MAKING THE TRADE: EQUITY TRADING PRACTICES AND MARKET STRUCTURE - 1994

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Abstract

This report summarizes the responses to a questionnaire sent to equity traders through TraderForum of the Institutional Investor. The respondents manage in total a very significant percentage of equity assets under management in the United States. The focus of the questions was the extent of the demand for immediate execution of orders. We found that the majority of traders are willing to trade patiently if this reduces execution costs. Many traders indicate that they frequently delay trades to obtain better prices. Most respondents indicate that they are typically given more than a day to implement a large order, that they typically break up more than 20% of their large orders for execution over time, and that they regularly take more than a day for a large order that has been broken into lots to be executed completely. There is a generally positive view of alternative electronic trading systems, such as Instinet and Investment Technology Group's POSIT. The key motives for trading on these systems are reduced market impact, lower spreads, better liquidity, and anonymity. The respondents indicate that the key changes that would make alternative electronic systems more attractive are an increase in execution rates and more convenient times of trading. The responses to the survey also show that alternative electronic systems would be used more if the traders did not have soft dollar arrangements.

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1. Objective and Principal Findings

Practitioners and students of the securities markets widely assume that traders demand immediate execution of their orders. Indeed, a major function of traditional broker/dealer firms is to provide the services that result in trades being made quickly. In volatile markets, an advantage of trading quickly is that opportunity costs (i.e., the risk of an asset's price "getting away" before a portfolio decision is implemented) are reduced. However, higher direct costs (i.e., market impact, bid-ask spreads, commissions, and other transaction costs) are generally incurred when fast executions are obtained. Little information exists about the relative importance professional asset managers attach to these two types of costs, and about the tradeoffs they are willing to make between them. The current survey is motivated by this lack of information.

The results show that experienced participants often do not trade with maximum possible speed so as to "nail down" a price, and that they do commonly work their orders patiently over time. However, the very dynamics of the continuous market appear to induce a demand to trade quickly. Based on the survey responses, we conclude that traders would be even more willing to forgo immediacy of execution if, by so doing, their direct costs of transacting could be further reduced.

Consequently, the survey findings have a major implication for market structure. Asset managers should be given the opportunity to delay their orders until predetermined points in time at which they may trade with each other at reduced trading cost. The incorporation of an

electronic call market would provide the requisite environment. A call market is an environment that enables buyers and sellers to meet at pre-determined points in time. We have elsewhere considered the desirability of holding an electronic call three times a day, along with continuous trading.[1] The call environment would provide a useful pricing device for the broad market, while resulting in lower transaction costs (bid-ask spread and market impact) for individual participants.

In recent years, increasing numbers of institutional investors are breaking out of traditional molds to explore various proprietary trading systems (PTS). With the exception of Instinet's continuous market, the PTSs are crossing networks (e.g. Instinet's after hours cross and Investment Technology Group Inc.'s POSIT system) and call markets that are capable of independent price discovery (e.g. the Arizona Stock Exchange's AZX system). Nevertheless, immediacy continues to be a major service provided by market centers such as the New York Stock Exchange (NYSE) and Nasdaq. These market centers operate on the assumption that participants want instant access to the market, and that they are willing to pay the price for trading with immediacy. However, consider the following:

- The pace with which trading progresses is not in harmony with the pace with which underlying investment decisions are commonly made. Institutional decision making with respect to fundamental information takes time. Investment decisions commonly involve information gathering and analysis, and the entire process can take place over a period of a day or more. Once a decision has been made, an order is typically brought to a continuous trading environment that accentuates the importance of minutes. Time is suddenly of the essence.

  Is it likely that the value of a decision made over a period of a day or more can decay within the span of an hour or less? Or, are dynamics that are

[1] See Economides and Schwartz, "Electronic Call Market Trading," *Journal of Portfolio Management,* vol. 21, no. 3, (Spring 1995), pp. 10-18.

endogenous to continuous trading the cause? Whatever the reason, the introduction of a call market would enable the pace at which information is released and portfolio decisions are made to be better harmonized with the pace at which trading is pursued. Both news releases and institutional investor portfolio decisions could be timed with reference to the schedule of the calls.

- The continuous market may actually make it more difficult for institutional investors to execute large orders at reasonable cost by the end of a trading day. Data collected by the Plexus Group indicate that roughly 67% of the orders given to buy-side trading desks are for more than half of the stocks' average daily trading volumes, and 40% of the orders are for more than the total average daily trading volume for the stocks.[2] Orders of this size cannot be traded quickly in the continuous market at acceptable levels of cost.

- There is a growing sentiment among institutional traders that they should have the opportunity to trade without intermediaries. The most effective way to do this would be to integrate continuous trading with an electronic call. This would allow individuals to unbundle the act of "trading" from the "immediacy" of a trade and, in so doing, to meet without the intervention of intermediaries. For instance, if an investor makes a portfolio decision at 2 p.m. and a market call is scheduled for the 4 p.m. close, the investor could wait two hours and trade at lower cost. In other words, the investor avoids paying the price of immediacy. If multiple participants do this, they will naturally meet without the assistance of an intermediary.

Little empirical evidence exists on asset managers' demand for immediacy. To assess this demand, 825 questionnaires were mailed to traders of managed equity funds, and 150 responses were received. These respondents represent approximately $1.5 trillion in equity assets under management. In broad sweep, the responses to the survey suggest that buy-side participants do trade patiently in an attempt to control execution costs. The key results include:

- Two-thirds of the respondents indicated that they are willing to trade patiently to reduce execution costs (Table 2).

- Nearly half say they frequently do delay trades in an effort to obtain better prices (Table 3).

[2] See Wayne Wagner and Mark Edwards, "Best Execution," *Financial Analysts Journal*, January/February 1993.

- One-third would regularly or frequently accept a trading delay of one hour for a $50 stock if they could save 25¢ per share in trading costs (Table 4).

- Nearly a quarter would regularly or frequently accept a trading delay of three hours for a $50 stock if they could save 25¢ per share in trading costs (Table 5).

- About one in five would regularly or frequently accept a trading delay of one hour for a $50 stock if they could gain anonymity on a trade of 10,000 shares or more (Table 6).

- Nearly two-thirds regularly or frequently use limit orders (Table 8).

- One-third report that 20% or more of their orders for a stock are larger than the stock's average daily trading volume (Table 15).

- More than two-thirds typically give more than one day to implement a large order for a small cap stock (Table 16).

- More than half typically give more than one day to implement a large order for a large cap stock (Table 16).

