



An analysis of Mt. Gox creditor claims

BRL Research Note #1

August 09th, 2022

Background, data and methodology

Background

Mt. Gox launched in 2010 and once hosted more than 70% of global Bitcoin trading volume before collapsing and ceasing operations in February 2014 and filing for bankruptcy. Mt. Gox faced at least one hack in 2011, a seizure by U.S. authorities in May 2013 and faced problems with banks and payment gateways as of August 2013.

The largest issue probably was an **internal exploit that created USD balances on Mt. Gox from thin air** and was used to buy and withdraw steal BTC through the infamous bots named Willy and Markus. This demand for Bitcoin without the ability to withdraw USD created a **price gap between the price on Mt. Gox and other exchanges** resulting in a perceived arbitrage opportunity that turned out to be a trap for most depositors. In the end, Mt. Gox claimed to have lost 750,000 BTC in customer funds and another 100,000 BTC in its own funds, worth around \$473 million at the time.

As part of the bankruptcy procedure, **total claims of \$18.6 billion** – mostly consisting of 802,522 BTC – were granted to share their stake of the remaining assets. After more than eight years, the Mt. Gox trustee announced on July 06th, 2022, that it would “prepar[e] to make repayments” starting from “approximately end of August”, 2022. The Mt. Gox trustee’s balance sheet contains 141,686 BTC (~\$3.26 billion), 142,846 BCH (~\$19.6 million) and 69.7 billion JPY (~\$517.2 million). In total, creditors can thus expect a **repayment of around \$3.80 billion or 20.4% of the total claims**.

Data and methodology

Users who had a balance in BTC or any fiat currency at the time when Mt. Gox ceased operations were able to file a claim with the Mt. Gox trustee in charge of the bankruptcy procedure. After reviewing all claims, the trustee published a report containing an aggregate list of both the filed and granted claims in BTC, BCH (these were obtained by holding through the fork event in 2017) and all fiat balances of all recognized **23,267 creditors**. In addition, the trustee prepared a **list of all claims broken down by individual creditor**. This list allows to shed more light on the distribution of claims among creditors.

For the analysis we retrieved the data from the individual creditor list and removed duplicates and entries with zero claims. Afterwards we converted all claims to USD at the exchange rates on 9th August, 2022, and analyzed the resulting dataset with standard statistical methods. To measure the concentration of claims among a few creditors, we used the **GINI-coefficient**, which is commonly used in income distribution to measure inequality. It is normalized between 0 (0%) and 1 (100%) where 0% describes a completely equal distribution (e.g., all creditors having the same claim) and 100% describes a maximal unequal distribution (e.g., one creditor having all claims).

