

# Bitcoin Miners Coming to Town?

A Look at its Possible Impact on Corpus Christi, Texas

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We have experienced unprecedented volatility in our financial markets in the past year. Year-to-date, the S&P 500 has lost approximately a quarter of its value, while the Nasdaq 100 Index has lost nearly a third of its value. These are not trivial losses, and have sparked worries among investors, regulators, and central bankers that we are heading for a global financial recession similar to what we experienced in 2008-2009.

## Energy Costs and Inflation

In addition to this, and given the rising geopolitical tensions around us, there are concerns globally about the rising costs of energy and food. A quick look on *Google Trends*, which measures the "pulse" of what is on the minds of people (through their internet search behaviors of various keywords) shows that economic uncertainty is reaching a peak we have not seen since 2008-2009.

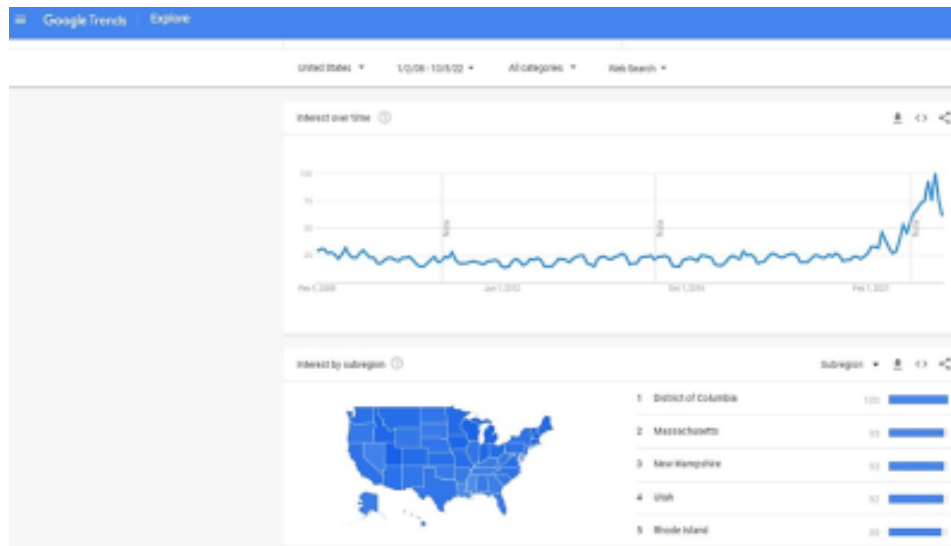


Figure 1: Google trends for keyword "inflation."

For example, Figure 1 is a snapshot of a graph that shows internet search intensity for the keyword "inflation" from January 2, 2008 through October 5, 2022. We see from the top portion of the graph that this keyword reached a peak interest in August 2022. Concerns of inflation are uniformly high for all states but the highest is from the District of Columbia.

## Concerns for Electricity

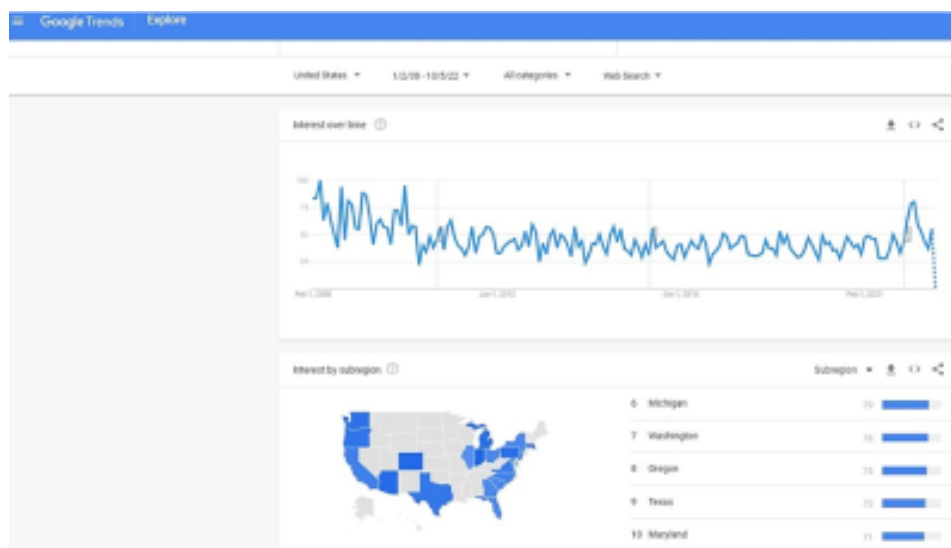


Figure 2: Google trends for keyword "electricity costs."

