Weekly Hot Take

Market Making: Predatory or Essential?

Presto Research

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Summary

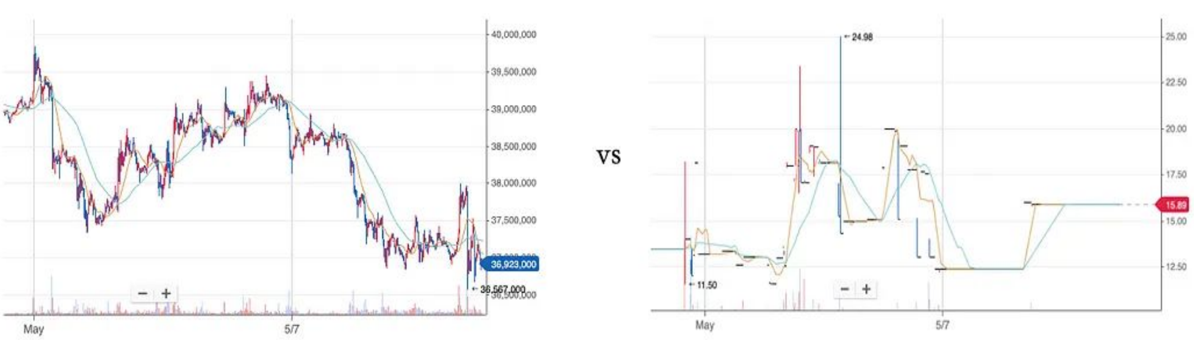
- Market makers contribute significantly to reducing volatility and transaction costs by providing substantial liquidity, ensuring efficient trade execution, fostering investor confidence, and enabling smoother market operations.

- Market makers utilize various structures to provide liquidity, most commonly token loan agreements and retainer models. In the token loan agreement, market makers borrow tokens from the project to ensure market liquidity for a specified period, typically 1-2 years, and are granted call options as compensation. On the other hand, the retainer model involves market makers receiving compensation for maintaining liquidity over time, typically through monthly fees.

- As in traditional markets, clear rules and regulations on market-making activities play a crucial role in well-functioning cryptocurrency markets. Given its nascent nature, there is an urgent need for smart regulations that prevent illicit practices and ensure fair competition. Such regulations will go a long way in fostering market liquidity and protecting investors.

Figure 1: Which market do you want to trade at?

Source: Presto Research



The recent events in the cryptocurrency market have sparked significant interest in market makers and the concept of market making. However, market making is often misunderstood, seen as an opportunity for price manipulation, including infamous pump-and-dump schemes, and there is a dearth of accurate information about the true role of market makers within financial markets. Its common that emerging projects, on the verge of listing their tokens, remain oblivious to the significance of market makers and frequently question their necessity. With this context, this article aims to explain what a market maker is, the importance of their role, and their function within the cryptocurrency market.

What is a market maker?

Market makers serve a critical role in maintaining continuous liquidity within the market. They typically achieve this by concurrently offering buy and sell quotations. By buying from sellers and selling to buyers, they foster a seamless environment in which market participants can conduct transactions at their convenience.

This can be likened to the role of used car dealerships that are commonplace in our everyday lives. Just as these dealerships allow us to readily sell our current vehicle and purchase a used car whenever we desire, market makers perform a similar function within the financial markets. Citadel, a global market maker, provides the following definition of a market maker:

Figure 2: How a TradFi market maker defines the role

Source: Citadel

What Is a Market Maker?

A market maker participates in the market at all times, buying securities from sellers and selling securities to buyers.

Market makers provide liquidity, which ensures investors can trade quickly and at a fair price in all conditions. In turn, this generates confidence in the markets.

Market makers also hold vital importance in traditional financial markets. On the NASDAQ, each stock has, on average, about 14 market makers, totalling to an estimated 260 market makers. Furthermore, in markets that are less liquid than equities, such as bonds, commodities, and foreign exchange, the majority of trades are conducted through market makers.

Profits & Risks of Market Makers

Market makers earn their revenue from the spread between the bid and ask prices of the financial instruments they trade, known as the bid-ask spread. Since the ask price is higher than the bid price, market makers secure profits (the bid-ask spread) by purchasing a financial instrument at a lower price and selling the same instrument at a higher price.

Figure 3: Bid-ask spread

Source: Presto Research

Order Book

Buy	Price	Sell
	27,501	Ask Price
	27,500 (Mid Price)	
Bid Price	27,499	

Bid-Ask Spread

- Consider a situation where a market maker simultaneously places a $27,499 bid and a $27,501 ask price for an asset. If these orders are executed, the market maker buys the asset at $27,499 and sells it at $27,501, thus making a profit of $2 ($27,501 — $27,499). This profit represents the bid-ask spread.