- Approximately three out of five break up at least 20% of their orders for 100,000 shares or more for execution over a series of trades (Table 17).

- Close to half report that they regularly or frequently take more than one day to completely execute a large order broken into lots (Table 18).

The picture that emerges is that immediacy is not commonly demanded by buy-side participants, and that executions for large orders are generally not realized within brief periods of time (a few hours or less). Respondents appear to be less concerned about trading quickly than about controlling execution costs, the loss of anonymity, and the information leakage that occurs when an intermediary is contacted. Understanding this is essential for making proper decisions with regard to the structure and regulation of our security markets.

We do not claim that immediacy is never demanded. For specific institutions and specific situations, the advantages of rapid trading may indeed outweigh the costs involved. Our objective, however, is not to assess the intensity with which most asset managers, or even the representative

asset manager, demands immediacy. Rather, we wish to determine whether or not a meaningful number do handle a substantial proportion of their orders patiently because immediacy is costly.

The report is organized as follows. Section 2 discusses the respondents willingness to accept trading delays. In section 3, we present findings regarding trading practices, order size, and transaction costs. In section 4, we discuss attitudes towards the use of alternative electronic trading systems. Section 5 contains our concluding remarks. Appendix A discusses the sample of respondents and their reasons for trading. Appendix B examines the differences between active and passive traders in their responses to the questionnaire. Appendix C presents the distributed questionnaire.

2. Respondents' Willingness to Accept a Trading Delay

The archetypal role of a dealer is to provide the liquidity that enables investors to trade with immediacy. "Immediacy," however, is a vague concept. For retail-sized orders, it could mean the ability to trade within a few minutes. Large institutional orders, however, would incur unacceptably large execution costs (bid-ask spread plus market impact) if executed so quickly. An asset manager seeking to buy 100,000 shares of a stock that on average trades 200,000 shares a day, might consider an execution obtained within an hour or even a day to be immediate. This section of the report contains our findings with regard to various issues concerning the patience with which a respondent is willing to seek a trade.

The first issue we address concerns the meaning of immediacy itself: how quickly must a trade be made to be considered immediate? Respondents were also asked what they would be willing to pay for immediacy, and how frequently they do in fact delay a trade in an attempt to obtain a better price. Respondents were also asked about their willingness to accept a trading delay

to reduce their trading costs or to gain anonymity. The extent to which index options and/or futures are used so that shares may be traded more patiently in the cash market, and the frequency with which limit orders are used also are reported here.

Time In Which You Consider A Trade To Be Immediate

With regard to the meaning of immediacy, we asked respondents if they would consider a trade to be immediate if it executed within a stated period of time (Table 1). The majority (71%) answered that a trade must be realized in under 10 minutes to be considered immediate. Only 3% answered "within 2 hours," and 6% said "within one day."

TABLE 1
Time In Which You Consider A Trade To Be Immediate

	Number of Respondents	Percentage of Respondents
Under 10 Minutes	107	71.3
1 Hour	22	14.7
2 Hours	4	2.7
1 Day	9	6.0
Other	7	4.7
No Answer	1	0.7

Willingness To Trade Patiently To Reduce Execution Costs

Having established a sense of what the respondents consider "immediacy" to be, the questionnaire asked about the respondents' willingness to trade patiently if their execution costs could be reduced by doing so (Table 2). A total of 67% indicated that they would be willing or very willing to delay a trade if it reduced their costs. Only 8% said they would not be willing.

TABLE 2
Willingness To Trade Patiently To Reduce Execution Costs

	Number of Respondents	Percentage of Respondents
5 (Very Willing)	51	34.0
4	50	33.3
3	34	22.7
2	6	4.0
1 (Not at All Willing)	6	4.0
No Answer	3	2.0

The Frequency With Which A Trade Is Delayed To Obtain A Price More Favorable Than The Current Market Price

Willingness is one thing; the perception of how frequently a trade is delayed is another. Therefore, the questionnaire asked how frequently traders in fact delay a trade in an attempt to obtain a price that is more favorable than the price currently prevailing on the market (Table 3). The vast majority (77%) of respondents said they delay trades in hopes of finding a better price for 25-75% of their trades. Only 11% said they "never" or "rarely" delay a trade for a better price. The preponderance of the respondents perceive it desirable to trade patiently.

TABLE 3
The Frequency With Which A Trade Is Delayed To Obtain A Price More Favorable Than The Current Market Price

	Number of Respondents	Percentage of Respondents
Never	3	2.0
Rarely (1-24% Trades)	14	9.3
Sometimes (25-49% of Trades)	62	41.3
Regularly (50-74% of Trades)	53	35.3
Frequently (75-100% of Trades)	16	10.7
Don't Know/Not Sure	1	0.7
No Answer	1	0.7

Willingness To Accept A Trading Delay Of One Hour For A $50 Stock If You Could Save 25¢ Per Share In Trading Costs

Evidence on the demand for immediacy was also obtained by asking respondents whether they would be willing to accept a trading delay of one hour if, by so doing, they could decrease trading costs by 25¢ a share for a $50 stock (Table 4). One in four respondents said they would "rarely" or "never" delay a trade for an hour to reduce costs. On the other hand, more than half said they would be willing to delay a trade to reduce costs on some or all of their trades.

TABLE 4
Willingness To Accept A Trading Delay Of One Hour For A $50 Stock
If You Could Save 25¢ Per Share In Trading Costs

	Number of Respondents	Percentage of Respondents
Never	24	16.0
Rarely (1-24% Trades)	13	8.7
Sometimes (25-49% of Trades)	29	19.3
Regularly (50-74% of Trades)	22	14.7
Frequently (75-100% of Trades)	27	18.0
Don't Know/Not Sure	19	12.7
No Answer	16	10.7

Willingness To Accept A Trading Delay Of 3 Hours For A $50 Stock
If You Could Save 25¢ Per Share In Trading Costs

Traders were then asked if they would accept a delay of three hours for the same cost savings. One in three respondents said they would rarely, if ever, delay a trade three hours. On the other hand, an appreciable subset (23%) said they would accept a three-hour delay regularly or frequently to save 25 cents per share for a $50 stock.

