

The Modern Small-Cap Market: A Market Model



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There are no easy answers to the challenge of creating and sustaining liquidity in a marketplace, but adaptive technology can make an exchange more responsive to factors that promote liquidity.

The liquidity problem is most pronounced in the markets for small-cap stocks, whose fortunes tend to be exaggerations of the senior markets. When times are good, the volumes can swamp the exchange. And when they are bad, they are depressingly bad. But, in the small cap markets, there are ways to lessen the impact of these cycles and to aim for sustainable liquidity levels over the long term.

This paper lays out some ideas about how small-cap markets need to be structured today to promote and preserve liquidity. In particular, there is a need to use adaptive technology that can link participants and deliver relevant information in a highly automated and efficient manner.

We acknowledge that the dynamics of trading small caps inevitably involves human factors that may not seem to readily lend themselves to automation. The scale of the enterprises listed on a small-cap market implies a more personal form of information dissemination and negotiation. It is important to ensure technology is deployed in a way that complements those human factors, rather than making futile attempts to usurp them.

This means building a marketplace that brings all its stakeholders, not just traditional exchange member, into the infrastructure to maximize information flow and participation.



THE MODEL

Key Elements

We believe these are the key elements to ensure small-cap markets can be sustained:

Regulation: A regulatory regime that accepts business failure (amongst issuers) as an unavoidable fact of life, but has no tolerance for the abuse of investors' funds.

Market Making: A market-making regime that rewards providers of liquidity and promote active participation in the markets by dealers who use their own capital.

Investor Access: An accessible market that minimizes the barriers between investors and the marketplace and encourages participation by a diverse range of market users.

Transparency: A transparent market with respect to information flow. This includes open and immediate delivery of relevant corporate information to the marketplace, without making disclosure such a high cost of business that it negates the benefit of being publicly traded.

With the exception of the first key element, Regulation, all can be addressed in an optimal manner if the market operator makes appropriate use of technology.

Technology is not the solution itself, but it provides the framework for making the marketplace a business success. We explain why in this paper.

Market Making

For small-cap stocks, liquidity is typically intermittent. In such a case, the most effective way of helping to ensure there is an available market for investors is to use a specialist or jobber system, with a single¹ firm being responsible for each issue.

¹ Where there are competing market-makers, the privileges of each market-maker may be less than those afforded by the solo specialist. A competing market-maker model is harder to sustain in a small-cap market because the market-makers only participate in a portion of the order flow, and that order flow may already be sparse.

To do this manually across a wide range of stocks, a significant amount of hands-on involvement is required. However, most of the logic determining how a specialist should respond to a given situation can be programmed. The variables that a specialist needs to monitor are:

- Trades
- Changes in order price
- Changes in order volume
- Quote requests (if applicable)
- News events

All of the above variables are subject to programming logic, which can generate information for the specialist to act upon manually or in an automated fashion.

Traditional electronic exchanges assume a market where all marketable limit orders match and all quotes are firm. This model does not work as well in the small-cap arena, where the specialist needs protection from sudden movements in market prices.

A specialist willing to commit capital and resources to a potentially risky enterprise needs a set of business rules that allow control over the order book (e.g., sole access, along with the exchange, to the order book's contents). This is contrary to the "level-playing-field" philosophy of most electronic exchanges. We are not arguing that the field should be tilted in favour of the specialist's trading profits but the field should be positioned to help the specialist avoid catastrophic losses, and in a manner that is seen to be fair to all participants.

This model does not assume that the specialist role could or should be wholly automated. There will always be a need for voice-based negotiation in the market for small-cap stocks, meaning there is a need for a hybrid system, part automated and part manual. This idea underscores the importance of not adopting the standard European model of an auto-matching, limit-order book.

Nevertheless, auto-matching is a highly desirable component of the successful market, since large trade volumes can be handled by automation, ultimately lowering the costs for everybody. It also allows the specialist to



focus more attention on handling larger or more complex orders.

Maintaining an optimal, market-making regime can be a complicated task. It includes a combination of incentives for market-makers and other potential liquidity providers, matching rules, and other trading rules that can change from time to time (and from symbol to symbol).

This implies that technology needs to deliver a model where the emphasis is more on functional flexibility and is less obsessive about performance², which is the number one concern of many larger exchanges.

Investor Access

A small-cap market in a large economy is at a disadvantage. It does not have a loud voice amid the clamour of activity in the senior market; therefore, it needs to be unusually receptive and open to investor interest.

