

## **The Price Discovery and Allocation Process for Equity Offerings**

### ***Mitigating Information Asymmetry to Improve Confidence and Efficiency in the US Capital Markets***

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The book-build and, more recently, the Dutch auction processes, have successfully matched trillions of dollars of investment capital to issuers over the history of the public U.S. capital markets. The depth and fluidity of U.S. capital markets exceed any other in the world; however, recent regulatory action against, and large financial settlements by, numerous broker/dealers with regard to underwriter research, IPO pricing, securities allocation, and aftermarket trading commissions, provides the moment to review available approaches for the U.S. to further improve its capital markets.

These regulatory actions sought to inject more transparency into price discovery and greater allocation fairness into the capital raising system. A key factor in the historical lack of transparency and fairness is the asymmetrical information relationship between investor and underwriter whereby the price discovery and allocation process rest solely within the underwriting community. This white paper reviews the price discovery and allocation process currently in use and proposes some methods to mitigate the asymmetric information relationship in an effort to improve the confidence in and efficiency of the US capital markets.

#### Price Discovery

Investment securities may be sold to institutions or to individuals and sold in public or private offerings. Companies with favorable profiles can raise significant funds by selling stock. The amount of money raised depends on the unit price of the securities sold and the number of units sold. One example of a securities offering is an initial public offering (IPO) where a private company makes a first offering of stock to the public. Because there would have been no prior public market to establish a price-demand curve for the securities, it is difficult to price an IPO. Prospective investors may also be uncertain about an appropriate price to offer for the new stock.

Generally, the company contemplating an IPO (the issuer) selects a lead underwriter for the offering and that underwriter uses a variety of methods to develop information on possible demand for the securities, and thus, to establish a price per share. The underwriter must contact potential buyers and work with them to determine the price (if any) they are willing to pay for the to-be-offered securities. With sufficient firm bids in hand, the underwriter can then price and sell the securities, making allocation decisions as needed, if the bids exceed the amount of securities offered. It is this ultimate offering of stock that the public knows as the IPO.

During the course of the securities registration period, the issuer and its underwriters may mutually agree to change the proposed price range or number of shares offered in response to: (1) the impact of inferred market conditions on potential demand and pricing; (2) feedback the lead underwriter receives from its syndicate's respective distribution network of salespeople and brokers; or (3) specific issuer demands or objectives.

In public securities offerings, a lead underwriter (book-runner) manages and coordinates the entire process of a securities distribution and has sole access to an aggregated "book" of bids, as well as the discretion to allocate securities to bona fide investors. There are several possible methods a book-runner can utilize to price and distribute securities; however, "book-building" is most common. On occasion, a "Dutch auction" method is used. Both methods serve as a means to collect, aggregate and calculate a final price and allocate shares. On rare occasions, a lottery is held by a specific underwriter during an oversubscribed transaction to allocate a portion of shares for retail/individual investors.

#### Pricing and Allocation of Demand

The objectives of both the "book-build" and "Dutch auction" offering methods is to aggregate and qualify all demand (excluding non-bona fide or outlying bids) and create a clearing price. In both processes, the underwriters canvass the demand of investors via a road show, placing primary emphasis on large, institutional buyers who have the experience and resources to evaluate a company and determine a valuation for its securities. The two methods vary, however, in their determination of what constitutes the clearing price and in allocation of demand.

#### The Book Build Process

The book-build process of issuing stock, underwriters receive indications of interest that are forwarded to the book-runner, who compiles a list of bona fide potential investors, the security amounts they desire, and price level or limitations. The book-runner generally has total discretion to allocate shares and to move the price within the allowable range. Once satisfied with the process, the book-runner proposes final prices and terms to the issuer, as well as a "book" of investors recommended to receive allocations. Typically there is room for the issuer to negotiate several items such as price and preferred investors. Once an underwriting agreement is executed, the orders from investors are confirmed. (Investors may also cancel their order up to this time for any reason, including if the terms, conditions, or price have been varied as a result of negotiations between the book-runner and issuer.)