TABLE 5
Willingness To Accept A Trading Delay Of 3 Hours For A $50 Stock
If You Could Save 25¢ Per Share In Trading Costs

	Number of Respondents	Percentage of Respondents
Never	35	23.3
Rarely (1-24% Trades)	27	18.0
Sometimes (25-49% of Trades)	17	11.3
Regularly (50-74% of Trades)	16	10.7
Frequently (75-100% of Trades)	18	12.0
Don't Know/Not Sure	18	12.0
No Answer	19	12.7

Willingness To Accept A One Hour Trading Delay To Gain Anonymity On A Trade Of 10,000 Shares Or More

Respondents were also asked if they would delay a trade of 10,000 shares or more for one hour if, by so doing, they could gain anonymity (Table 6). Slightly less than half of the respondents said they would "rarely" or "never" delay a trade for an hour to gain anonymity. But 19% said they would do so "regularly" or "frequently." This indicates that an appreciable subset of participants commonly do not seek to trade immediately to preserve anonymity.

TABLE 6
Willingness To Accept A One Hour Trading Delay To Gain Anonymity On A Trade Of 10,000 Shares Or More

	Number	Percentage of Respondents
Never	40	26.7
Rarely (1-24% Trades)	34	22.7
Sometimes (25-49% of Trades)	20	13.3
Regularly (50-74% of Trades)	13	8.7
Frequently (75-100% of Trades)	15	10.0
Don't Know/Not Sure	19	12.7
No Answer	9	6.0

How Frequently You Wait More Than One Day Before Acquiring Or Selling Shares In The Cash Market If You Have Used Index Options And/Or Futures To Trade Quickly

One way to delay trading in the cash market is to trade a derivative contract to establish a position that is then converted into shares over time. Table 7 shows the responses from those that indicated that they use index options and/or futures to reduce their need to execute trades quickly in the cash market. These respondents were asked the frequency with which they would wait more than a day before acquiring or selling the desired shares in the cash market. A total of 46% said

they rarely or never wait. On the other hand, a significant number (27%) said they "frequently" waited.

TABLE 7
How Frequently You Wait More Than One Day Before Acquiring Or Selling Shares In The Cash Market If You Have Used Index Options And/Or Futures To Trade Quickly

	Number of Respondents	Percentage of Respondents
Never	12	36.4
Rarely (1-24% Trades)	3	9.1
Sometimes (25-49% of Trades)	4	12.1
Regularly (50-74% of Trades)	2	6.1
Frequently (75-100% of Trades)	9	27.3
No Answer	3	9.1

How Often Do You Use Limit Orders, Market Orders, And More

In Table 8, we report on the frequency of the use of limit orders, market orders, percentage orders, and basket orders. As expected, market, limit, and not held orders are all widely used, and in roughly similar amounts. Basket orders and index options/futures are not used very much.

Perhaps the most interesting finding is the extent to which limit orders are used: 52% of the respondents said they used them on at least half of their trades. The use of limit orders is essential to an order driven market. The dynamics of price behavior apparently compensates traders sufficiently for placing limit orders. Traders are explicitly not demanding or paying for immediacy when they use limit orders in seeking to trade.

TABLE 8
How Often Do You Use The Following:

	Never	1-24% of Trades	25-49% of Trades	50-74% of Trades	75-100% of Trades	Don't Know	NA[3]
Limit Orders	1.3	14.7	30.0	29.3	22.7	0	2.0
Market Orders	6.0	24.0	22.7	26.7	17.3	0	3.3
Not Held Orders	4.0	14.0	29.3	22.0	26.7	0	4.0
Percentage Orders	46.0	32.7	14.7	2.7	0	0.7	3.3
Baskets	69.3	22.0	3.3	0	2.0	0	3.3
Index Options/ Futures	70.7	12.7	8.0	2.7	2.7	0	3.3

3. Trading Practices, Order Size, and Transaction Costs

Trading practices, order size, and costs shed further light on the willingness of the respondents to trade patiently. The first question raised is the importance of the major costs of these three categories: the opportunity cost of missing a price, market impact, and commissions. Reasons to execute a trade quickly include the volatility of prices, the possible mispricing of stocks, and the prevention of front running. The costs associated with limit orders (e.g., the risk of non-execution and the difficulty of withdrawing limit orders quickly) also impact the decision to trade quickly. Respondents were further questioned as to their concern about information leakage when a broker is called, and about the frequency with which they demand capital from a broker for a block order.

[3] The indication NA stands for "No Answer".

Attitudes toward costs are also reflected in the respondents' answer to one other question, "How frequently do you decide not to adjust your portfolio because the market is too illiquid?"

Concerning the size of their orders, respondents were asked about the frequency with which an order for a stock is larger than the stock's average daily trading volume, the time commonly given by portfolio managers to implement large orders, and the frequency with which large orders are broken up for execution over time. They were further questioned about the frequency with which it takes more than one day for a large order broken into lots to execute completely. Lastly, the questionnaire asked about the times of the day when the traders most prefer and least prefer to place their orders.

How Important Are The Following Costs?

Regarding the costs of trading, our findings on the importance of three major components (the opportunity costs of missing a price, market impact, and commissions) are summarized in Table 9. The opportunity costs of missing a price are rated the most important cost by 55% of traders, followed by market impact, which is rated the most important cost by 41% of traders. Commissions are important to only 3% of the respondents.

TABLE 9
How Important Are The Following Costs?

	Percentage of Respondents Indicating Particular Cost as			
	Most Important	Neutral	Least Important	No Answer
Opportunity Costs of Missing A Price	54.7	36.0	6.0	3.3
Market Impact	40.7	51.3	6.7	1.3
Commissions	3.3	9.3	84.7	2.7

What Are The Most Important And Second Most Important Factors

That May Cause You To Want To Execute A Trade Quickly?

Table 10 summarizes the most important and second most important factors that may cause traders to want to execute a trade quickly. The most important factor is "because prices are volatile and the risk of waiting is too great" - 48% of respondents said this was the most important factor, and 32% said it was the second most important factor. Fewer indicated that the prevention of front-running was a factor: 11% indicated it was the most important factor, and another 26% indicated it was the second most important factor. Interestingly, only 23% said that the most important factor was that other traders will realize that the stock is overpriced or underpriced, and 21% indicated this was the second most important factor. To the extent that trading is motivated by news and not just the assessment of existing information, this number would be expected to be higher.

TABLE 10
What Are The Most Important And Second Most Important Factors That May Cause You To Want To Execute A Trade Quickly?[4]

	Most Important Factor	Second Most Important Factor
Because Prices Are Volatile and the Risk of Waiting is Too Great	72 48.0%	48 32.0%
Because you Think Other Traders Will Realize the Stock is Overpriced or Underpriced	35 23.3%	32 21.3%
Opportunity Costs	34 22.7%	47 31.3%
To Prevent Other Traders From Front-Running Your Order	17 11.3%	39 26.0%
Other	15 10.0%	5 3.3%
No Answer	1 0.7%	8 5.3%

What Do You Consider The Most Important And The Second Most Important Drawbacks Of Using Limit Orders?

