

High-risk Jurisdictions & Sanctions

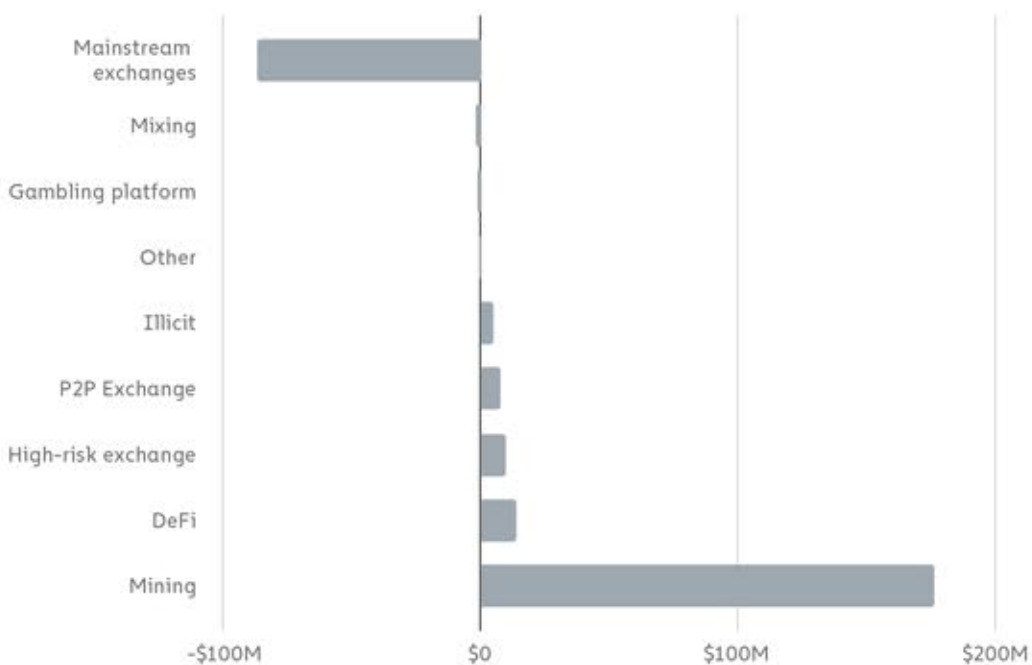
Iran

Bitcoin Mining Fuels Iran's Billion-Dollar Sanctions Evasions

Iran faces some of the most extensive U.S. sanctions of any country. Per the United States Treasury's Office of Foreign Assets Control (OFAC), U.S. businesses and individuals are effectively banned from transacting with Iranian businesses, including its biggest financial institutions and central bank. Some in the Iranian government have called for the country to use cryptocurrency to circumvent these sanctions, and Bitcoin mining may provide the perfect opportunity to do so. As one of the world's largest energy producers, Iran has the low-cost electricity needed to mine cryptocurrencies like Bitcoin cheaply, providing an injection of monetary value that sanctions can't stop.

Our research indicates Iranian Bitcoin mining is well underway at a surprisingly large scale. From 2015 to 2021, we found that Bitcoin mining funneled more than \$186 million into Iranian services, most of it within the past year.

Net flows to and from Iranian services | 2015-2021



Iranian state actors are well aware of the opportunity. In 2019, the Iranian government created a licensing regime for cryptocurrency mining. And in March 2021, a think tank tied to the President's office released a report stressing its benefits.

But the costs have extended beyond just electricity. The Iranian government has had to ban Bitcoin mining twice this year due to frequent blackouts, many of which Iran's state

