



Post-trade transparency on Nasdaq's national market system ¹

David C Porter ^a , Daniel G Weaver ^b

Show more 

 Share  Cite

[https://doi.org/10.1016/S0304-405X\(98\)00037-3](https://doi.org/10.1016/S0304-405X(98)00037-3) 

[Get rights and content](#) 

Abstract

This article examines late trade reporting on the Nasdaq National Market System. A substantial number of trades are reported out-of-sequence on both absolute levels and relative to the combined centralized exchanges. We find minimal support for NASD permitted reasons for the late trade reporting. Evidence suggests that market makers could use late trade reporting to manage the release of information. This evidence is consistent with the hypothesis that the delayed reporting of trades is neither a random occurrence nor fully explainable by factors outside the market maker's control.

Introduction

Post-trade transparency is defined as the amount of trading information that is made publicly available on a timely basis following a completed transaction. Both the amount of information reported and the speed of reporting have been central to policy debates in the US and internationally, but regulators have not converged on a single position. In the US, for example, the Securities and Exchange Commission (SEC) mandates that all trades on the National Association of Securities Dealers Automated Quotation System (Nasdaq) National Market System (NMS) be reported within 90s of completion, whereas the London Stock Exchange (LSE), an exchange modeled after Nasdaq, allows reporting of large trades to be delayed for up to five business days.²

The LSE's trading rules evolved through an ongoing dialog between exchange members and regulators. On October 27, 1986 the LSE required that all trades in the most active stocks be made publicly available within five minutes of the transaction. In the years that followed, LSE members argued that if market makers were required to immediately report last sale details on large trades, competitors could inappropriately move quotes resulting in spurious price changes that would reduce liquidity and increase the variance of prices. Reduced liquidity would occur when market makers were unwilling to take on large transactions because of the 'spoiling tactics of competing market makers who deliberately move prices after large trades making it difficult for the market maker to off-load his position' (Carsberg 1994, p. 16). The members also conjectured

that delayed reporting of large transactions would not harm market efficiency since large transactions were liquidity rather than informationally based. As a result, the LSE began relaxing the five minute reporting rule for larger trades. By 1993 the LSE had three different trade reporting rules for differing size trades. The smallest volume trades had a three minute trade reporting rule. The next tier had a 90 minute trade reporting rule, and reporting of the largest trades could be delayed up to five business days.

Following this reduction in post-trade transparency Carsberg (1994), the Director General of the British Office of Fair Trading, argued that delayed post-trade reporting has 'the effect of restricting and distorting competition in the market' (p. 43). Following Carsberg's recommendations, the LSE again revised their transparency regimes. On January 1, 1996, the size definition of medium volume trades was revised upward resulting in some trade sizes experiencing declines in trade reporting rules from 90 to 3 min.

Board and Sutcliffe (1996) examine the impact of the improved post-trade transparency and find that effective spreads on the LSE decline for those trades that experienced a reduction in trade reporting from 90 to 3 min. Their findings are consistent with previous empirical studies such as Pagano and Röell (1990) and provide additional evidence linking trading costs and post-trade transparency.

Since US markets do not generally allow for explicit delayed post-trade reporting, delayed reporting has not been a topic of great concern. However, implicit delayed reporting can arise when mandatory trade reporting rules are inadequately enforced.

This article examines delayed post-trade reporting on the Nasdaq NMS and, for comparative purposes, the combined centralized exchanges which include the NYSE, AMEX, Boston, Chicago, Cincinnati, Philadelphia, and Pacific. While Nasdaq does not allow explicit delayed post-trade reporting, we find substantial out-of-sequence reporting during 1990. Out-of-sequence dollar volume reported on Nasdaq exceeds out-of-sequence dollar volume reported on the combined centralized exchanges in virtually every minute of the trading day. The amount of out-of-sequence reporting on Nasdaq is 13 times larger than on the combined centralized exchanges after market close. These findings are even more striking since total dollar volume on Nasdaq is only one quarter of the combined centralized exchanges' total dollar volume in 1990.

Given the magnitude of out-of-sequence reporting on Nasdaq, we test several hypotheses in an attempt to explain the results. We find minimal evidence consistent with NASD permitted reasons for out-of-sequence reporting, for example a lost trading ticket, a computer malfunction, and abnormal volume.

Evidence indicates that the out-of-sequence transactions display patterns of delaying trades normally associated with information content. The probability of a trade being reported late increases by 104.5% if the trade is a block and 95.6% if the trade is extreme. Controlling for the individual firm's percentage of trades on odd eighths, the probability of a trade being reported late increases 94.2% if the trade is on an odd eighth. If the volume weighted average of the out-of-sequence trades reported after market close is above the midpoint of the closing bid and ask, then trades reported late can be useful in predicting both the direction and magnitude of the following day's return.

These results are consistent with the hypothesis that the delayed reporting of trades is neither a random occurrence nor fully explainable by factors outside the market maker's control. Indeed, this evidence suggests that late trade reporting has strategic components and that market makers choose to delay the reporting of those trades which either contain information about short-term price movements or reflect deviations from implicit quoting conventions.