Inherent in the book-build process is an estimation of the discount (if any) required to attract investors to a new issuer (versus other similar public comparables). This discount then forms the basis for the so-called aftermarket “pop,” or value increase on the first day a stock is issued. A “pop” enables the transaction to be perceived as a success in the investment community, compensates investors (mostly institutional) for taking a risk on a new issuance of a security, and reduces the odds that the underwriters will be left holding the security (which could happen if investors failed to pay for their allocation because the security traded immediately below its issue price). Alternatively, a disproportionately large “pop” often means there was large, unfilled demand. Such under-pricing may deprive the issuer of useful incremental capital. Instead such profits flow to the secondary markets (i.e., investors and traders).

The book-runner has sole discretion to accept orders and to allocate shares (though generally the book-runner takes issuer preferences into account to the degree that a reasonable transaction may still be executed). The book-runner often prioritizes and maximizes allocations to customers who are considered knowledgeable about the issuer’s sector and who have a history of maintaining reasonable holding periods for securities purchases via a new issue (i.e., they are not short-term “flippers” who immediately, or a short time after purchasing an IPO, trade a security back to the syndicate to collect a profit or limit a loss). An investor desires to obtain an allocation reflective of its view on that issuer’s sector and commensurate with the customer’s overall portfolio size.

The book-runner must mitigate the risk of conflicts of interest inherent in having two clients, one on each side of the transaction, i.e., the investor and broker/salesperson v. the issuer and the corporate finance banker. In addition, the book-runner has obligations to its own representatives.

Other general securities underwriting challenges include allocation issues where it is frequently difficult for a small investor to obtain shares of a “hot” issue, and pricing quandaries based on the tradition that the underwriting process is a closed process where only the underwriters know the demand price and overall interest level in a given offer (i.e., asymmetric information) and there is no real-time feedback to investors about their bid price or potential allocation before the auction closes, which would have permitted them to refine their bid to the benefit of all parties.

The book-building method lacks transparency. That is, investors have no opportunity to review the aggregated source bid data or the rationale upon which the book-runner bases the final pricing. Further, there are barriers inhibiting pricing feedback between the offering syndicate and the investing community, so that communication of pricing information is not truly real-time. The issuer and its bankers are traveling on a “road show,” often globally, to meet potential investors, which can exacerbate timing lags in communication and decision making. During the course of the road show there are many layers of communications among the syndicate, their respective distribution networks, and potential investors, each of which can create a timing lag, as well as the potential for miscommunication.

Time lags occur because the entire distribution system and syndicate must canvass demand, primarily in the oral format, and then take the time to convert the raw data into useful computer-based analytical materials. Time lags and inefficiency of information collection also arise because the syndicate suffers the same vagaries of human interaction that exist in a typical vendor/customer relationship. A given salesperson/broker may not have a strong enough relationship with his/her customer to elicit timely feedback, or may decline to make further follow-up calls requested by the book-runner on any specific securities transaction in the short-term, for fear of upsetting the long-term customer relationship.

Another limitation on communication is created by SEC regulations. SEC regulations strictly limit the information a broker/dealer involved in a securities distribution may provide to the information it puts in the offering's prospectus. Thus, by law, underwriters may not show investors any other data, no matter how valuable the market might deem it, lest such information be deemed a prospectus subject to SEC review. Trying to provide the marketplace with additional information beyond a traditional prospectus creates an unworkable paradox because of the regulations placed on the broker/dealer community. Providing the data would require adjusting the prospectus, which would take time. As a result of changing the prospectus, the market has an opportunity to change its view on the security's value and offering price. Thus, no market equilibrium is reached, and with multiple prospectus adjustments the final pricing could theoretically be delayed substantially. This can hurt the issuer, underwriter and the efficiency of the capital markets.

Depending on the security and type of registration document that the issuer utilizes, SEC regulations may also require that, if the total dollar amount raised based on the final pricing is increased or decreased by greater than 20% of the latest prospectus filing amount, the issuer must file an amended registration statement with the new amounts and wait 48 hours for effectiveness of such amended registration statement. Facing such a time delay forces underwriters and issuers to weigh the costs and benefits of filing any amendment to the prospectus.

Miscommunication can result from simple verbal or body language miscues, interpretive mistakes in converting oral instructions to written, or a misunderstanding by the broker/salesperson or customer of the issuer or its proposed transaction terms and conditions. Such miscommunications increase the risk of erroneous data being factored into the pricing.