Likewise, we can see in Figure 2 the internet search intensity for the keyword "electricity costs." There are two interesting observations: first, the level of overall interest in this keyword spiked as high recently to a level not seen since the financial recession of 2008-2009. Second, and as can be seen from the lower portion of Figure 2, there are a few states in which this keyword was exceptionally interesting. Of all the 50 states, Texas is in 9th place! What are some possible reasons for this?

Let us keep this question in mind because it is important and we will revisit it shortly when we talk about Corpus Christi, and the reasons why crypto mining companies want to come here to sunny Texas.

## Financial Market Volatility

But before we do though, let us also consider the overall business environment, as well as firms' willingness to borrow money for investment and expansion purposes. If we look at interest rates, they are beginning to increase for the first time in recent history. While some businesses may not welcome this change, since it raises their costs for borrowing money, others argue that this is a necessary development in order to fight inflation and protect the US dollar's value. Especially since interest rates have been *too low for too long* -- an expression that has been used quite a bit among economists and investors. According to a [New York Times article](#), titled "US national debt tops \$31 trillion for first time," the higher interest rates will make it significantly more expensive for the federal government to service its debt (New York Times, 2022).

To summarize, things are not looking very bright, at least in the short run. We have interest rates rising, rises in financial market volatility, and escalating geopolitical tensions. What does that mean for cryptocurrency miners, and what does it

mean for Texans?

Let us focus on some of these questions. In particular, how has the existing economic environment motivated cryptocurrency miners? Furthermore, what are some of the positive and negative aspects of cryptocurrency mining, and what are the socioeconomic implications for Corpus Christi?

## Modern Texas Land Rush

In the last year, cryptocurrency miners have been eyeing Texas as a base for their mining operations. [A recent article](#) in the Texas Tribune describes how some Texas farmers are quitting their farm jobs to work for these cryptocurrency mining companies (Texas Tribune, 2022). According to the article, many rural counties are offering crypto companies tax breaks to lure them into setting up their operations. For example, Milam County, which lost Alcoa in 2008, the world's eighth-largest producer of aluminum, offered Riot Blockchain a 45% discount on local taxes for 10 years. The County Judge, Steve Young, was quoted as saying, "businesses are typically not going to come to your county unless you're willing to give them a tax abatement."

Apart from tax benefits, cryptocurrency miners appear to have a strong interest in Texas also because of the relatively cheaper energy and particularly electricity costs, more affordable property values, and the abundance of open land that can be used. Corpus Christi offers plenty of the aforementioned. Specifically, there is plenty of land available, much of which also is used by wind farms, and which offers possible sources of renewable energy for crypto mining companies.

## Bitcoin Miner Coming to Town

On April 19, 2022, the city council of Corpus Christi announced the passage of a second reading before the council, for Bootstrap Energy - a bitcoin mining facility that wants to establish operations in Corpus Christi ([KRIS6 News, 2022](#)). Because bitcoin mining needs high amounts of computational power, it is also extremely energy intensive. According to the news article, Bootstrap will build two 300-megawatt stations to produce the power that is needed for its bitcoin mining operations.

To ease public concerns that this may drain the city's power, Councilman Roland Barrera was quoted as saying in the news article that "they (Bootstrap) would power down their equipment so that way the electricity would be available to the citizens of Corpus Christi." Speaking on the benefits of Bootstrap, Councilman At-Large, Mike Pusley, discussed how this \$1.3 billion investment would translate into tax dollars for the Tulo-so-Midway School District. Pusley was quoted in the news article as saying, "they'll get a substantial shot in the arm by this and for a school district like Tulo-so-Midway, a million dollars is a big deal."

So, on the one hand, there are concerns for how much energy these mining firms will need. While on the other hand, the crypto firms can bring significant tax revenues and jobs to cities like Corpus Christ.

## Pros and Cons

Are there any other pros and cons to hosting mining companies, and what does the research say?

Crypto enthusiasts, including these mining companies, have argued that cryptocurrencies provide competing currencies, financial access to those that are under-banked (i.e., a recent term that is used to describe those that have little or no bank

access), and also to hedge against changes in the market. If we look at bitcoin's value since 2013 (Figure 3), we see that its price has undergone sharp changes that are unprecedented compared to the price behaviors of traditional asset classes like equities and commodities.



