryptocurrency use cases continue to diverge for groups at different levels of income.

We also may see African governments follow the lead of countries like China and introduce their own central bank digital currencies (CBDCs), meaning blockchain-based versions of their national currency that can be held in and sent from digital wallets. Nigeria has already **announced plans** to launch an e-naira, but it's unclear whether this would solve the problems of citizens turning to cryptocurrency. "Last week in a Clubhouse room of Nigerian crypto users, I asked the group if they would use the e-naira when the central bank rolls it out," Owonibi told us. "The overwhelming majority of attendees said no because they expect it to have the same instability and management issues the naira has today."

While we can't know for sure if users will embrace the e-naira, this anecdote shows that CBDCs may not be a magic bullet for better monetary policy, especially if citizens don't trust them enough to use them. "The only reason to use the e-naira over cryptocurrency would be trust in the government, and that trust has been eroded for many," said Owonibi.

The 2021 Global Crypto Adoption Index: The Full List





The table below displays the full rankings of all countries for our 2021 Global Crypto Adoption Index.

Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Vietnam	1.00	1	4	2	3
India	0.37	2	2	3	72
Pakistan	0.36	3	11	12	8
Ukraine	0.29	4	6	5	40
Kenya	0.28	5	41	28	1
Nigeria	0.26	6	15	10	18
Venezuela	0.25	7	29	22	6
United States	0.22	8	3	4	109
Togo	0.19	9	47	42	2
Argentina	0.19	10	14	17	33
Colombia	0.19	11	27	23	12
Thailand	0.17	12	7	11	76
China	0.16	13	1	1	155
Brazil	0.16	14	5	7	113
Philippines	0.16	15	10	9	80
South Africa	0.14	16	18	16	62
Ghana	0.14	17	32	37	10
Russian Federation	0.14	18	8	6	122
Tanzania	0.13	19	60	45	4
Afghanistan	0.13	20	53	38	7
United Kingdom	0.13	21	12	15	94
Peru	0.11	22	39	39	23



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Malaysia	0.10	23	38	33	28
Morocco	0.10	24	34	35	35
Indonesia	0.10	25	16	14	111
Turkey	0.10	26	9	8	147
Cameroon	0.09	27	86	60	5
Bulgaria	0.09	28	46	41	30
Bangladesh	0.09	29	40	30	54
Nepal	0.09	30	42	46	26
Canada	0.09	31	19	20	103
Congo, The Democratic Republic of the	0.08	32	69	31	31
Belarus	0.08	33	36	40	52
France	0.08	34	17	18	123
Ecuador	0.07	35	59	59	21
Benin	0.07	36	76	75	11
Mozambique	0.07	37	35	62	45
Australia	0.07	38	30	32	98
Hong Kong	0.07	39	37	48	61
Korea, Republic of	0.07	40	13	13	153
Poland	0.07	41	22	25	126
Cambodia	0.07	42	62	53	29
Zambia	0.06	43	66	77	17
Mexico	0.06	44	23	21	133
Algeria	0.06	45	48	36	77



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Netherlands	0.06	46	26	29	115
Chile	0.06	47	54	55	43
Spain	0.06	48	25	27	125
Germany	0.06	49	20	24	143
Moldova, Republic of	0.06	50	57	61	48
Dominican Republic	0.05	51	81	76	25
Bolivia, Plurinational State of	0.05	52	63	83	27
Sri Lanka	0.05	53	74	80	32
Côte d'Ivoire	0.05	54	50	50	73
Iran, Islamic Republic of	0.05	55	33	19	141
Georgia	0.05	56	79	66	38
Portugal	0.05	57	45	47	89
Honduras	0.05	58	24	96	78
Egypt	0.05	59	49	43	97
Czechia	0.05	60	44	44	106
Zimbabwe	0.04	61	113	87	9
Serbia	0.04	62	65	51	70
Tunisia	0.04	63	90	68	44
Romania	0.04	64	58	49	83
Uganda	0.04	65	99	81	34
Madagascar	0.04	66	97	64	50
Slovakia	0.04	67	51	54	86
Lebanon	0.04	68	21	109	95
Rwanda	0.04	69	106	110	13