When asked what they consider the most important drawback of using limit orders (Table 11), most of the respondents (70%) stated that the most important factor is the risk of non-execution. An additional 22% checked a closely related factor: limit orders may cause you to miss a favorable market movement. Only 4% indicated that the drawback is that the limit orders may be difficult

[4] Note that columns in this table add to more than 100% because some respondents have checked more than one category.

to withdraw quickly. This is not surprising, given that the professional buy-side traders keep current about market events, and that order handling procedures are rapid. The response here is consistent with the previously discussed finding that price volatility is the most important motivation for trading quickly (see Table 10).

TABLE 11
What Do You Consider The Most Important And The Second Most Important Drawbacks Of Using Limit Orders?[5]

	Most Important Factor (Percentages)	Second Most Important Factor (Percentages)
Risk of Non-execution	69.7	16.7
May Cause you to Miss a Favorable Market Movement	22.0	38.6
May Create Competitive Disadvantages	15.9	19.7
Gives Free Options to the Dealer	10.6	15.9
May be Difficult to Withdraw Quickly	3.8	11.4
Non-immediate Execution	2.3	18.9
Cost/opportunity Cost	0.8	0.8

Concern About Information Leakage When A Broker Is Called

A willingness to delay a trade on the part of roughly a third of the respondents in order to achieve anonymity is evidenced by the responses reported in Table 6. Anonymity may be valued by buy-side participants because of the adverse price impact that can occur when news gets out that

[5] Note that columns add to more than 100% because some respondents have checked more than one category.

they are seeking to trade. To assess this, respondents were asked how concerned they are about information leakage after they have called a broker to make a trade. The results are reported in Table 12. A total of 45% indicated they were concerned about information leakage.

TABLE 12
Concern About Information Leakage When A Broker Is Called

	Number of Respondents	Percentage of Respondents
5 (Very Concerned)	46	30.7
4	22	14.7
3 (Neutral)	47	31.3
2	15	10.0
1 (Not Concerned)	18	12.0
No Answer	2	1.3

Frequency With Which Capital Is Demanded From A Broker For Transactions of 10,000 Shares Or More

Two primary functions of intermediaries are (i) to help a customer find the counterpart to a trade (i.e., act as a broker), and (ii) to provide capital as the counterpart in a trade (i.e., act as a dealer). For a customer who is concerned about information leakage, a strong motive must exist for contacting the intermediary in the first place. Accordingly, the survey asked about the frequency with which the respondents demand capital from their brokers for transactions of 10,000 shares or more. The results are reported in Table 13. Approximately three out of four respondents said they rarely, if ever, demand capital from their brokers. Only 7% said they regularly or frequently demand broker capital. Presumably this means that the role of intermediaries in finding the other side of a trade is more important than their role in providing capital.

TABLE 13
Frequency With Which Capital Is Demanded From
A Broker For Transactions of 10,000 Shares Or More

	Number of Respondents	Percentage of Respondents
Never	31	20.7
Rarely (1-24% Trades)	80	53.3
Sometimes (25-49% of Trades)	22	14.7
Regularly (50-74% of Trades)	5	3.3
Frequently (75-100% of Trades)	5	3.3
Don't Know/Not Sure	4	2.7
No Answer	3	2.0

How Frequently Do You Decide Not To Adjust Your Portfolio Because The Market Is Too Illiquid?

A total of 16% of the traders do not adjust their portfolio 10-19% of the time because the market is too illiquid (Table 14). Almost twice as many do not adjust their portfolio for the same reason 1-9% of the time. In both cases, active traders are more likely not to adjust their portfolios than passive traders.

TABLE 14
How Frequently Do You Decide Not To Adjust Your Portfolio
Because The Market Is Too Illiquid?

	Never	1-9%	10-19%	20% or more	Don't Know	No Answer
Active Traders	27 22.7%	40 33.6%	17 14.3%	5 4.2%	24 20.2%	6 5.0%
Passive Traders	9 37.5%	6 25.0%	1 4.2%	1 4.2%	7 29.2%	0 0.0%
All Respondents	37 24.7%	47 31.3%	24 16.0%	6 4.0%	34 22.7	8 5.3%

Frequency With Which Your Order For A Stock Is Larger Than The Stock's Average Daily Trading Volume

If the order is large relative to average daily trading volume, it may not be possible to execute the order entirely in a very short period of time without incurring an unacceptably high execution cost. As noted above, Wayne Wagner and Mark Edwards found that 66% of the orders in Plexus Group's data set exceed half of the stock's average daily trading volume, and that 40% of the orders exceed the stock's total average daily trading volume.

The respondents were asked the frequency with which their orders for a stock are larger than the stock's average daily trading volume (Table 15). Almost a third of the respondents answered that 20% or more of their orders are this large.

TABLE 15
Frequency With Which Your Order For A Stock Is Larger Than The Stock's Average Daily Trading Volume

	Number of Respondents	Percentage of Respondents
Never	5	3.3
1-9% of Orders	51	34.0
10-19% of Orders	33	22.0
20% or More of Orders	49	32.7
Don't Know/Not Sure	8	5.3
No Answer	4	2.7

Time Typically Given By Portfolio Manager To Trader To Implement A Large Order (25% Of Average Daily Trading Value Or More)

In light of the size of institutional orders relative to average daily trading volume, the questionnaire asked about the time a portfolio manager might typically give a trader to implement

an order (Table 16). For small cap stocks, less than 1% answered "one hour or less," and 69% answered "one day" or longer. For large cap stocks, 5% answered "one hour or less," and 59% answered "one day" or longer. This finding reinforces the impression that asset managers do not attempt to implement their trading decisions within brief intervals of time.

TABLE 16
Time Typically Given By Portfolio Manager To Trader To Implement A Large Order (25% Of Average Daily Trading Value Or More)

	Small Cap Stock		Large Cap Stock	
	Number of Respondents	Percentage of Respondents	Number of Respondents	Percentage of Respondents
1 Hour or Less	1	0.7	7	4.7
More Than 1 Hr, Less Than 1 Day	5	3.0	22	14.7
1 Day	15	10.0	43	28.7
2-3 Days	40	26.7	29	19.3
More Than 3 Days	49	32.7	16	10.7
No Time Limits	25	16.7	20	13.3
Other	5	3.3	5	3.3
No Answer	10	6.6	8	5.3

Frequency With Which Large Orders (100,000 Shares Or More) Are Broken Into Smaller Lots For Separate Executions Over An Extended Period Of Time.