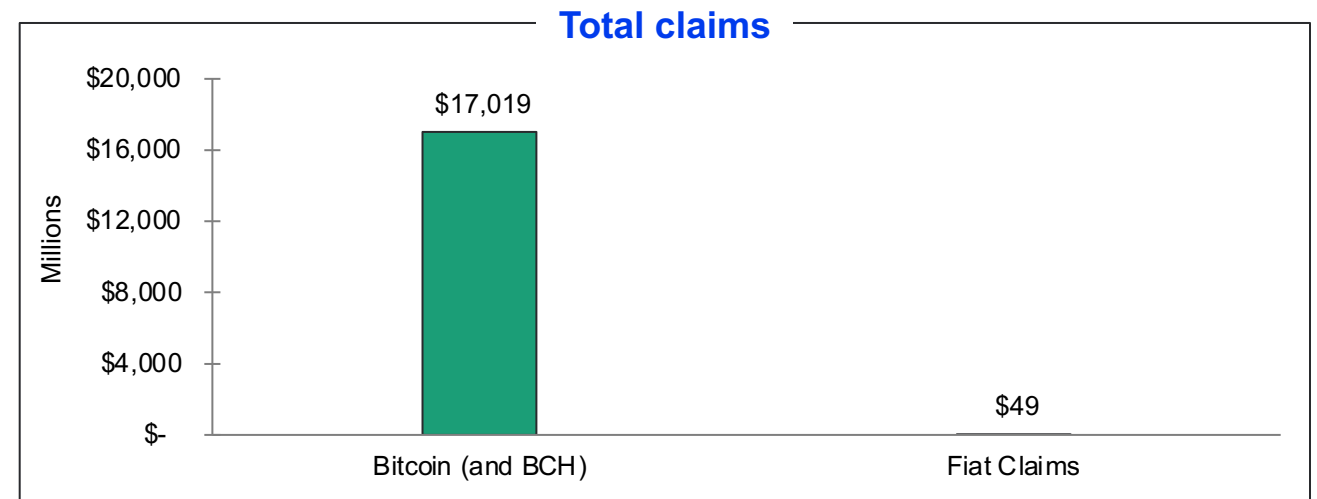
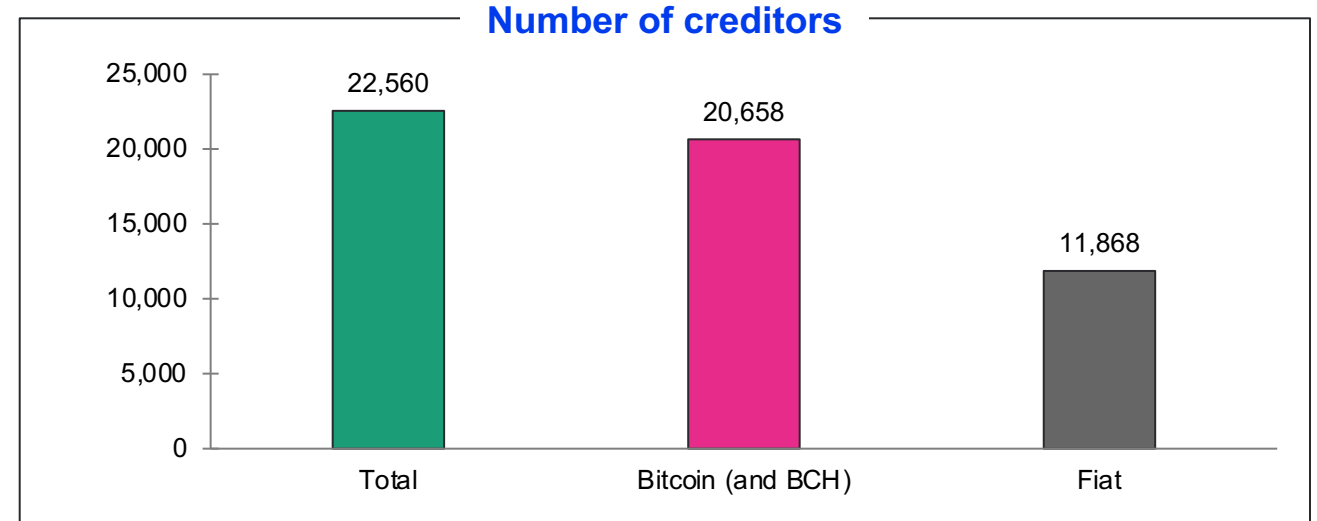
22,560 creditors share total claims of \$17 billion

A total, of **22,560 individual creditors** were recognized by the trustee (707 less than the number from the trustee report due to duplicates and empty claims). 20,658 of them have claims in BTC (and thus BCH) and 11,868 creditors have claims in a fiat currency (many creditors have both BTC and fiat claims). The total claims amount to **\$18.6 billion in BTC** and BCH and **\$48.1 million in USD**.

Mt. Gox founder Mark Karpeles claimed that Mt. Gox had **1.1 million active accounts** in 2013. This indicates that only around 2.1% of all active accounts actually filed and received a claim. This discrepancy could potentially be explained as follows:

- (1) most accounts not having a substantial balance at the time of bankruptcy,
- (2) users not wanting to file a claim, for example, to not disclose their identity,
- (3) users filing a claim that got rejected.