Figure 3: Price of Bitcoin (in USD) from CoinMarketCap.

This has been one of the very reasons why policymakers have sought to regulate cryptocurrencies. In a Federal Reserve of Boston [research paper](#), Lo and Wang (2014) argue, "Unlike regular fiat money, however, bitcoin is not backed by any sovereign entity that can compel the acceptance of its affiliated fiat money within a certain realm. Therefore, in order to serve as a medium of exchange, bitcoin has to rely solely on the self-fulfilling expectation on the part of private agents that it will be accepted." In other words, bitcoin is not backed by any government, only by users' expectations that it will be an acceptable form of payment!

But who can blame investors and crypto users for trying? Especially since traditional financial markets are not looking very attractive at the moment. Well, there are some other factors that we need to keep in mind, especially as cities, like Corpus Christi, weigh in on whether to allow crypto-mining firms to come into town and begin their mining operations.

## Electricity Cost Spillovers

In a [recent study](#), Matteo Benetton from UC-Berkeley and other researchers (2022) highlight some of the negative impacts that may arise when crypto miners come to town. They focus on upstate New York, where crypto mining operations have become popular, due to the cold weather in upstate New York that is useful for keeping supercomputers cool when they are processing, the relatively cheaper electricity, and their close proximity to hydropower energy (a renewable energy source).

Benetton and his coauthors find that crypto mining firms raise the demand for electricity in their communities, thereby raising electricity prices in jurisdictions that employ standard supply pricing algorithms, like upstate New York's NYISO, where upward pressure on prices from increasing demand are passed onto households and small businesses in the form of a price adjustment. Their study does show that communities can benefit from the increases in tax revenues.

However, depending on how bitcoin's price fluctuates, the burden of the rises in electricity costs may rest squarely on the shoulders of households and small businesses. In terms of policy recommendations, the UC-Berkeley study suggests that communities implement electricity pricing schemes (or some type of dynamic quota) in order to mitigate the negative externalities associated with crypto mining.

## Lesson for Corpus Christi

Corpus Christi can learn something from upstate New York's experience. While firms, like Bootstrap, may be interested in Corpus Christi's access to wind turbines, the question is: will these turbines supply the necessary power they need? If they do not supply the necessary power, or there are issues with

supplying continuous energy (wind turbines are naturally intermittent sources of energy, even in large numbers), this can be a problem for the crypto mining companies. And eventually households and small business may bear the burden of this.

In addition, wind energy poses its own environmental issues, given that these turbines are problematic to dispose of when they reach the end of their lives ([Nagle et al., 2020](#)).

These are difficult questions to answer because it appears that this is the first time in human history that we are even entertaining these types of propositions. Corpus Christi needs to educate the public on the benefits and costs of crypto mining companies. In addition, and equally importantly, it needs to establish guidelines in terms of how the electrical grid will handle this, or implement a dynamic quota of some type, in order to mitigate any negative externalities on the public.

There is much opportunity in this technology and many opportunities for the creation of new jobs. But, as the idiom goes, the devil is in the details.

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**Note:** Dr. Dimitrios Koutmos is Assistant Professor of Finance at Texas A&M University-Corpus Christi. He is currently teaching at the College of Business' RELIS campus in Bryan-College Station. Dr. Koutmos specializes in asset pricing, banking and blockchain technologies.

## REFERENCES

Benetton, M., Compiani, G., & Morse, A. (2021). When cryptomining comes to town: High electricity-use spillovers to



the local economy. *University of California at Berkley and University of Chicago Working Paper*.

KRIS 6 News (2022). "Bitcoin mining facility coming to Corpus Christi," April 27, 2022.

Lo, S., & Wang, J. C. (2014). Bitcoin as money? Federal Reserve Bank of Boston Research Paper No. 14-4.

New York Times (2022). "US national debt tops \$31 trillion for first time," by Rappeport, A. and Tankersley, J., October 4, 2022.

Nagle, A. J., Delaney, E. L., Bank, L. C., & Leahy, P. G. (2020). A Comparative Life Cycle Assessment between landfilling and Co-Processing of waste from decommissioned Irish wind turbine blades. *Journal of Cleaner Production*, 277, 123321.

Texas Tribune (2022). "Cryptocurrency miners line up to come to Texas, and rural counties are welcoming them," by Ferman, M., October 3, 2022.

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