
Casting a Wider Net in OTC Trading: For Better or Worse?



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Simultaneous multilateral search for quotes may not always lead to the best deal in over-the-counter trading for dealers and the market.

The origin of trading, as we know it, is a centralised marketplace bustling with dealers and overflowing with adrenaline. With the advent of technology, securities exchanges have moved towards electronic trading. So have the more decentralised over-the-counter (OTC) trading. While corporate bonds, options, derivative securities and other assets used to be traded one-to-one over the phone, customers can now request for quotes from several dealers simultaneously through electronic means.

The way securities are traded is pivotal to how prices are determined and ultimately, the stability of the market. In the US mortgage market breakdown that precipitated the 2008 financial crisis, the securities and derivatives involved had one thing in common: All of them were traded in OTC markets.

When OTC customers seek multiple quotes, they are in effect “letting the competition do the work” to arrive at the best deal. The question is whether multilateral search in a simultaneous manner makes traders and the market better off in terms of asset allocation and welfare.

Bilateral bargaining vs simultaneous multilateral search

In OTC markets, customers used to engage primarily in bilateral bargaining (BB), whereby they negotiate trading terms and execution prices with one dealer at a time. In this one-to-one setting, trading efficiency is primarily determined by “search intensity”, or how frequently a customer can search for dealers.

On the other hand, with electronic trading facilities, customers may also request for quotes from several dealers simultaneously and select the most attractive bid. In this one-to-many search, known as simultaneous multilateral search (SMS), efficiency is influenced by a second factor – the number of dealers one can reach at any one time, or “search capacity”. Yet the effect of search capacity on prices, efficiency of matching, and maximisation of gains from trade have not been sufficiently studied nor understood.

At first glance, it may seem that SMS offers faster connection (via electronic platforms), encourages competition and hence gives a larger share of the trading gains to customers. Our analysis, however, reveals a potential downside.

In a study on [simultaneous multilateral search](#) with our co-author [Ji Shen](#) from Peking University, we developed a theoretical model that augments the [classical OTC bilateral bargaining model](#) by introducing search capacity to better understand one-to-many search. We examined how SMS technology affects asset allocation, welfare and customers’ search preference. Do they favour SMS over BB? Are their choices efficient?

Looking through the lens of welfare

In economics, the optimal allocation of resources, goods and income, or welfare, is the ultimate goal. Although welfare cannot always be quantified or measured in the real world, it can be inferred in computational modelling. Our model acts as a laboratory to observe changes in welfare when the environment, such as market structure, changes.

In a BB scenario, the gains are split based on exogenous factors such as the bargaining power, negotiation skill and patience of each party. In a SMS scenario, it depends on factors pertaining to competition, such as how many dealers are sought and how many have the desired asset. These endogenous parameters can be modelled to understand how gains are split and if welfare is maximised.

Our findings show that when a customer can search more frequently, asset allocation and welfare is always improved. In contrast, when a customer is able to reach a larger number of dealers (increased search capacity), welfare may be compromised due to a “dealer bottleneck”, whereby more assets being “clogged” among the pool of dealers. The bottleneck thus leaves more customers unmatched and ultimately results in higher unrealised trading gains.

Competition is key

While “letting the competition do its work” in SMS is expected to result in the best deal, it is not always the case. In conditions where competition is insufficient, the deal might in fact be inferior to one negotiated bilaterally.

When demand exceeds supply, the matched dealer – knowing that the customer may not find any other dealer – might charge a monopoly price, leaving the customer with a small share of the trading gains. The problem is exacerbated when customers have a low chance of bargaining with dealers after requesting for quotes. In contrast, a customer bargaining bilaterally might be able to improve trading gains through negotiation.

Moreover, when there are signs of market distress, competition tends to be disrupted. Fewer dealers may have the desired asset or it may be more difficult to identify potential matches. In such uncertain times, customers are more likely to turn to bilateral negotiation, which offers better information symmetry. The lower resilience to market disturbances may explain the sluggish adoption of SMS trading among customers.

Ultimately, the level of competition is endogenous and depends on many factors, such as the state of the market and market transparency.

Is transparency friend or foe?

Market transparency is important to regulators but lacking in OTC markets. An OTC trade can be executed between two parties without the price point

being known to the public until after the deal is done. While market transparency is generally desired, increasing transparency in SMS is not always beneficial. Our model shows that better inventory transparency might in fact hurt welfare in some situations.

With more information on dealer inventories (through recently reported trades or other means), customers can better streamline their search to a subset of dealers who are more likely to have the desired asset. The more transparent the market, the more likely they can direct their searches more accurately. On the other hand, dealers bidding “in the dark” leads to greater information asymmetry between customers and dealers, and hinder efficient asset allocation.

What the customer wants

From the market regulatory point of view, higher search capacity and transparency are not always ideal. Competition is a key factor when assessing the merits of SMS, alongside market conditions (stable or in distress), whether the demand and supply of the asset is generally balanced, and whether the market is operating with transparency.

Whether customers choose conventional BB or SMS ultimately boils down to the the expected flow of trading gains of each search method, which depends on how frequently the customer can search, the likelihood of finding a match and the expected share of trading gain. While SMS may be more efficient under certain market conditions, a market-wide shift to SMS may not necessarily be socially optimal.

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About the research

[“Simultaneous Multilateral Search”](#) is published in *The Review of Financial Studies*.