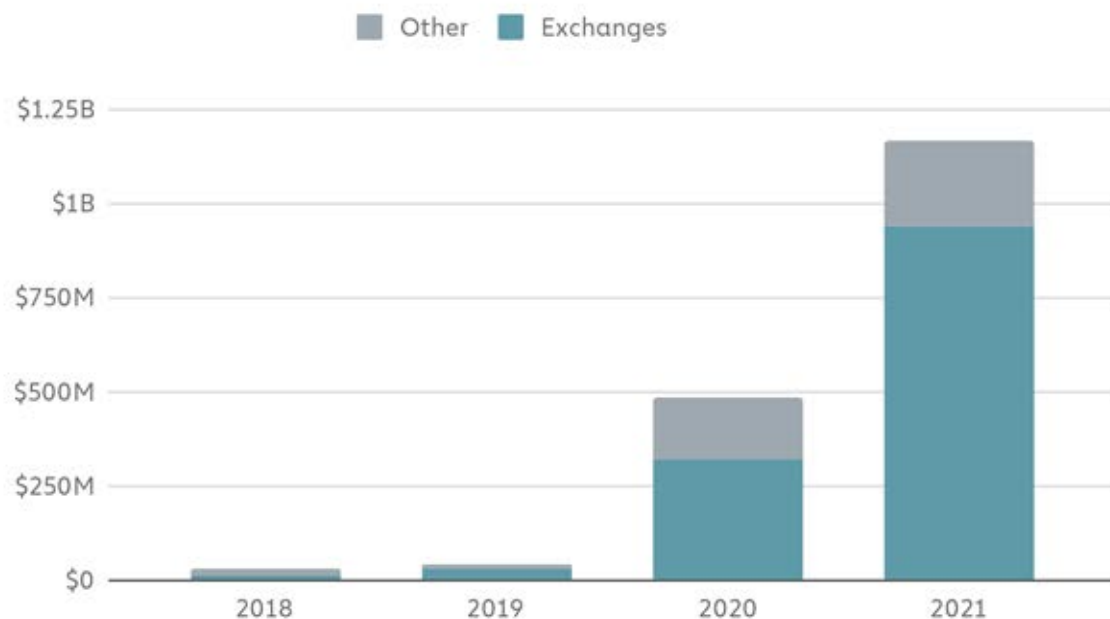
power agency has blamed on unlicensed Bitcoin mining. And unlicensed Bitcoin miners, for their part, allegedly account for “some 85%” of all activity in the country, per the Iranian president.

It has also opened up a new avenue of risk for cryptocurrency businesses. In theory, U.S. businesses could face penalties or even criminal prosecution if found in violation of OFAC sanctions, which prohibit U.S. persons or companies from servicing financial accounts belonging to Iranian persons or companies. That being said, businesses can monitor for exposure to Iranian miners to reduce this risk considerably.

It’s also important to note that a nexus to sanctions is more attenuated at the transaction/mining fee level. If a U.S. business were to engage in a transaction and the fees paid from said transaction were received by an Iranian miner, the payer and payee would have had no say in who could receive these fees—the receiver of which is determined automatically by Bitcoin’s proof-of-work protocol. To date, sanctions risk appears most prominent when a U.S. business transacts directly with the miner themselves.

Many exchanges operating in jurisdictions without active sanctions, however, continue to provide financial services to Iranian businesses. In fact, in 2021, services outside of Iran received \$1.16 billion from Iranian services—more than double the value received last year.

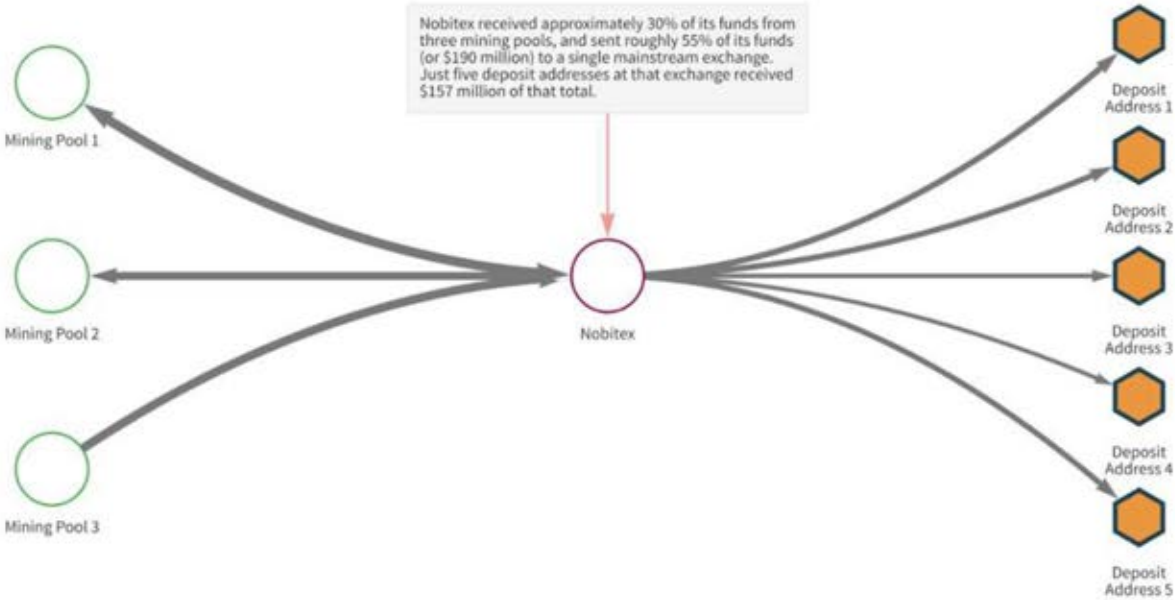
Total cryptocurrency value leaving Iranian services by destination | 2018–2021