If an order is given time to be executed, it might be broken up for execution in smaller pieces over a series of trades. The questionnaire asked the frequency with which large orders of 100,000 shares or more are in fact broken up for this purpose (Table 17). More than three out of

five respondents indicated that 20% or more of their orders are broken into smaller lots. Only 5% indicated that they never break up their large orders.

TABLE 17
Frequency With Which Large Orders (100,000 Shares Or More) Are Broken Into Smaller Lots For Separate Executions Over An Extended Period Of Time.

	Number of Respondents	Percentage of Respondents
Never	8	5.3
1-9% of Orders	19	12.7
10-19% of Orders	21	14.0
20% or More of Orders	93	62.0
Don't Know/Not Sure	5	3.3
No Answer	4	2.7

Frequency With Which It Takes More Than One Day For A Large Order Broken Into Lots To Be Executed Completely

The length of time typically taken to implement an investment decision in the marketplace more directly reveals a willingness to trade patiently. The survey questioned the frequency with which more than one day is taken to execute an order completely when the order is broken into smaller lots to be executed over time (Table 18). While only 3% answered "never," 44% said that they frequently or regularly broke their orders into smaller lots for execution over time.

TABLE 18
Frequency With Which It Takes More Than One Day For A Large Order Broken Into Lots To Be Executed Completely

	Number of Respondents	Percentage of Respondents
Never	5	3.3
Rarely (1-24% Trades)	15	10.0
Sometimes (25-49% of Trades)	31	20.7
Regularly (50-74% of Trades)	29	19.3
Frequently (75-100% of Trades)	37	24.7
Don't Know/Not Sure	17	11.3
No Answer	16	10.7

When Do You Prefer To Place Your Orders?

Turning to the question of when orders are placed, the respondents expressed clear preferences for trading at different times during the day (Table 19). Traders preferred the half hour just following market opening to the actual market opening: 44% said that 9:31-10:00 a.m.was their most preferred time to place an order, compared to 27% who most preferred the actual market opening. Traders also preferred the half-hour period immediately prior to market close as compared to the actual closing time: 23% said the 3:31-3:59 period was "most preferred," compared to 8% who most preferred the actual closing time to place their orders. The survey did not ask for the reasons behind these preferences. Presumably, the uncertainty concerning price determination at the open lead many to prefer the 9:31-10:00 a.m. period; and the uncertainty concerning price, and perhaps the ability to trade at all, caused many of them to find the close least preferable, and the 3.31-3:59 period less preferable than the 9:31-10:00 period.

Recognizing that the periods are not of equal length, one might expect from the responses that the pattern of trading over the day would be "U" shaped, as indeed it has been observed to be by, for instance, McInish and Wood (1990).[6] The questionnaire did not ask, however, the frequency with which orders were delayed so that their arrival might be harmonized with the time of the day the respondent felt to be most desirable.

TABLE 19
When Do You Prefer To Place Your Orders?

	Most Prefer	Neutral	Least Prefer	No Answer
At Market Opening	27.3	24.0	44.0	4.7
9:31-10:00	44.0	37.3	12.0	6.7
10:01-12:00	50.7	38.7	5.3	5.3
12:01-3:30	37.3	48.7	8.0	6.0
3:31-3:59	22.7	38.0	32.0	7.3
At Market Close	8.0	14.0	71.3	6.7

4. The Use of Alternative Electronic Trading Systems

The emergence of alternative electronic markets in recent years has given buy-side traders new opportunities to receive timely executions at reasonable cost. Respondents were asked about the frequency with which they use these systems (e.g. NYSE after hours Sessions 1 and 2, Instinet's crossing session and continuous market, POSIT's crossing sessions and AZX's call market), and their motives for using them (e.g. lower trading costs, the ability to trade anonymously). The respondents also were asked whether or not they felt the benefits of electronic trade execution outweigh the disadvantages, how satisfied they are with the

[6] Thomas H. McInish and Robert A. Wood (1990), "An Analysis of Transactions Data for the Toronto Stock Exchange: Return Patterns and End of the Day Effect," *Journal of Banking and Finance*, vol. 14, pp. 441-458.

alternative systems, and what would get them to use the alternative systems more (e.g., if they gave higher execution rates, if they allowed trading at more convenient times, and if the respondents' did not have soft dollar arrangements).

How Often Do You Use The Following Alternative Electronic Trading Systems?

Table 20 shows that use of the alternative systems is limited. Use of these systems is similar for Listed and for NASD stocks, except for Instinet's continuous market which is used more for NASD stocks.

TABLE 20
How Often Do You Use The Following Alternative Electronic Trading Systems?

	Never	1-9%	10-19%	20-29%	30% or more	Don't Know	NA[7]
Listed Stocks							
NYSE Session 1	86.7	6.7	0.7	0.7	1.3	1.3	2.7
NYSE Session 2	90.0	4.7	0	0	0	2.0	3.3
Instinet Crossing	63.3	22.7	2.7	2.0	5.3	0.7	3.3
POSIT	60.0	22.7	4.7	3.3	5.3	1.3	2.7
AZX	78.7	13.3	0	1.3	2.0	0.7	4.0
Instinet Continuous	52.7	28.0	4.7	6.7	4.0	0.7	3.3
NASD Stocks							
Instinet Crossing	62.7	16.7	6.7	4.7	5.3	0	4.0
POSIT	62.7	20.7	3.3	3.3	4.7	0.7	4.7
AZX	78.0	12.0	0	1.3	2.0	0.7	6.0
Instinet Continuous	49.7	14.7	11.3	6.0	14.7	0	4.0

[7] The indication NA stands for "No Answer".

Motives For Trading On The Electronic Systems

Of particular interest are the respondents' motives for trading on electronic systems (Table 21). The considerations that were rated "important" are: reduced market impact (47%), lower bid-ask spreads (47%), better liquidity (41%), lower general transaction cost (39%), the ability to trade anonymously (38%), and the ability to have greater control of the negotiation process (33%).

TABLE 21
Motives For Trading On The Electronic Systems:

	Number of Respondents Who Rated Motive Important	Percentage of Respondents Who Rated Motive Important
Reduced Market Impact	71	47.3
Lower Spread Costs	71	47.3
Better Liquidity	61	40.7
Lower Transaction Costs	59	39.3
Trade Anonymously	57	38.0
Greater Control of Negotiation Process	49	32.7
Time Savings	6	4.0
Other Motives	7	4.7

What Effect Does The Anonymity Offered By Electronic Trading Systems Have On Your Execution Ability?