- This concept aligns with the used car dealership example mentioned earlier, where the dealer purchases a used car and later sells it for slightly more, thereby making a profit from the difference between the purchase and sale prices.

However, it's important to note that not all market-making activities yield profits, and market makers can indeed incur losses. In rapidly fluctuating markets, the price of a particular asset may swing sharply in one direction, resulting in only the bid or ask price being executed, rather than both occurring nearly simultaneously. Market makers are also exposed to inventory risk, which is the risk associated with the inability to sell an asset. This risk exists because market makers consistently hold a portion of the assets they are market-making for, in order to provide liquidity.

ex) In a scenario where a used car dealer purchases a vehicle and is unable to find a buyer, coupled with an economic downturn causing used car prices to drop, the dealer would be suffering a financial loss.

Why We Need Market Making

Providing substantial liquidity

The primary objective of market making is to ensure ample liquidity in the market. Liquidity refers to how quickly and easily an asset can be converted into cash without a financial loss. High market liquidity lessens the impact on transaction costs for any given trade, minimizes losses, and allows for the efficient execution of large orders without causing significant price fluctuations. Essentially, market makers facilitate investors' ability to buy or sell tokens faster, in larger volumes, and with greater ease at any given time, without substantial disruption.

Figure 4: Why liquidity matters

Source: Presto Research

Order Book A

Buy	Price	Sell
	100.4	112
	100.3	129
	100.2	80
	100.1	100
	100	60
175	99.9	
130	99.8	
124	99.7	

Order Book B

Buy	Price	Sell
	106.1	20
	105.2	17
	103.1	10
	102.6	5
	101.2	10
20	99.7	
12	99.0	
30	98.1	

ex) Consider an investor who needs to purchase 40 tokens immediately. In a highly liquid market (Order Book A), they could instantly buy 40 tokens for $100 each. However, in a less liquid market (Order Book B), they have two options: 1) Buy 10 tokens at $101.2, 5 tokens at $102.6, 10 tokens at $103.1, and 15 tokens at $105.2, resulting in an average price of $103.35, or 2) wait an extended period for the tokens to reach the desired price.

Reduced Volatility

As illustrated in the previous example, the substantial liquidity provided by market makers helps to mitigate price volatility. In the scenario described, right after the investor purchases 40 tokens, the next available price in Order Book B is $105.2. This demonstrates that a single transaction caused roughly 5% price volatility. In real-world cryptocurrency markets, for highly illiquid assets, even a small trade can trigger significant price changes. This is especially true during periods of market volatility, when fewer participants can lead to substantial fluctuations. Thus, market makers play a crucial role in reducing price volatility by bridging this supply-demand gap.

Figure 5: How market making helps reduce volatility

Source: Presto Research

Order Book A

Buy	Price	Sell
	100.4	112
	100.3	129
	100.2	80
	100.1	100
	100	60->20
175	99.9	
130	99.8	
124	99.7	

Order Book B

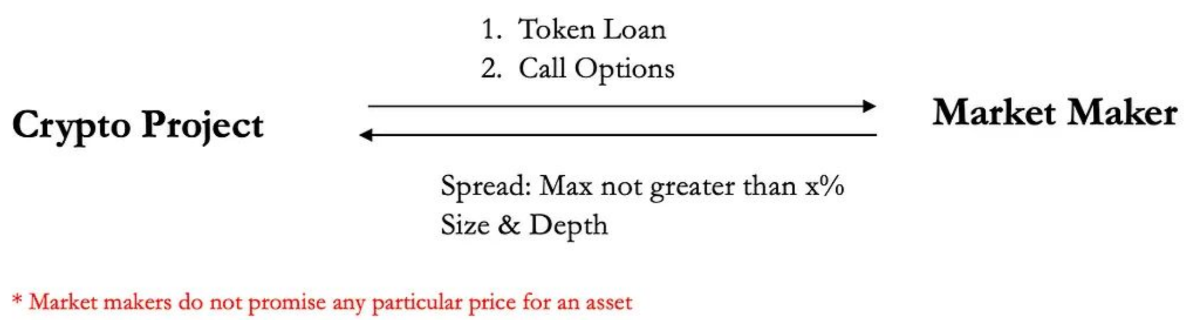
Buy	Price	Sell
	106.1	20
	105.2	17->2
	~~103.1~~	~~10~~
	~~102.6~~	~~5~~
	~~101.2~~	~~10~~
20	99.7	
12	99.0	
30	98.1	

The aforementioned role of market making ultimately fosters increased investor confidence in the project. Every investor desires the ability to buy and sell their holdings as needed, with minimal transaction costs. However, if investors perceive that the bid-ask spread is wide, or that it will take a considerable amount of time to execute the desired quantity of their transactions, they may be discouraged, regardless of their positive view of the project. Therefore, if market makers are consistently active in the market, providing liquidity, it not only lowers the entry barrier for investors, but also stimulates them to invest. This action, in turn, contributes more liquidity, creating a virtuous cycle, and fostering an environment where investors can trade confidently.