Disinformation results from investor tactics employed to offset the asymmetric information balance between any one investor and the book-runner, who is the only entity with full access to all investor bids and the issuer's objectives. The largest investors are heavily courted during a securities transaction as a result of their collective buying power and knowledge of securities valuation. As a result, they know their inputs are valuable to the book-runner as well as to other potential investors.

The buyer's desire for the lowest possible price for the investment can also contribute to disinformation in the early stages of a securities transaction. Customers often worry that conveying, or "exposing," their true bid price level (and knowledge) early to a broker/salesperson may result in higher pricing, and/or could be shared with other customers during the canvassing of demand (as a result of the oral-based nature of the book-build process).

Disinformation tactics often lead to a rush of bids and price changes at the end of the process – and such a change in price or demand can catch a book-runner unprepared. If the change is large enough, the issuer may need to file an amendment to its registration statement to capture the increase in demand or pricing (also creating a time-lag, as described above), or accept that such unfulfilled demand and price flexibility from customers will result in potentially lower proceeds than justified and an excessive aftermarket "pop."

### The Dutch Auction Process

New offering processes, such as the "Open IPO" where the offering price is determined via a "Dutch auction" methodology, have recently been introduced. In a Dutch auction, the price at which the company sells shares to the public is based upon actual bids from institutional and individual retail investors. The offering price is determined by sorting all of the bids from high price per share to low price per share, and summing shares bid until the supply (the number of shares the company desires to sell) is met. The price per share of the lowest bid that fulfills the supply available is the price that all investors in a Dutch auction securities offering receive. This approach improves price discovery relative to the book-build process and places institutions and retail investors on more equal footing.

In a Dutch auction, bidders are qualified by the lead manager to participate and receive a bidder identification number. When the bidding period opens, investors may submit one or more bids of varying amounts. Bids may be modified while the auction is open; however, they become final when the auction closes. The Dutch auction manager reserves the right to eliminate bids it considers manipulative (excessively high or large bids). The price per share of the lowest bid that fulfills the supply available is the price that all investors in a Dutch auction IPO receive on their investment. The Dutch auction considers the individual's bid equally alongside an institutional bid without regard to number of shares bid.

Offerings built on the Dutch auction process have several limitations. While more fair and democratic to a broader spectrum of investors than a book-build offering, in the sense that those at or above the clearing price receive allocations irrespective of their investment “pedigree,” a Dutch auction is not necessarily more “open” or transparent to all participants. First, the underwriters may choose to prohibit participation of certain parties based on their own review and qualification criteria, so it is not truly open to all bidders. Second, because the bids for an open offering are known only to the underwriters (again the asymmetric information quandary), it is impossible for bidders or potential bidders to know whether their bid is likely high enough to purchase shares until after the auction process is completed, thus there is no more transparency in a Dutch auction than a book-build. Experience with Dutch auctions for securities underwriting has shown that there may be completely different demand curves for retail and institutional investors. For example, in an IPO, retail investors may get caught up in the frenzy of an IPO and overbid for the offering.

While there is some protection from overbidding – if an investor bids \$100 per share and the security is priced at \$20 per share, all investors are charged \$20 per share – this protection is not absolute. If many investors bid irrational prices in an attempt to guarantee participation in an offering, the result may be to drive up the price of the offering artificially beyond the true market price (commonly known as the “winner’s curse”). Subsequently, all investors may lose money if the price drops.

Further, in some Dutch auction securities offerings, underwriters have the right to disqualify bids that are deemed to be “manipulative” by the underwriters. The rules to determine what constitutes “manipulative” are typically not defined to the public and an investor bidding too high may find himself disqualified from the offering. There is no mechanism for participants to review the demand curve of the open offering in advance to determine whether their bid level is likely to be viewed as manipulative. For example, a participant might want to know that his bid is more than a certain amount higher (for example, three standard deviations) than the mean bid and thus likely to be discarded.