Nearly half of the traders expressed the opinion that the anonymity offered by the alternative electronic trading systems improves their execution ability (Table 22). Less than 1% think that it worsens it. On the other hand, 34.0% of the respondents said they did not know what the effect would be or they did not answer the question.

TABLE 22
What Effect Does The Anonymity Offered By Electronic Trading Systems Have On Your Execution Ability?

	Number of Respondents	Percentage of Respondents
Improves it	63	42.0
Has no Effect	35	23.3
Worsens it	1	0.7
Don't Know	27	18.0
No Answer	24	16.0

Do You Believe That The Benefits Of Electronic Trade Execution Outweigh The Disadvantages Or That The Disadvantages Outweigh The Benefits?

Table 23 shows that a large majority of respondents (67%) believe that the benefits of electronic trade execution outweigh the disadvantages. Only 16% of the traders expressed the opinion that the disadvantages of electronic execution outweigh its benefits.

TABLE 23
Do You Believe That The Benefits Of Electronic Trade Execution Outweigh The Disadvantages Or That The Disadvantages Outweigh The Benefits?

	Number of Respondents	Percentage of Respondents
Benefits Outweigh the Disadvantages	101	67.3
Disadvantages Outweigh the Benefits	24	16.0
No answer	25	16.7

Satisfaction Of Users With The Different Alternative Trading Systems

Table 24 shows the degree of satisfaction with the alternative trading systems. Among these, the least satisfaction was expressed for AZX (29%). It is not surprising that 46% of AZX's customers are not satisfied: the AZX market is called at 5 p.m., liquidity is insufficient, and execution rates are low because aggregate order flow is sparse. One would expect that satisfaction with these alternative markets would be considerably greater if they were integrated better with the major trading systems. We also note that there was widespread dissatisfaction with NYSE's Sessions 1 and 2. However, a substantial majority (79%) were satisfied with Instinet's continuous market.

TABLE 24
Satisfaction Of Users With The Following Alternative Trading Systems

	Satisfied	Neutral	Not Satisfied
NYSE Session 1	4 26.7%	4 26.7%	7 46.7%
NYSE Session 2	1 12.5%	3 37.5%	4 50.0%
Instinet Crossing	27 54.0%	9 18.0%	14 28.0%
POSIT	24 43.6%	16 29.1%	15 27.3%
AZX	7 29.2%	6 25.0%	11 45.8%
Instinet Continuous	56 78.9%	9 12.7%	6 8.5%

What Would Get You To Use The Alternative Trading Systems More

If clear motives exist for trading on electronic systems, why aren't the systems used more heavily? ITG's POSIT, Instinet's crossing network, and the Arizona Stock Exchange's AZX each batch orders for multilateral execution at a single time at a single price; if institutional asset managers are willing to forgo immediacy, why aren't these systems particularly attractive to them? The survey asked the question, "What would get you to use the alternative trading systems more?" The results are in Table 25.

Not surprisingly, 55% said that they would use the alternative systems more if they gave higher execution rates. This is consistent with the reality that a lack of order flow is a major impediment to the success of any trading system (and with the adage, "order flow attracts order flow"). Second on the list, 35% indicated that they would use the systems more if they did not have soft dollar arrangements (that is, soft dollar arrangements appear to be an impediment to change). A total of 31% claimed they would use the alternative markets more if they allowed trading at more convenient times (presumably during the day rather than after hours), and 20% responded that they would use them more if they knew more about them (which suggests some continuing lethargy on the part of some institutional investors).

TABLE 25
What Would Get You To Use The Alternative Trading Systems More[8]

	Number of Respondents	Percent of Respondents
They Gave Higher Execution Rates	82	54.7
You Didn't Have Soft Dollar Arrangements	53	35.3
They Allowed Trading at More Convenient Times	47	31.3
You Knew More About Them	30	20.0
Other	7	4.7
None of the Above	47	31.3

5. Conclusion

The findings have a major implication for market structure. Increasingly, electronic technology is making it possible for institutional buy-side participants to meet each other directly without the intervention of brokers or dealers. This can be done most effectively with batched (i.e., call market) trading arrangements, which establish place and time meeting points. A perceived limitation of call market trading is that it does not supply immediacy to participants. This is true, however, only if call markets are used in place of continuous trading, rather than along with continuous trading, as we recommend.

However, immediacy *per se* does not appear to be urgently sought by many buy-side asset traders. This suggests that, if both call and continuous markets were readily available to participants,

[8] Note that columns add to more than 100% because some respondents have checked more than one category.

the order flow directed to the calls would, indeed, be appreciable. The bottom line is that providing electronic call market trading would be desirable for an appreciable number of institutional investors.

Appendix A:

The Sample of Respondents and Their Reasons for Trading

A total of 825 questionnaires were mailed to 125 members of the TraderForum and to 700 non-members. A total of 150 responded. These include approximately 90 TraderForum members and 60 non-members.[9] Thus, the response was 72% of TraderForum members and 8.6% of non-members. In terms of our total respondents, 60% were TraderForum members and 40% were non-members.

The questionnaires were filled out by the equity trader at each institution. In some of the smaller institutions the trader may also be an asset manager. Respondents were asked the total value of their organization's equity assets under management. A total of 135 out of the 150 answered. The estimated amount of equity under management was $1.54 trillion.[10] This represents approximately half the managed equity assets[11] The distribution of the respondents, according to the type of institution, is shown in Table 26.

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[9] Members automatically receive the report while non-members must send in a card to receive the report. We expect that virtually all non-members who took the time to fill out the questionnaire would want to receive the report. Thus the number of non-members is inferred from the number of cards that were received.

[10] Out of the 150 respondents, 128 respondents reported a total of $1,316.42 billion of equity under management and 22 gave no answer. Extrapolating to the total of 150, we estimate the total assets under management of the respondents of the questionnaire at $1.54 trillion.

[11] Total equity assets in the US at the end of 1992 were $5.5 trillion (*Flow of Funds Coded Tables*, Board of Governors of the Federal Reserve System, Washington, D.C.). It is estimated that 60% of these are managed, so that managed equity assets are $3.3 trillion. Thus, our survey covers about 50% of all managed equity assets.