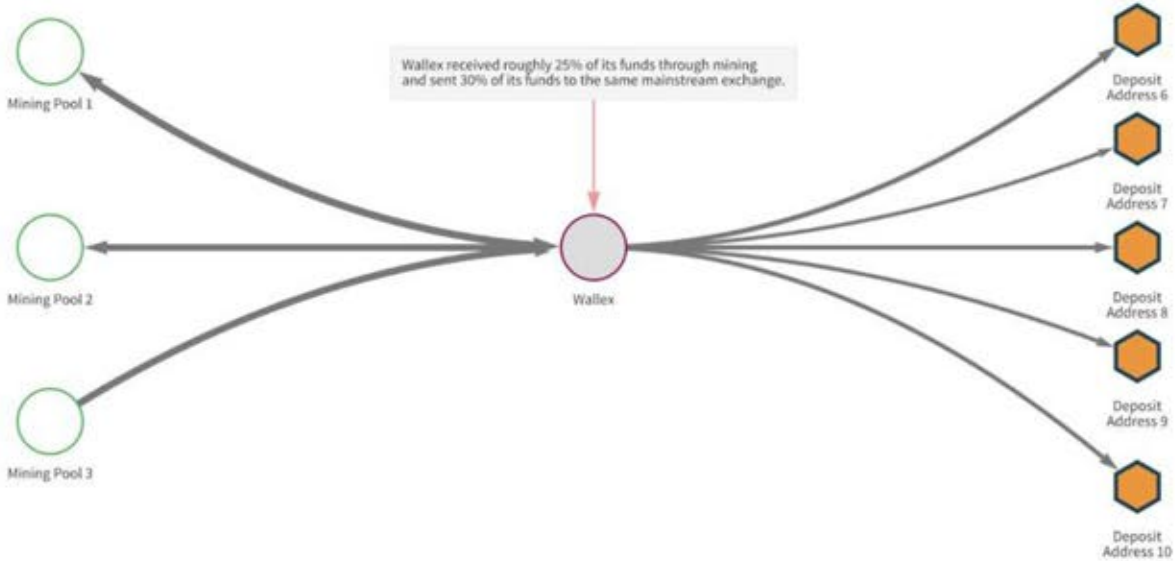
This transfer of funds from mining pools to Iranian services to services in the wider cryptocurrency ecosystem is a key corridor through which Iran evades sanctions. In the next section, we illustrate the most common paths to this end.

From mining pools to mainstream exchanges: Iran's sanctions evasion visualized

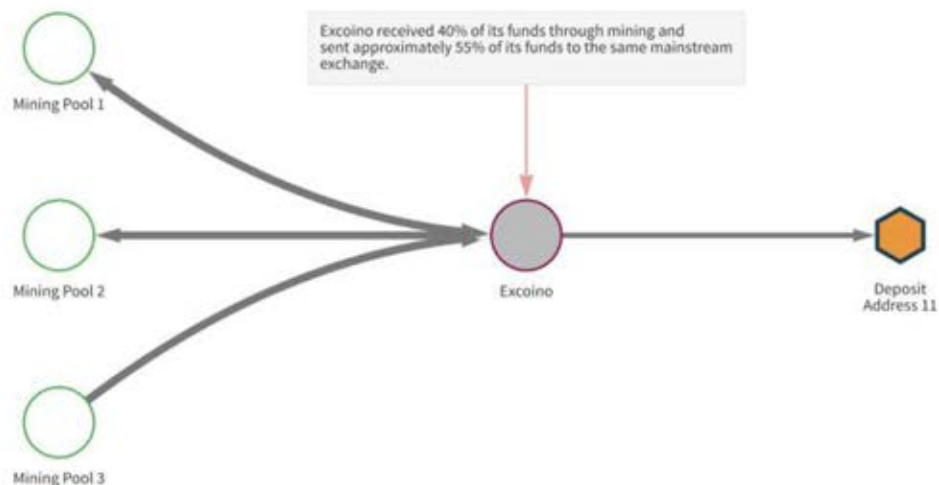
We can identify several of the services enabling Iran's sanctions evasion with blockchain analysis. Using Chainalysis Reactor, we visualize below the flow of funds from three mining pools to one mainstream exchange by way of Nobitex.ir, Iran's largest cryptocurrency exchange.