There is also no mechanism for participants in a Dutch auction to understand the effect on their bid if the underwriter decides to lower the offering price to a level below what the statistics of the securities offering would otherwise indicate (e.g., will the underwriters price the securities at 5%, 10%, or 20% below the auction-based price level). There are issues for institutional investors with regard to maintaining an optimal investment position size for any given issuer in their portfolio. Thus if the institutional investor were to receive too small of an allocation due to a unilateral clearing price reduction by the underwriter and/or issuer, it would either need to purchase more shares in the aftermarket or would consider “flipping” its sub-optimal sized allocation back to the syndicate — creating an unattractive dilemma for either underwriter or investor.

Further, in a Dutch auction, conflicts of interest arise among underwriters with retail distribution networks (i.e., individual investors). There is difficulty in determining how to protect the privacy of a broker's accounts while qualifying such retail investors. The traditional book-build process for retail distribution is opaque from each underwriter's point-of-view, as the specific retail customers' identities are kept confidential from any other broker/dealer involved in the offering. In a book-build process, co-managers and syndicate members of the offering, who actually plan to sell the securities (collectively, the "selling group") are given an allocation of priced shares that may or may not directly correspond to their retail network's aggregate demand. These priced securities are then allocated at the discretion of that specific underwriter (or more rarely on a "first-come, first-serve," or lottery, basis) to their individual retail clients. In a Dutch auction, the trade-off for a more democratic and fair process for the smaller investor is that the broker/dealer must allow his customer to be reviewed and qualified by another underwriter who may become a competitor for that very customer relationship. This also creates concerns of privacy among underwriters, because one underwriter may not want to share the bid data and the qualifications of a list or particular investor. The one underwriter will not want the lead underwriter to be able to see the demographics or even possibly names and addresses of that underwriter's account base.

#### Potential Approaches to Reduce Asymmetry and Improve Price Transparency

Simply put, the underwriter has a strategic and thus financial advantage because they have all knowledge of bid levels and demand as well as the issuer's objectives whereas the investors only have their own collection of individual thoughts. One investor provides some value to the overall investment community when they contribute their viewpoint; however that same investor receives significantly more value in return when they receive feedback on how their viewpoint fits within the investment community. The problem is the underwriter receives the "utility" or benefit of the collective viewpoint rather than have that utility shared with the investment community—thus there is a net loss of utility to the investment community that may be manifested in lower prices, less confidence in or reduced efficiency of capital raising transactions.

The World's greatest economists have written on the importance of this market phenomenon for hundreds of years. In the mid- 1700s Adam Smith and a century later Alfred Marshall wrote extensively on the importance of transparency, price discovery and the benefits of feedback from market participant interaction.

**Asymmetry**--"If the market is at a great distance from the residence of those who supply it, they may sometimes be able to keep the secret for several years together, and may so long enjoy their extraordinary profits without any new rivals." Adam Smith, *Wealth of Nations* (1759)

**Price Discovery**--"If a sufficient number of tables of demand by different sections of society could be obtained, they would afford the means of estimating indirectly the variations in total demand that would result from extreme variations in price, and thus attaining an end which is inaccessible by any other route" Adam Smith, *Wealth of Nations* (1759)

"The general demand curve for a commodity cannot be drawn with confidence except in the immediate neighbourhood of the current price, until we are able to piece it together out of the fragmentary demand curves of different classes of society" Alfred Marshall, *Principles of Economics* (1890)

**Market Participant Interaction**--"Every faculty in one man is the measure by which he judges of the like faculty in another. I judge of your sight by my sight, of your ear by my ear, of your reason by my reason, of your resentment by my resentment, of your love by my love. I neither have, nor can have, any other way of judging about them..." *Theory of Moral Sentiments* (1776)

The invention of the Internet finally allowed such vaunted theories to be put to successful practice in many fields. The Internet provides search for information and the comparison of goods and prices on a broad and real-time basis. Applications such as eBay provide marketplaces where buyers and sellers converge to determine "fair" prices for products via the dynamics of public auction. There are other collaborative systems where participants can rate or rank goods or vendors, or "name their price" in a spot market. Currently there is no equivalent for transparently developing the fair price of financial securities to be issued in an underwritten offering outside of the NASD regulatory framework in which it resides.

SEC regulations prohibit investor receipt of research from their brokerage firm regarding a security issue if their firm is involved in that distribution until 25 to 40 days after the transaction is completed. This is commonly known as the "Quiet Period". This longstanding restriction was rightfully designed to protect investors from broker conflicts of interest and general "touting" of securities beyond their real merits.