TABLE 26
Distribution of Respondents by Institution

	Number of Respondents	Percentage of Respondents
Independent Investment Management Firm	69	46.0
Subsidiary of Bank or Brokerage Firm	53	35.3
Mutual Fund	14	9.3
Internally Managed Pension Fund	9	6.0
Other	5	3.3
Total	150	100

Table 27 shows the reasons for trading stated by the respondents in descending order. The primary reasons are stock specific fundamental issues (79%), internally-generated research (68%), reassessment of portfolio structure (47%), bargain-hunting (37%), and profit taking (36%).

TABLE 27
Why Do You Trade?

	All Traders			
	Frequently	Neutral	Infrequently	NA[12]
Stock Specific Fundamental Issues	79.3	10.0	9.3	1.4
Internally-generated Research (From Portfolio Manager)	68.7	17.3	12.0	2.0
Reassessment of Portfolio Structure	47.3	32.0	18.0	2.7
Bargain-hunting	37.3	26.7	36.0	0
Profit Taking	36.0	32.0	31.3	0.7
Market-wide News	32.0	32.7	33.3	2.0
Fund Redemptions or Other Cash Flow Reasons	20.7	24.7	52.7	2.0
Trading Information (i.e., Knowledge of an Order on the Floor)	18.0	30.0	51.3	0.7
Desire to Cut Losses	15.3	34.0	49.3	1.4
Chartist Signals	12.0	14.0	72.7	1.3
Need to Track a Market Index	11.3	10.0	76.7	2.0
Derivatives-motivated Trading	4.7	5.3	88.0	2.0
Other Factors	1.3	0.7	10.7	87.3

[12] The indication NA in the top right hand corner stands for "No Answer".

Appendix B:

Differences Between Active and Passive Traders

One of the interesting questions for which the responses to our questionnaire provide an answer is whether significant differences exist in the trading behavior of active traders in comparison with passive traders. In particular, we are interested to see if these two groups have reported differences in what they consider an immediate trade, on the willingness to trade patiently, on motives for trading in electronic systems, on the effects of anonymity, or in their reasons for trading in general.

The answers of active and passive traders to many questions were similar. However, in some questions their answers could easily be differentiated. We summarize below the responses in which active and passive traders showed clear differences.[13]

Table 1b shows that the time horizon appears to be a bit shorter for active than for passive traders, as one might expect. At the short end of the scale, 76% of the active traders checked 10 minutes or less, vs. 50% of the passive traders. At the long end of the scale, 3% of the active traders checked one day vs. 25% of the passive traders.

[13] All tables in this section are numbered Nb where N is the number of the corresponding table presented earlier that summarized responses to the same question by all participants.

TABLE 1b
Time In Which You Consider A Trade To Be Immediate:
Differences Between Active And Passive Traders

	Active Traders		Passive Traders	
	Number of Respondents	Percentage of Active Traders	Number of Respondents	Percentage of Passive Traders
Under 10 Minutes	90	75.7	12	50.0
1 Hour	16	13.4	5	20.8
2 Hours	3	2.5	0	0
1 Day	3	2.5	6	25.0
Other	6	5.0	1	4.2
No Answer	1	0.8	0	0

Table 2b shows a tendency for passive traders to be more willing to trade patiently: 46% of the passive traders said they would be "very willing," vs. 31% of active traders. No passive traders indicated they would be not willing at all or not very willing vs. 10% of active traders. This is consistent with expectations. Trading on news implies a need for immediacy on the part of active traders, and seeking to minimize transaction costs implies patient trading on the part of passive traders. But again, the difference between the two groups is not large.

TABLE 2b
Willingness To Trade Patiently To Reduce Execution Costs:
Differences Between Active And Passive Traders

	Active Traders		Passive Traders	
	Number of Respondents	Percentage of Active Traders	Number of Respondents	Percentage of Passive Traders
5 (Very Willing)	37	31.1	11	45.8
4	41	34.5	7	29.2
3	27	22.7	6	25.0
2	6	5.0	0	0
1 (Not at All Willing)	6	5.0	0	0
No Answer	2	1.7	0	0

Table 12b distinguishes between active and passive traders on the issue of concern about information leakage. Despite the general similarity, a substantial percentage (33%) of passive traders are not concerned at all about information leakage compared to 8% of active traders.

TABLE 12b
Concern About Information Leakage When A Broker Is Called:
Differences Between Active And Passive Traders

	Active Traders		Passive Traders	
	Number of Respondents	Percentage of Active Traders	Number of Respondents	Percentage of Passive Traders
5 (Very Concerned)	36	30.3	7	29.2
4	18	15.1	3	12.5
3	41	34.5	5	20.8
2	14	11.8	1	4.2
1 (Not Concerned)	9	7.6	8	33.3
No Answer	1	0.8	0	0

Table 13b shows that passive traders are much more likely never to demand capital from a broker (33% vs. 17% for active traders). Further, none of the passive traders regularly or frequently demand capital from a broker, while 8% of the active traders do.

TABLE 13b
Frequency With Which Capital Is Demanded From A Broker For Transactions Of 10,000 Shares Or More: Differences Between Active And Passive Traders

	Active Traders		Passive Traders	
	Number of Respondents	Percentage of Active Traders	Number of Respondents	Percentage of Passive Traders
Never	20	16.8	8	33.3
Rarely (1-24% of Trades)	65	54.6	13	54.2
Sometimes (25-49% of Trades)	19	16.0	3	12.5
Regularly (50-74% of Trades)	5	4.2	0	0
Frequently (75-100% of Trades)	5	4.2	0	0
Don't Know/ Not Sure	4	3.4	0	0
No Answer	1	0.8	0	0

Table 21b shows the differences between active and passive traders in their motives for trading on electronic systems. Among passive traders, lower transaction costs are the primary motivation (75.0%); this motive was indicated by 42.9% of active traders. Active traders are motivated by a variety of other reasons. Reduced market impact and lower spread costs are the primary reasons for active traders, indicated by 52.9% and 52.1% respectively. Each of these motives was indicated by only 25% of the passive traders as a primary motive. 45.4% of the active

traders indicated better liquidity as a primary motive, in contrast with 20.8% of the passive traders. Similarly, anonymity was indicated by 42.9% of active traders as a motive, and only by 16.7% of passive traders. Finally, greater control of the negotiation process was indicated by 36.1% of the active and 20.8% of the passive traders.