Crypto projects ↔ market makers
While there are many forms of contract structures between market makers and projects in the crypto market, including token loan + retainer fee contract structures, the most widely used contract structure (token loan + call option) works as follows:

Figure 6: Project <-> market maker structure

Source: Presto Research



Project → Market Maker

- The market maker borrows tokens required for the market-making process from the project. In the early stages of a token listing, there's often an excess demand for tokens compared to the supply, due to the low number of tokens available in the market. To counteract this imbalance, the market maker borrows tokens from the project, typically with an average maturity of 1–2 years (corresponding to the term of the market-making contract), to ensure market liquidity.
- In return for their market-making services, market makers are granted the right to exercise a call option on the borrowed tokens at the maturity of the loan. This call option gives them the right to purchase the tokens at a predetermined price. Instead of relying on fiat currency, call options are offered as compensation due to the project's limited cash resources. Furthermore, the value of the call option correlates directly with the token's price, providing market makers with safeguards against early pump-and-dump schemes.

Market Maker → Project

- The market maker, with the borrowed tokens for the duration of the contract, provides a service by negotiating with the project to ensure a maximum spread and sufficient liquidity. This arrangement facilitates trades within a well-sustained liquidity environment

In summary, a market maker borrows tokens from the project, receives a call option, and provides services with the aim of ensuring specified liquidity within a given spread for the duration of the loan. However, it's important to note that a legitimate market maker does not make any promises regarding price.

Regulatory Deficiencies in Cryptocurrency Markets

The negative perception of market making in the cryptocurrency market is primarily due to its lack of regulation compared to traditional financial markets. In U.S. stock markets, like NASDAQ and NYSE, market makers are required to maintain both bid and ask prices for a minimum of 100 shares and they are obligated to fulfill the order if a corresponding order arises (see figure 7). There are also very specific requirements for market making, such as only placing orders within a certain range (for example, within 8% or 30% for large-cap stocks). These measures prevent market makers from setting the aforementioned two orders at absurd prices (far from the highest bid/lowest ask price) and only placing the appropriate order when there is an opportunity for profit.

Figure 7: NYSE rules on market making Source: NYSE

Note the italicized "registered" above. Many participants may regularly provide liquidity to a market, but in the U.S. cash equities market, only registered market makers *must* provide displayed liquidity on both sides of the market on registered exchanges when the market is open[6]. The act of providing two-sided liquidity is not necessarily all that onerous. The regulatory requirement is that at all times the market maker must be willing to buy or sell one round lot (usually 100 shares) within a specified percentage of the national best bid or offer, which percentage ranges from 8 to 30% away. There are additional nuances for re-entry after an execution, for low-priced stocks, and for trading near the open and close.

However, as noted earlier, market making in cryptocurrency markets is still comparatively under-regulated. Unlike in traditional financial markets, there are no separate licenses or regulatory bodies overseeing these operations.

Consequently, it’s not unusual to encounter news reports of companies profiting illicitly under the guise of “market making.” The most significant issue is that while traditional exchanges, such as NASDAQ, enforce strict penalties and regulations against unlawful market-making activities, fragmented cryptocurrency markets lack substantial penalties for deceptive market-making practices. There is a clear deficiency in regulatory oversight, highlighting the increasing need for the same level of regulation in cryptocurrency markets as exists in traditional financial markets.

Conclusion

Although regulatory shortcomings allow for gray areas in crypto market making, market makers will continue to play a crucial role in the market. Their function of buying financial instruments from sellers and selling them to buyers to provide liquidity remains fundamental. Particularly in illiquid crypto markets, market makers contribute to reducing transaction costs and volatility, thus fostering an environment where investors can trade with increased confidence. Therefore, by incorporating market makers into the system and promoting fair competition with robust market-making practices, we can anticipate an environment where investors can trade with enhanced assurance.

About Presto

Presto is a Singapore-based algorithmic trading and financial services firm founded in 2014. Presto focuses on delivering exceptional value for clients through rigorous research-driven approach to investment and trade execution. With more than a 100 million trade executions in a day, Presto is a leading financial services firm in both digital assets and traditional finance markets.

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