The rapid information gathering and dissemination on the Internet has at times placed the Quiet Period at strange odds with the investors it was designed to protect. The Internet has the ability to be used for productive or malevolent purposes, but it is undeniable that it is a faster aggregator and communicator of information that helps support the registration statement of the issuer. Then-SEC Commissioner Isaac Hunt Jr. said in 1999 that a better use of Internet communications could lead to a transformation from "the waiting period to the education period." This idea was never acted upon and in the intervening years investors have been left to their own devices to secure additional information that they deem relevant.

Private research services have been available for retainer, but are far outside the reach of nearly all individual investors and many moderate sized institutions. Thus by the time an investor receives this type of third party perspective, they likely either already own the security, or have missed a potential buying opportunity due to their reticence to buy until they had more information.



When the underwriter finally can deliver research reports about the issuer to their customers, not only has significant time and opportunity elapsed in those intervening 25-40 days, but it is hard to ignore the fact those research reports are written by firms that were compensated to structure, price and complete the offering, and make an ongoing market in the stock. Naturally, this business model has raised concerns regarding the independence, objectivity and value of such research culminating in a \$1.4 billion settlement by many of the leading brokers on Wall Street and the addition of more restrictions. However, neither the settlement nor the new restrictions really get at the heart of the matter for investors, and ultimately the confidence and efficiency of the capital markets: information asymmetry between underwriter and investor.

To mitigate this asymmetry investors have tried any number of “coping strategies”, from providing selective disclosure or disinformation to the underwriter, to spending considerable management and financial resources on research and price discovery services. Less well-heeled investors can find copious amounts of general news and information related to an upcoming public securities transaction via web sites like Yahoo!, Reuters, or Google; however, there is a dearth of public web sites that provide in-depth information and tools relevant to a detailed analysis of a stock transaction. There are broad-based web sites such as the IPO Financial Network, or IPOHome.com that specifically cater to IPOs. There are also temporary niche sites such as [googleiposwami.com](http://googleiposwami.com), [goggle-ipo.com](http://goggle-ipo.com); sites such as Iowa Electronic Markets which act like a derivative or futures market to establish a price for a security; or online offshore gaming sites such as [tradesports.com](http://tradesports.com), which allow wagering on IPO outcomes.

Many of these sites allow participants to vote, via polls, on what they believe the results of an upcoming offering will be; create model portfolios and compare their portfolio’s performance to that of other participants; or even place monetary bids based upon whether an offering will exceed a particular value. However, voting and online offshore gaming are less likely to produce information useful to real investors about interest level and pricing on an upcoming stock offering.

Voting is not effective because the single votes of small and large investors would carry the same weight, which would be misleading given the different bid sizes that would occur in a security offering. Furthermore the polling sites generally allow users to vote for free. Such lack of financial risk and strict dependence on user trustworthiness are significant weaknesses -- there is no penalty for being wrong or misleading.

Web-based offshore gaming does not provide transparency between institutional and individual investors, and is not legal in the US, and as such, needs no further discussion.

None of these systems is appropriate to provide the relevant feedback and analysis for a securities offering and will likely provide inaccurate or suspicious results. Thus, participants may place irrational wagers for an upcoming IPO, because there is no financial deterrent against wild guesses. The absence of realistic participation rules means that participant behavior and, thus, the process results lack realism.

An application such as the Iowa Electronic Markets can provide some value, but most are structured as contracts that pay a certain amount if a price threshold of the event is reached, and pay nothing otherwise. If participants utilize real money for these methods, these “markets” may provide information of more value. However, there is considerable information missing from the results produced in such systems. For example, it is not possible to differentiate between the demand curves for institutional investors and for retail investors. Each group may have substantially different risk-reward profiles and amounts of capital to invest. Also, such simulations do not offer simulation participants a full range of bid sizes. For example, Iowa Electronic Markets have an account limit of \$500 invested per participant. Thus, there is no means for an institution to simulate the results of a \$20 million bid in a large public offering. There is also a question of whether a derivative market can even legally exist to provide true futures contracts for IPOs — SEC rules prohibit a whole series of so-called “when-issued” gray markets, as well as restrict the ability to borrow/rehypothesize stock, or short an IPO before the end of the quiet period, which is approximately 25 days after the IPO.