Given that solely 56 claims were rejected, it can be argued that (1) **most users of Mt. Gox were able to withdraw their funds** before the collapse and (2) that the **actual losses are larger** than the claims.



The average Bitcoin claim is 39.3 BTC (~\$900,000)

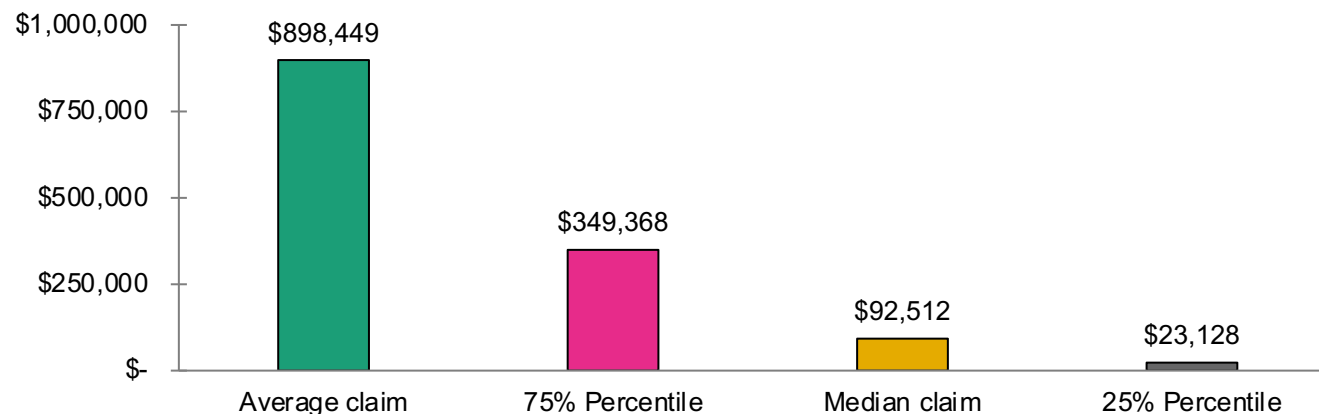
On **average**, a Bitcoin (and BCH) creditor has a claim of around **\$900,000** (with Bitcoin trading at \$22,991) and could expect to receive around \$172,000 according to the data from the Mt. Gox trustee. The **median** creditor, however, has a much smaller claim of around **\$92,500** – an order of magnitude 10x smaller. The 25% percentile has a claim of “only” \$23,100 while the 75% percentile has \$349,000.

The large discrepancy between average and median claim is underlined by a very high standard deviation of \$14.6 million across creditors. This indicates that the claims are highly concentrated among a few creditors, who account for a large share of all claims.

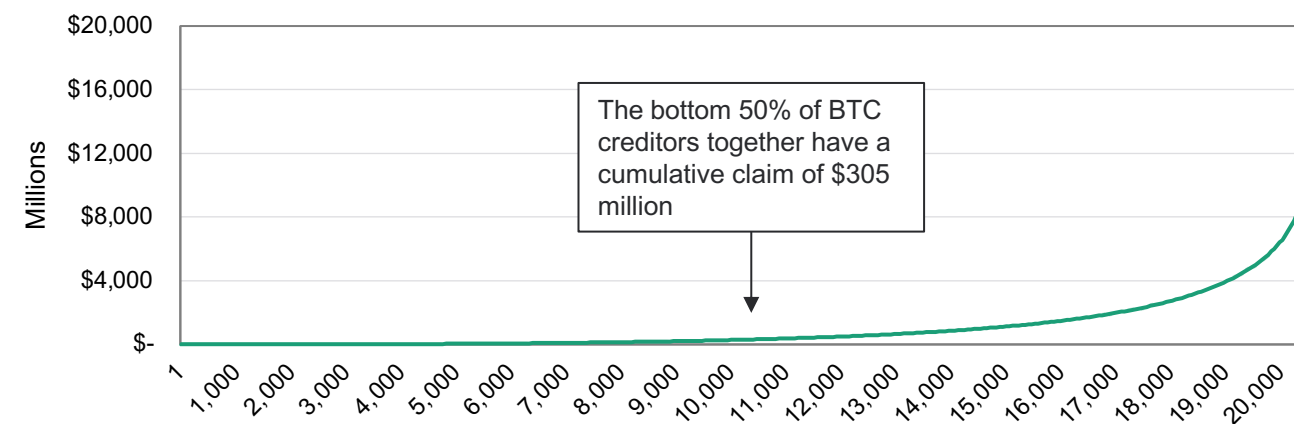
This concentration of claims is illustrated by the cumulative claims per creditor. Here, the smallest claim holder is on the left and the largest on the right, so that the claims are added up from left to right.