Clearly, being receptive nowadays requires a good Web presence. Market quotes, order submission, and trade confirmation need to be highly seamless and accessible. How this works may vary from one market to another and the degree to which it can be successfully instituted depends upon the quality of the intermediaries that distribute order flow. Note that unless the right technology tools are made available these intermediaries, there are impediments to order flow. There is, therefore, a strong case for the small-cap markets either to directly provide Web-based, order-management tools facilitating investor access, or take steps to ensure that such tools are available from third parties.

The existence of this investor access mechanism means the small-cap market becomes an interactive network linking investors to specialists and the broader marketplace. Specialists may even inform investors through messaging or phone about supply and demand for a stock (to sell or lend) so that investors and other participants

can become part of the market-making process. Such a structure is not required or considered appropriate in the senior markets since there are already professionals who supply such services. But the relative shallowness and fragmented nature of small-cap markets means those professional intermediaries are less motivated to provide those services in the smaller markets.

In effect, technology can be used to match supply and demand in more ways than by simply operating a limit-order book.

Of course, the system must also support standard interfaces, in particular Financial Information eXchange (FIX) protocol. Not only does this facilitate the incorporation of third-party, order-routing modules into the trading environment, it also maximizes the chance that orders from mainstream market participants reach the small-cap market.

Transparency

Clearly, then, there is less order and price transparency in a small-cap market than in larger markets. Similarly, small-cap issuers cannot be expected to adhere to the same disclosure standards as larger issuers of capital. Nevertheless, news reporting and issuer disclosure do have an important role.

The issuer is the third key player, alongside investors and specialists, in the game of capital transfer. The small-cap market's sensitivity to news, measured by volatility, is probably greater than a larger market. For this reason, specialists and investors alike have a vested interest in seeing issuers are brought into the network. Whether news is delivered directly from the issuer or through a distribution service is not the important point, but it does require prompt and fair delivery.

News is data and the system needs to treat it as such. Specialists may require the right to suspend quoting the minute that news is received to allow time for the news to be interpreted for its effect on prices. Re-opening of the market through a call-auction mechanism rather than re-opening the quote/order book is also a rational consideration. This is easy to do with a

² This is not to imply that performance considerations are unimportant; however, the emphasis on performance, in terms of numbers of orders matched per second, by many larger exchanges has often come at the expense of flexibility and usability.



flexible rules engine and almost impossible with a voice-based, manual system.

Bringing news into the data framework is therefore a key part of the technology in an effective small-cap market.

This analysis assumes that news is not structured data but, once the issuer is in the network, over time, the management of news releases can be enhanced so that information is distributed in a structured manner.