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Kyrgyzstan	0.04	70	55	57	92
Belgium	0.04	71	56	52	100
Switzerland	0.04	72	43	56	112
Sweden	0.04	73	78	73	66
Latvia	0.04	74	92	82	56
Costa Rica	0.04	75	85	106	36
Mauritius	0.04	76	103	115	16
Estonia	0.03	77	100	92	46
Lao People's Democratic Republic	0.03	78	93	91	53
Italy	0.03	79	31	34	151
Singapore	0.03	80	73	74	79
Jamaica	0.03	81	110	111	15
Japan	0.03	82	28	26	158
Guatemala	0.03	83	94	85	64
Panama	0.03	84	102	102	47
Croatia	0.03	85	77	67	96
Slovenia	0.03	86	70	71	99
Finland	0.03	87	68	72	101
Norway	0.03	88	71	79	93
El Salvador	0.03	89	105	101	49
Mongolia	0.03	90	95	90	68
Greece	0.03	91	61	63	121
Lithuania	0.03	92	101	89	67
Senegal	0.03	93	111	100	39



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Albania	0.03	94	83	103	71
Uzbekistan	0.03	95	52	58	146
New Zealand	0.02	96	88	95	85
Jordan	0.02	97	91	84	91
Austria	0.02	98	67	65	130
Israel	0.02	99	64	86	114
United Arab Emirates	0.02	100	82	88	104
Azerbaijan	0.02	101	96	69	110
Hungary	0.02	102	72	78	128
Kazakhstan	0.02	103	75	70	138
Namibia	0.02	104	124	127	14
Uruguay	0.02	105	117	116	42
Syrian Arab Republic	0.02	106	108	93	87
Armenia	0.02	107	107	105	81
Libya	0.02	108	112	118	59
Denmark	0.02	109	89	99	119
Nicaragua	0.02	110	120	114	55
Cyprus	0.02	111	114	119	63
Ethiopia	0.02	112	115	104	84
Saudi Arabia	0.02	113	87	94	135
Bosnia and Herzegovina	0.02	114	116	113	69
Mali	0.02	115	129	123	37
Myanmar	0.02	116	104	97	129
Angola	0.02	117	130	122	41



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Ireland	0.01	118	98	108	132
Puerto Rico	0.01	119	80	117	134
Haiti	0.01	120	122	121	74
Iraq	0.01	121	84	98	150
Paraguay	0.01	122	119	124	75
North Macedonia	0.01	123	118	112	102
Barbados	0.01	124	135	134	24
Trinidad and Tobago	0.01	125	126	131	57
Malta	0.01	126	109	128	105
Seychelles	0.01	127	121	143	51
Bahamas	0.01	128	131	132	60
Botswana	0.01	129	143	138	22
Montenegro	0.01	130	128	129	90
Burkina Faso	0.01	131	125	120	139
Kuwait	0.01	132	123	126	142
Tajikistan	0.01	133	133	130	124
Malawi	0.01	134	151	145	20
Cuba	0.01	135	127	125	148
Monaco	0.01	136	147	152	19
Oman	0.01	137	134	135	117
Belize	0.01	138	140	148	58
French Polynesia	0.01	139	136	133	118
Turkmenistan	0.00	140	132	107	156
Qatar	0.00	141	139	136	120



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Luxembourg	0.00	142	137	137	140
Bahrain	0.00	143	138	140	127
Maldives	0.00	144	146	146	88
Suriname	0.00	145	142	142	107
Fiji	0.00	146	153	150	65
Iceland	0.00	147	144	144	145
Macao	0.00	148	148	139	144
Cabo Verde	0.00	149	145	147	136
Gabon	0.00	150	149	149	116
Papua New Guinea	0.00	151	150	151	82
New Caledonia	0.00	152	141	141	152
Guyana	0.00	153	156	155	108
Virgin Islands, U.S.	0.00	154	154	153	131
Brunei Darussalam	0.00	155	157	154	137
Bermuda	0.00	156	155	156	154
Cayman Islands	0.00	157	152	157	149

The 2021 DeFi Adoption Index: The Full List





The table below displays the full rankings of all countries for our 2021 DeFi Adoption Index.

Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
United States	1.00	1	3	47	4
Vietnam	0.82	2	4	64	3
Thailand	0.68	3	5	46	5
China	0.62	4	2	113	2
United Kingdom	0.60	5	9	40	6
India	0.59	6	1	120	1
Netherlands	0.55	7	24	11	18
Canada	0.52	8	17	30	15
Ukraine	0.49	9	11	50	7
Poland	0.46	10	18	36	17
France	0.46	11	14	44	16
Australia	0.41	12	27	26	23
Turkey	0.40	13	13	61	14
Switzerland	0.38	14	31	8	34
Russian Federation	0.36	15	10	77	12
Argentina	0.34	16	12	65	21
Brazil	0.32	17	6	110	13
Portugal	0.31	18	34	22	33
Hong Kong	0.30	19	33	14	47
Togo	0.30	20	32	34	29
Germany	0.29	21	23	59	22
Philippines	0.29	22	16	99	9



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
Pakistan	0.28	23	20	100	10
Bulgaria	0.28	24	40	19	37
Spain	0.27	25	26	56	27
South Africa	0.27	26	21	78	19
Indonesia	0.26	27	15	108	11
Singapore	0.25	28	60	3	57
Norway	0.25	29	52	10	50
Honduras	0.24	30	8	63	55
Colombia	0.23	31	28	74	20
Czech Republic	0.22	32	42	31	46
Belgium	0.22	33	49	29	39
Nigeria	0.22	34	19	118	8
Italy	0.22	35	29	62	30
Croatia	0.22	36	68	15	44
Ghana	0.21	37	25	80	26
Slovak Republic	0.21	38	47	23	52
Estonia	0.20	39	82	2	69
Finland	0.20	40	57	17	58
Slovenia	0.19	41	77	7	70
Austria	0.19	42	58	27	54
Cote d'Ivoire	0.19	43	30	82	28
Mexico	0.19	44	22	104	25
Greece	0.18	45	50	42	45
Malaysia	0.17	46	37	70	35



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
Kyrgyz Republic	0.17	47	44	57	42
Belarus	0.17	48	39	51	53
Panama	0.17	49	75	18	64
Romania	0.16	50	53	49	41
United Arab Emirates	0.16	51	62	32	60
Zambia	0.16	52	41	69	38
Mauritius	0.16	53	67	9	96
Israel	0.16	54	46	41	67
Latvia	0.15	55	83	13	74
New Zealand	0.15	56	69	24	72
Albania	0.15	57	56	35	73
Sweden	0.15	58	64	38	63
Kenya	0.14	59	38	97	31
Serbia	0.14	60	71	43	51
Ireland	0.14	61	78	16	89
Lebanon	0.13	62	7	94	95
Puerto Rico	0.12	63	51	37	98
Algeria	0.12	64	55	91	32
Lithuania	0.12	65	89	20	82
Afghanistan	0.12	66	66	101	24
Denmark	0.12	67	73	33	86
Malta	0.12	68	87	6	105
Azerbaijan	0.12	69	81	66	40
Hungary	0.12	70	59	52	75