Accordingly, the **GINI-coefficient** of this distribution is extremely high with **87.9%**. In comparison, the income distribution in the United States has a GINI-coefficient of 41.5%.

Bitcoin and BCH claims



Bitcoin (and BCH) Claims in USD, ordered by size (N = 20,658)



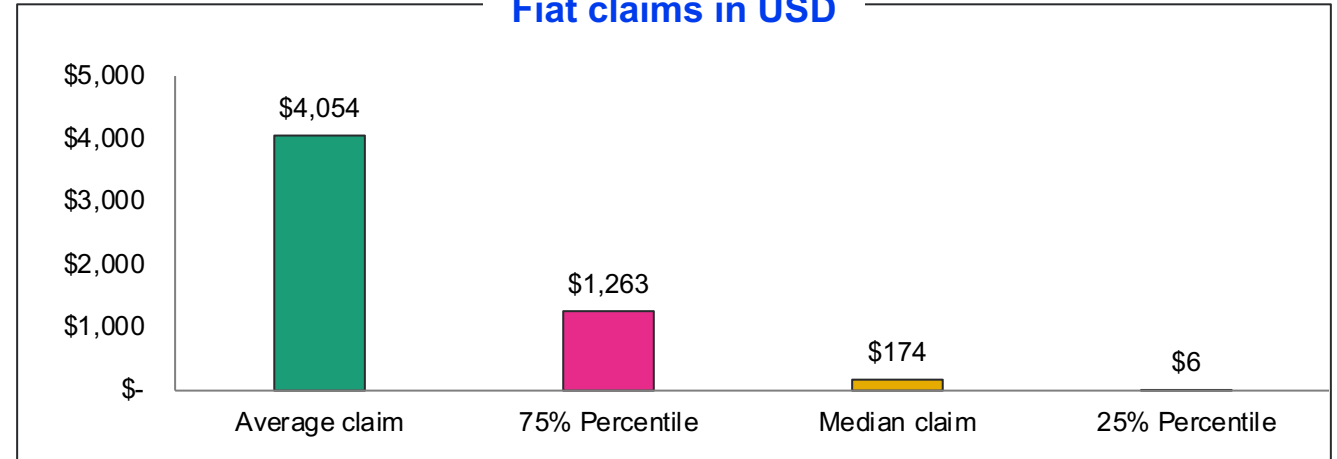
Fiat claims are comparatively small

Compared to claims in BTC (and BCH), claims in fiat are comparatively small with **\$48.1 million** across **19 different currencies** ranging from US Dollar to Danish Kroner. However, only USD, EUR, JPY are currencies with claims of more than \$1 million.