TABLE 21b
Motive For Trading On The Electronic Systems:
Differences Between Active And Passive Traders

	Active Traders		Passive Traders	
	Number of Respondents Who Rated Motive Important	Percentage of Active Traders	Number of Respondents Who Rated Motive Important	Percentage of Passive Traders
Reduced Market Impact	63	52.9	6	25.0
Lower Spread Costs	62	52.1	6	25.0
Better Liquidity	54	45.4	5	20.8
Lower Transaction Costs	51	42.9	6	75.0
Trade Anonymously	51	42.9	4	16.7
Greater Control of Negotiation Process	43	36.1	5	20.8
Time Savings	6	5.0	0	0
Other Motives	5	4.2	1	4.2

Table 22b shows that more active than passive traders believe that the anonymity offered by electronic trading systems improves their execution ability. This opinion is expressed by 46% of the active traders and 25% of the passive traders.

TABLE 22b
What Effect Does The Anonymity Offered By Electronic Trading Systems Have On Your Execution Ability?

	Active Traders		Passive Traders	
	Number of Respondents	Percentage of Active Traders	Number of Respondents	Percentage of Passive Traders
Improves it	55	46.2	6	25.0
Has no Effect	28	23.5	5	20.8
Worsens it	1	0.8	0	0
Don't Know	16	13.4	9	37.5
No Answer	19	16.0	4	16.7

Table 23b shows that a larger percentage of active than passive traders believe that the benefits of electronic trade execution outweigh its disadvantages. This was expressed by 71% of active traders, compared with 46% of passive traders.

TABLE 23b
Do You Believe That The Benefits Of Electronic Trade Execution Outweigh The Disadvantages Or That The Disadvantages Outweigh The Benefits?

	Active Traders		Passive Traders	
	Number of Respondents	Percentage of Active Traders	Number of Respondents	Percentage of Passive Traders
Benefits Outweigh the Disadvantages	84	70.6	11	45.8
Disadvantages Outweigh the Benefits	19	16.0	5	20.8
No Answer	16	13.4	8	33.3

Table 25b shows significant differences between active and passive traders in the reasons that would make them use the alternative trading systems more. Active traders (61%) would use the

electronic trading systems more if the systems gave higher execution rates. Only 21% of passive traders indicated this. Similarly, 36% of active traders, in contrast with 25% of passive traders, indicate that they would use more such systems if they did not have soft dollar arrangements. If systems were available at convenient times, 35% of active traders, in contrast with 13% of passive traders, indicate that they would use such systems more. Finally, 22% of active traders, in contrast with 8% of passive traders, indicate that they would use these systems more if they knew more about them.

TABLE 25b
What Would Get You To Use The Alternative Trading Systems More:
Differences Between Active and Passive Traders[14]

	Active Traders		Passive Traders	
	Number of Respondents	Percentage of Active Traders	Number of Respondents	Percentage of Passive Traders
They Gave Higher Execution Rates	73	61.3	5	20.8
You Didn't Have Soft Dollar Arrangements	43	36.1	6	25.0
They Allowed Trading at More Convenient Times	42	35.3	3	12.5
You Knew More About Them	26	21.8	2	8.3
Other	6	5.0	1	4.2
None of the Above	30	25.2	14	58.3

[14] Note that columns add to more than 100% because some respondents have checked more than one category.

Table 26b distinguishes between active and passive traders in the distribution of the respondents according to the type of institution where they are more likely to trade. Among active traders, the majority (51%) are in independent investment management firms, while 34% trade for a subsidiary of a bank or a brokerage firm. The roles are reversed among passive traders: the majority (54%) of passive trader respondents trade for a subsidiary of bank or a brokerage firm, while 29% is in independent investment management firms.

TABLE 26b
Distribution of Respondents by Institution:
Differences Between Active and Passive Traders[15]

	Active Traders		Passive Traders	
	Number of Respondents	Percentage of Active Traders	Number of Respondents	Percentage of Passive Traders
Independent Investment Management Firm	61	51.3	7	29.2
Subsidiary of Bank or Brokerage Firm	40	33.6	13	54.2
Mutual Fund	12	10.1	2	8.3
Internally Managed Pension Fund	7	5.9	2	8.3
Other	8	6.7	4	16.7

Table 27b below shows that the most important reasons to trade for active traders concern their evaluation of fundamental information concerning individual stocks. Most respondents (87%) indicated that they frequently trade because of stock specific, fundamental issues; and 74% indicated

[15] Note that columns add to more than 100% because some respondents have checked more than one category.

that they frequently trade because of internally generated research. Interestingly, passive traders also trade for these reasons, though not as much as the active traders. Only 58% of passive traders frequently traded because of stock specific fundamental issues, and 21% because of internally generated research. On the other hand, 33% of the passive traders traded to trace a market index vs. 8% of active traders. And 33% of passive traders traded because of fund redemptions or other cash flow reasons vs. 19% of active traders.

In some respects the two groups are quite similar: 39% of active traders frequently trade for profit taking compared to 25% for passive traders; 38% of active traders trade for bargain-hunting purposes compared to 38% of passive traders; and 74% of active traders infrequently trade because of chartist signals compared to 75% for passive traders. Overall, the active and passive traders differ in emphasis, but not by as much as expected.

TABLE 27b
Why Do You Trade? Differences Between Active and Passive Traders

	Active Traders				Passive Traders			
	Frequently	Neutral	Infrequently	NA	Frequently	Neutral	Infrequently	NA[16]
Stock Specific Fundamental Issues	86.6	8.4	3.4	1.6	58.3	16.7	25.0	0
Internally-generated Research (from Portfolio Manager)	74.8	17.6	6.7	0.9	41.7	20.8	33.3	4.2
Reassessment of Portfolio Structure	47.9	31.9	17.6	2.6	54.2	20.8	25.0	0
Bargain-hunting	37.8	29.4	32.8	0	37.5	12.5	50.0	0
Profit Taking	39.4	30.3	30.3	0	25.0	33.3	41.7	0
Market-wide News	34.5	33.6	30.3	1.6	20.8	29.2	50.0	0
Fund Redemptions or Other Cash Flow Reasons	19.3	24.4	54.6	1.7	33.3	29.2	37.5	0
Trading Information (i.e., Knowledge of an Order on the Floor)	18.5	31.9	48.7	0.7	8.3	29.2	62.5	0
Desire to Cut Losses	18.5	34.5	46.2	0.8	4.2	29.1	66.7	0
Chartist Signals	14.3	11.8	73.9	0	4.2	20.8	75.0	0
Need to Track a Market Index	7.6	10.1	80.7	1.6	33.3	12.5	54.2	0
Derivatives-motivated Trading	4.2	5.9	88.2	1.7	8.3	0	91.7	0
Other Factors	1.7	0.8	10.1	87.4	0	0	12.5	87.5

[16] The indication NA stands for "No Answer".

Appendix C: The Questionnaire