All of these creative efforts by investors indicate there is an investment community need for its own proprietary service to mitigate information asymmetry.

#### Benefits of Well Auctioned Process

Well Auction provides an efficient, organized forum for the investment community to convene to learn about a specific upcoming IPO. Well Auctioned endorses an educational approach of “learn and do” which reinforces good research and data gathering habits among all investors and instills confidence in the capital raising process.

“Learning” is accomplished in several ways. First a participant can review Well Auctioned’s extensive website with links to relevant news stories and articles. Second, customers can purchase independent research by experienced analysts that Well Auctioned has commissioned to be available for its customers. This research is developed and priced to suit the full spectrum of retail or institutional investors. Well Auctioned also provides many of the other supporting financial information that discriminating institutional investors demand such as detailed analysis and regular updates of an IPOing company’s public comparables, as well as the ability to have a conference call with the analyst to hear some timely feedback about the market’s impact on the IPO.

“Doing” is accomplished by a customer putting their newly found knowledge to the test in a simulated auction with other participants. Not only does the simulation induce the customer to take action (getting over the inertial problem that many well-intentioned investors face), but it allows for some perspective to be gained on how that mock bidding strategy stacks up against a “market” of other participants. Management believes that successfully repeating this cycle on a specific IPO and then over time on multiple IPOs will vastly improve investor knowledge and confidence. Demystifying the process is an important component to improving efficiency in capital raising. Once more investors realize the IPO process follows a certain pre-ordained process and is determined using fairly simple analytical means, then they will gain confidence and the markets will share in that benefit. But there is an even more important benefit that such “doing” creates: market data about customer “tastes and preferences” when it comes to an IPO.

Taken as a whole for the investment community, these “tastes and preferences” of investors are in fact a vital data set that has the ability to act as a counterbalance to the asymmetrical information relationship between the investor and the underwriter. The ability for an investor to receive such feedback about how their individual viewpoint squares with that of the group, ahead of the actual IPO, and without risking significant capital would be highly valuable. Additionally this “utility” or benefit is shared only among the members of Well Auctioned’s customer community, thus there is limited “economic leakage”. In time the aggregate Well Auctioned community utility would rise and be manifested in better informed customers who have the ability to execute their financial objectives more closely and efficiently. These successful customers would in turn attract other customers to the community, thus enhancing the value of the group’s data until theoretically it resembled that of the market. At such time the asymmetric imbalance would be largely mitigated, with the prime imbalance still owing to the underwriter’s knowledge of specific issuer targets, though the issuer, too would be interested in the viewpoints of such a community to complete their offering. If so, the issuer asymmetry is not a major impasse to improved capital markets efficiency.

Well Auctioned utilizes an auction simulation or emulation method that relies on collaborative forecasting to provide transparency on potential demand and pricing back to its participants in advance of a real transaction. These simulations can be modeled after the actual intended IPO distribution using either the traditional “book-build” or “Dutch auction”.

Well Auctioned can be used for a variety of purposes. It can track customer behavior and demand amongst retail versus institutional constituencies. Such retail or institutional demand could be converging or diverging with important ramifications on an IPO for pricing and aftermarket performance. Well Auction's data can also give a window on aftermarket performance by charting unfulfilled demand. Well Auction's research also has value to traders in the month following the IPO, when the underwriters (and biggest market-makers for that stock) are prohibited from distributing research during the "quiet period". Finally Well Auctioned could play a helpful role longer term in situations where independent market valuations of companies are required for a financing. Well Auctioned's skilled community would be able to add a market dimension to the valuation that even skilled corporate finance professionals could not.

### Conclusion

We believe that transparency and fairness are not a function of the pricing and distribution method per se, but rather the result of an historical asymmetric information relationship between investors and the underwriter caused in part by the guild nature of the brokerage industry intertwined with a complicated body of regulatory requirements. The Internet offers the capability for companies to develop products and services to rectify that asymmetry to the benefit of investors, issuers and the capital markets.

For further information on Well Auctioned LLC, interested parties are invited to review our website at [www.wellauctioned.com](http://www.wellauctioned.com) or call Well Auctioned's public relations at 203-769-0160.