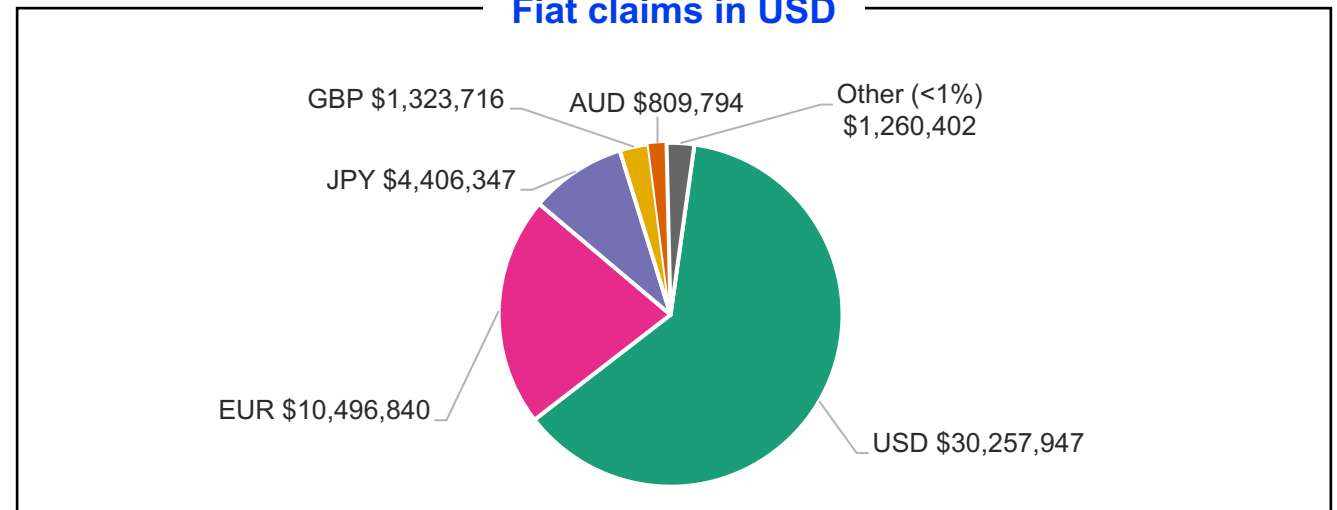
The main reason for the large gap between BTC and fiat claims is the huge price increase of Bitcoin of **x39 from \$585 to \$22,991** at time of writing. But even when compared to the value at time of bankruptcy, the **fiat claims were only 10.2% of claims in BTC**. This is surprisingly low, given that fiat withdrawals on Mt. Gox were hardly processed the months before it collapsed. This provides a unique insight into the ratio of deposit values at crypto exchanges with **balances heavily skewed towards Bitcoin**, at least in the early days.

On **average**, a fiat creditor has a claim of around **\$4,000**, while the **median claim is only \$174**. This difference of x23 suggests even higher concentration of claims than for BTC claims and is supported by an even higher GINI-coefficient of 91.0%. However, this concentration is due to many very small claims by users who held fractions of a dollar in remaining balances.