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
Chile	0.11	71	48	76	61
Japan	0.11	72	35	112	43
Morocco	0.10	73	45	111	36
Nepal	0.10	74	36	114	49
Costa Rica	0.10	75	63	58	88
Peru	0.09	76	43	106	62
Benin	0.09	77	54	85	66
Bahamas	0.08	78	111	4	108
Seychelles	0.07	79	97	1	127
Cyprus	0.07	80	102	21	103
Mongolia	0.07	81	92	53	93
Georgia	0.07	82	94	60	90
Sri Lanka	0.07	83	74	90	78
North Macedonia	0.07	84	100	45	92
Dominican Republic	0.07	85	86	79	77
Kazakhstan	0.07	86	79	93	79
Ecuador	0.06	87	80	105	68
Lao PDR	0.06	88	104	55	84
Uzbekistan	0.06	89	65	119	56
Cambodia	0.06	90	72	115	71
Saudi Arabia	0.05	91	84	102	87
Tanzania	0.05	92	61	129	48
Luxembourg	0.05	93	117	5	120
Kuwait	0.05	94	103	54	100



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
Jordan	0.05	95	91	103	83
Bangladesh	0.05	96	70	128	59
Egypt	0.05	97	76	125	65
Montenegro	0.05	98	116	25	113
Guatemala	0.04	99	90	116	80
El Salvador	0.04	100	99	86	99
Jamaica	0.04	101	96	83	101
Tunisia	0.04	102	98	109	85
Armenia	0.04	103	105	71	104
Mozambique	0.04	104	85	126	76
Cameroon	0.04	105	93	121	81
Bosnia and Herzegovina	0.03	106	107	88	111
Qatar	0.03	107	118	48	119
Trinidad and Tobago	0.03	108	109	67	123
Barbados	0.03	109	124	39	122
Haiti	0.03	110	101	123	97
Turkmenistan	0.02	111	125	72	107
Iceland	0.02	112	129	28	129
Burkina Faso	0.02	113	112	124	91
Namibia	0.02	114	114	98	117
Uganda	0.02	115	88	137	94
Uruguay	0.02	116	121	92	116
Libya	0.02	117	119	95	118
Bahrain	0.02	118	123	75	125



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
Senegal	0.02	119	108	133	102
Nicaragua	0.02	120	115	117	115
Zimbabwe	0.01	121	113	132	106
Myanmar	0.01	122	95	138	110
Cabo Verde	0.01	123	126	87	124
Iraq	0.01	124	106	139	114
Rwanda	0.01	125	120	134	112
Paraguay	0.01	126	110	131	128
Madagascar	0.01	127	122	135	109
Fiji	0.01	128	134	68	126
Bermuda	0.01	129	137	12	137
Maldives	0.01	130	131	84	131
Belize	0.01	131	130	96	133
Oman	0.01	132	127	122	130
Suriname	0.01	133	136	81	134
Ethiopia	0.00	134	128	142	121
Macao	0.00	135	135	107	138
Angola	0.00	136	132	140	132
Brunei Darussalam	0.00	137	141	89	140
Botswana	0.00	138	138	130	136
Gabon	0.00	139	133	136	139
Guyana	0.00	140	140	127	142
Cayman Islands	0.00	141	143	73	143
Mali	0.00	142	139	141	135



Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global DeFi Adoption Index		
			On-chain DeFi value received	On-chain number of DeFi deposits	On-chain retail DeFi value received
Tajikistan	0.00	143	142	143	141
Papua New Guinea	0.00	144	144	144	144



ABOUT CHAINALYSIS

Chainalysis is the blockchain analysis company providing data and analysis to government agencies, exchanges, and financial institutions across 40 countries. Our investigation and compliance tools, education, and support create transparency across blockchains so our customers can engage confidently with cryptocurrency. Backed by Accel, Benchmark, and other leading names in venture capital, Chainalysis builds trust in blockchains. For more information, visit www.chainalysis.com.

GET IN TOUCH:

info@chainalysis.com

FOR MORE CONTENT:

[visit **blog.chainalysis.com**](http://visit blog.chainalysis.com)

This document is not intended as legal advice. We recommend you consult your general counsel, chief compliance officer, and/or own compliance policies & procedures for regulatory, legal or compliance-related questions.

Building trust in blockchains