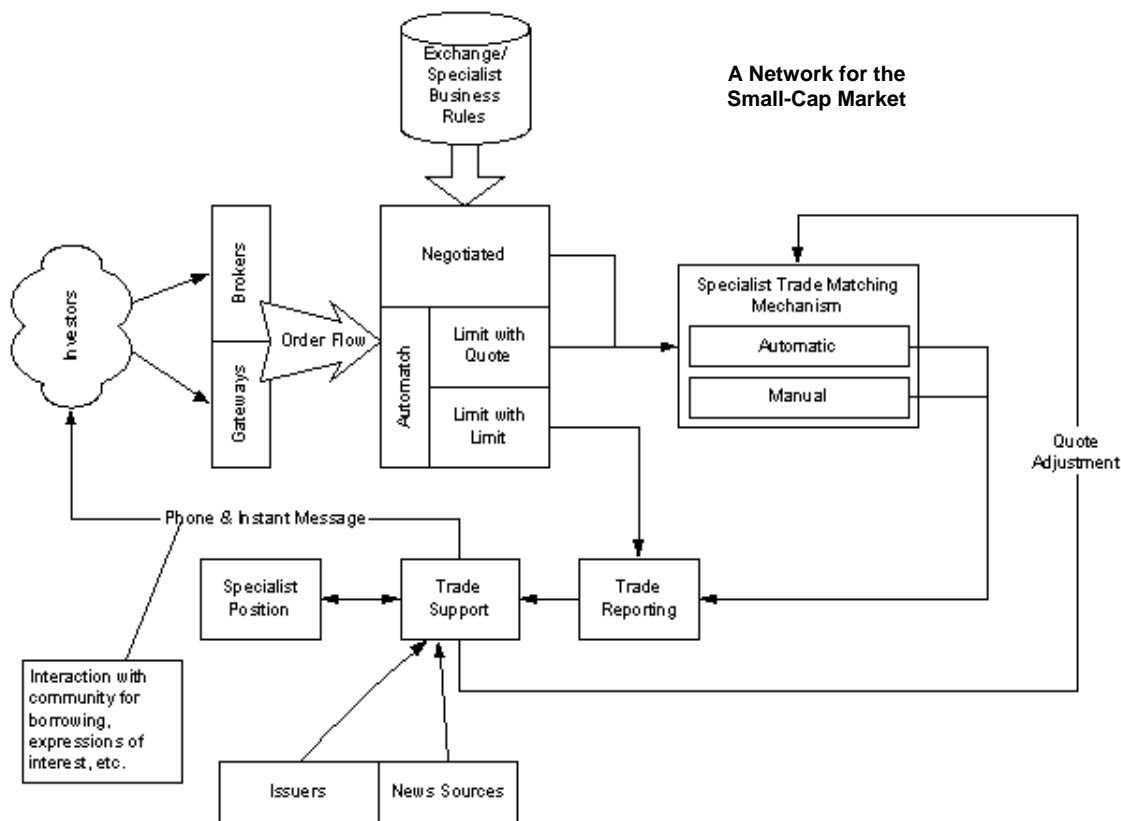
THE MARKET AS A NETWORK

An important message in the foregoing analysis is that a small-cap market needs to be

information is accessible and is delivered promptly and in an actionable manner.

Wherever automation can reduce manual effort, like quote altering during routine changes of price and volume information, then automation should be introduced. In situations where human over-ride is needed, like negotiating a block trade or the analysis of a news release, then the system needs to support the kinds of hands-on, human control that is typically reserved for exchange officials.

Moreover, the market should never waste an opportunity. Every event that occurs is an opportunity to promote liquidity; however, it is an opportunity that can only be achieved if



treated differently from a conventional exchange. It is a more intimate market in that its success requires the active participation of the key players. To win participation, the enabling technology needs to be simple but effective. It is useful to think of it as a network of diverse users with a common interest in the marketplace, where all

the network is pervasive among all the market's participants.

Rules-Driven, Business-Oriented Technology

We have presented a number of examples here that illustrate how the small-cap market



needs to be responsive to market events, where responsiveness implies flexibility. This can be realized if the technology supporting the marketplace is designed to be flexible.

Exchange functionality is built around rules. These rules define what can be done, by whom, and under what conditions. As a small-cap market evolves, it learns how to improve and expand the services it provides; and it will sometimes want to change its practices in accordance with changes in liquidity. This is best done within the framework of a flexible-rules engine that helps to change market behavior, even dynamically and intra-day. It also need to address the market behavior and needs of all stakeholders in the marketplace, not just the members of the exchange. The architecture to do this is not found in mainstream exchange trading systems, which are founded on powerful, heavy-duty architectures that are functionally unsophisticated. Instead, this task can only be addressed using a business-oriented design.

Component Architecture

Any technology architecture for a small-cap market clearly needs to be affordable. It so happens that the most appropriate design for a market like this is also the most economically optimal. Most of the components required to assemble this market are available as freestanding technologies. For example, Web interfaces, position management, risk management, order routing, and news dissemination. All of these are available as third-party tools in a very price-competitive marketplace. The business rules element that covers such things as symbol definition, order-book management, order matching, and trade reporting is not an off-the-shelf solution. This element, and the incorporation of all the components into a coherent framework certainly need to be designed for the market in question but the process uses concepts that have been tried and tested before and need not be costly.

The successful small-cap market of the future is a holistic market, where investor, specialist, exchange, and issuer can interact in real-time.

This model has not yet been fully realized, but the opportunity to create it exists now.

Getting Started

The technology required to create this model does not have to be implemented in one go. The component-based design means it can be implemented in phases and in accordance with commercial realities. But it is essential to start with a framework that anticipates the kind of market model described here, a market that evolves over time.

It is also a clear requirement that the network must be the first priority, since little value is offered by adding functions to a system that does not reach all of its participants.

CONCLUSION

The small-cap market is still in its infancy, as far as technology is concerned. No serious attempts have been made to build an automated marketplace that addresses the needs of the small-cap market. Most attempts at automation have involved imposing large exchange solutions on a marketplace that just does not fit that model.

Our view is the advent of the Internet and the accompanying open standards that it has spawned will change all that. Open, highly accessible, ubiquitous networks can now be created, where all participants are interactive participants who contribute to the flow of information and price formation. The continuous improvements we are seeing in merging voice, data and processing capacity into the same network bodes well for the future of small-cap markets. The fragmented and inaccessible markets that characterized earlier generations of small-cap market can be replaced by vibrant markets, whose role in the broader capital markets could become far more important in the future.

Technology is the enabler, but this vision will only become reality when operators and participants in that market choose to create it. Until now, the economic case for creating that reality was weak. We believe conditions are now right, using technology, to bring a business-oriented solution to the problem of sustainable liquidity in the small-cap markets.