These same pools have similar degrees of exposure to Iran's second largest exchange, Wallex.ir.



And similar degrees of exposure to Iran's third largest exchange, Excoino.com.



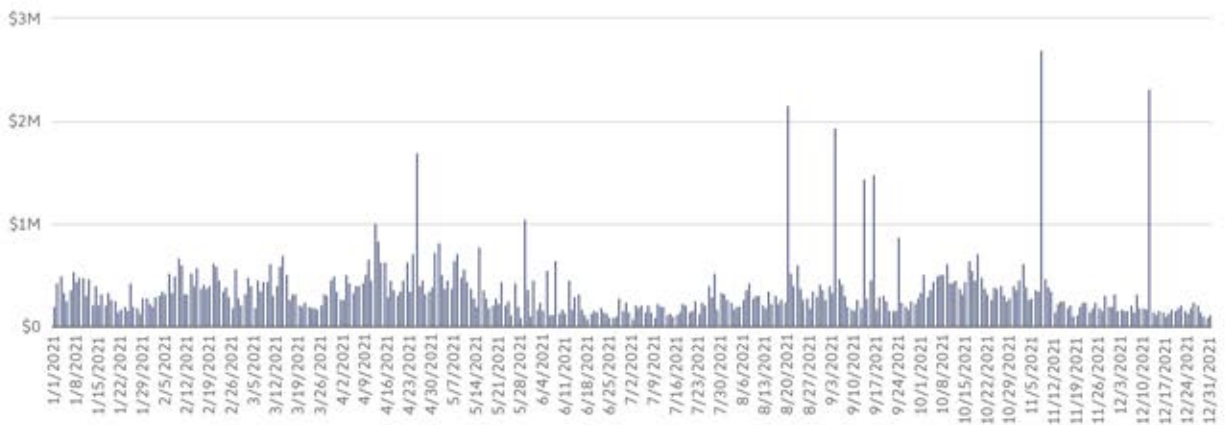
In spite of these large outflows, each mining pool above has a terms of service agreement explicitly disallowing Iranian users. On one of these mining pools' websites, the service states that by using the pool, the user guarantees that he/she is not subject to any economic sanctions, nor is he/she a citizen of Iran. On the two others, users are required to affirm that they are not a resident of Iran or any other jurisdiction where the services provided are restricted.

However, each mining pool above continues to send funds to Iranian services as of this report's release.

To get the complete picture of Iranian services' relationship with the mining world, we also measured the daily flows from *all* mining pools to *all* Iranian services in 2021—including those that don't mine Bitcoin.

We found that from January 1st to December 31st, outflows from mining pools to Iranian services averaged about \$343,000 worth of cryptocurrency per day, approximately 80% of which was Bitcoin.

Daily cryptocurrency value received by Iranian services from mining pools | 2021



Interpreting these findings

Since our model captures only those mining pools with sending exposure to Iranian services in particular, \$186 million likely underestimates Iran's total Bitcoin mining revenue from 2015 to 2021. In fact, other mining pools may support *much more* Iranian mining activity than the three pools we identify here—and given Iran's estimated 3.11% monthly share of the global hashrate, this is probably true. As such, this estimate should be considered a lower bound.

The implications for government agencies, financial institutions, and cryptocurrency businesses

With Iran embracing cryptocurrency, we advise interested government agencies to watch this situation closely. To avoid the risk of sanctions violations, we encourage U.S. cryptocurrency businesses and financial institutions to do the same. Businesses can automatically monitor for transactional exposure to Iranian entities with [Chainalysis KYT](#), while government agencies can identify these transactions' counterparties with [Reactor](#).

Thanks for reading the 2022 Crypto Crime Report

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