Fiat claims in USD



Fiat claims in USD



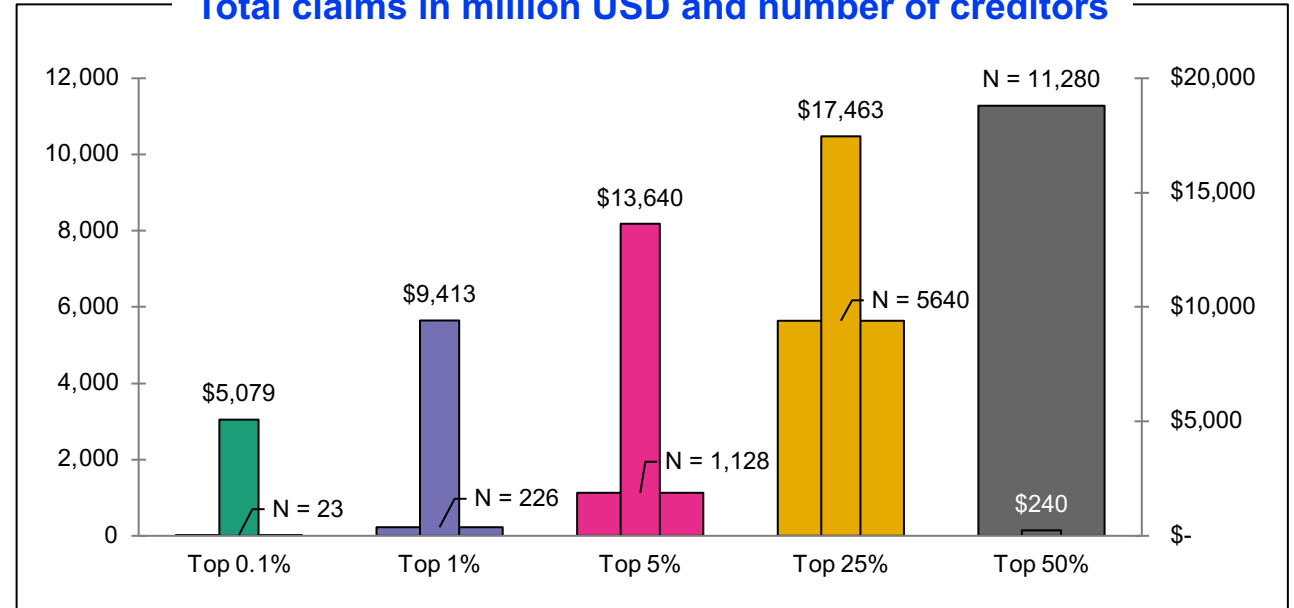
Claims are highly concentrated

Claims among creditors are highly concentrated. The **bottom half** of creditors have combined claim of 1.3% of the total \$18.6 billion (**\$240 million**). In contrast, the top 1% of creditors together account for over 50% of all claims. The **top 0.1%** – only 23 claims – share **27.3% of all claims**, or \$5.1 billion.

Comparing these numbers to the alleged 1.1 million active accounts at Mt. Gox in 2013, the 226 creditors who own **50.6% of all claims are only 0.02% of all users**. This possibly indicates that many users were able to withdraw their balances before operations halted, the active user count might have been exaggerated, and some users had multiple accounts. Nevertheless, this figure gives a unique insight into how incredibly **important the role of large whales** was back in February, 2014.

Today, the role of the large Mt. Gox whales is **smaller in relative terms** with only 20.4% of the total claims being repaid. However, the numbers have **grown in absolute terms** from \$473 million in February 2014 to a total expected repayment of \$3.8 billion today, of which around \$1.92 billion or around **84,650 BTC will flow to the top 226 creditors**. This is still a large enough figure to have a significant impact on the market.

Total claims in million USD and number of creditors



Group	Total claims in million USD	Total claims in %
Top 0.1%	5,079	27.3%
Top 1%	9,413	50.6%
Top 5%	13,640	73.3%
Top 25%	17,463	93.9%
Bottom 50%	240	1.3%
Total	18,607	100%

Discussion and outlook

The release of Mt. Gox's remaining assets to its creditors has been long-awaited in crypto markets. With **around \$3.8 billion in total repayments** and the vast majority consisting of 141,686 BTC, this event hangs over the Bitcoin market like the **sword of Damocles**. Market participants are wondering if and how many of these coins will be sold right away and potentially cause the Bitcoin price to crater. This concern might be aggravated by the fact that this depends mainly on the reaction of a few very large creditors: the group of the 23 **top 0.1% creditors hold 27.3%** and the 226 **top 1% creditors hold 50.6%** of all claims.

At the same time, it needs to be kept in mind that especially private equity firm Fortress but also other **companies bought up Mt. Gox creditor claims** at a discount to the nominal value. Since these are professional investment firms it seems likely that the purchases were already hedged through sales on the spot market or the opening of short positions on derivative markets and thus do not necessarily come to the market as sell pressure.

The same **argument of hedging holds true for large creditors**: If they intended to sell, they likely have already done so at least in part – either to one of the companies buying up such claims or through the opening of a short position. Hence, it can be speculated that the release of the Mt. Gox coins might not have such a significant impact on the market as it might seem at first glance.

In summary, it can be said that although market participants are paying close attention to potential price effects as a result of the recent announcements, the **main story remains that creditors finally get paid out** after waiting for over eight years. Eight years in itself is already a long time, but it probably must have felt many times longer for those affected who had their hands tied while observing the market price of Bitcoin rise and fall in the meantime.

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