Systematic late trade reporting is inconsistent with US securities law which states as part of its purpose 'having due regard for the public interest, the protection of investors, and the maintenance of fair and orderly markets'. Further, the magnitude of delayed post-trade reporting on Nasdaq could provide an additional explanation for the wider spreads on Nasdaq such as those illustrated by Huang and Stoll (1996).

These results are important for several reasons. Wider spreads directly increase trading costs. Studies such as Amihud and Mendelson (1986) link wider spreads with increases in corporate cost of capital. Therefore late trade reporting could affect the choice of exchange listing. In addition, systematic delayed post-trade reporting could create an environment where some traders could engage in inappropriate trading practices. In particular, delayed post-trade reporting could be used to delay the release of information-based trades to other dealers and investors.

The remainder of this paper is organized as follows. Section 2 discusses the institutional framework, Section 3 the data, Section 4 the magnitude of out-of-sequence reporting, and Section 5 possible explanations for the out-of-sequence reporting. Section 6 summarizes and concludes.

Section snippets

The institutional framework

The Nasdaq is a fragmented market linked together electronically. Although orders can be completed over the linked computer system, bi-lateral phone negotiations are allowed and the results are entered manually into the system. Prior to June 1, 1982 Nasdaq equity dealers were not required to report their trades as they occurred. In compliance with a SEC mandate, on June 1, 1982 NASD members begin reporting all equity trades on NMS within 90s of trade consummation and in-sequence. Violation of...

Data

The data are obtained from the Institute for the Study of Security Markets (ISSM) Nasdaq and NYSE/AMEX tapes for 1990. The ISSM NYSE/AMEX data base consists of all time-stamped transactions and quotes that occurred on the New York, American, and regional exchanges. For each transaction, the price and share volume are recorded along with any code that was transmitted with the transaction. The data also include an identifier for the principal listing exchange as well as the exchange where the...

Magnitude of out-of-sequence reporting

To provide a point of reference for the magnitude of out-of-sequence (*Z* code) reporting on Nasdaq, we divide our data into centralized exchange and Nasdaq samples. Dollar volumes are computed for each transaction, in each sample, by multiplying the transaction price times the share volume for that transaction. We then sum the dollar volumes of the out-of-sequence transactions for each minute of the trading day and compare the distribution of out-of-sequence trades for the two samples. Recall...

Possible explanations for out-of-sequence reporting

There exist several possible explanations for the difference in out-of-sequence reporting between the centralized exchanges and Nasdaq. Nasdaq-permitted reasons for out-of-sequence reporting include

abnormally high order flow in excess of order entry capacity (commonly referred to in the securities industry as a fast market) and computer malfunction or human error that does not allow the proper sequencing of trades. In contrast, non-permitted out-of-sequence reporting can occur if dealers use...

Summary and conclusions

One of the few mandates imposed on market makers in the Nasdaq market is that trades be reported within 90s of execution. Failure to comply with this affirmative obligation is a violation of the securities laws. This study shows that out-of-sequence reporting is substantial on the Nasdaq system and exceeds the out-of-sequence reporting on the combined centralized exchanges in virtually every minute of the trading day during the 1990 trading year. We find out-of-sequence reporting after market...

References (20)

L Glosten *et al.*

Bid, ask, and transaction prices in a specialist market with heterogeneously informed traders

Journal of Financial Economics (1985)

L Glosten *et al.*

Estimates of the components of the bid–ask spread

Journal of Financial Economics (1988)

Y Amihud *et al.*

Asset pricing and the bid–ask spread

Journal of Financial Economics (1986)

Board, J., Sutcliffe, C., 1996. The proof of the pudding: the effects of increased trade transparency in the London...

Carsberg, B., 1994. Trade Publication rules of the London Stock Exchange: A report to the Chancellor of the Exchequer...

W Christie *et al.*

Why do Nasdaq market makers avoid odd-eighth quotes

Journal of Finance (1994)

W Christie *et al.*

Why did Nasdaq market makers stop avoiding odd-eighth quotes

Journal of Finance (1994)

T Copeland *et al.*

Information effects on the bid–ask spread

Journal of Finance (1983)

Hardiman, J., 1991. Automation and electronic trading: key issues for regulating in a new era. Address before the 16th...

Stock price clustering and discreteness

Review of Financial Studies (1991)

There are more references available in the full text version of this article.

Cited by (31)

Do enterprise–bank relationships improve market quality? Evidence from Taiwan

2018, Quarterly Review of Economics and Finance

Citation Excerpt :

...Consequently, market liquidity led by active investors increases market depth of the borrowing enterprise's stock in the securities market. After referencing Dass and Massa (2011), Handa et al. (2003), Kyle (1985), and Porter and Weaver (1998), we propose the following hypothesis using market depth as a measure of market quality: High-quality enterprise–bank relationships enhance market depth in securities market transactions....

[Show abstract](#) 

Subscribing to transparency

2014, Journal of Banking and Finance

Citation Excerpt :

...The paper finally establishes the robustness of the results (Section 3.5) and Section 4 concludes. The academic literature generally agrees that changed pre- or post-transparency will alter market outcomes by changing the behavior of market participants (e.g., Boehmer et al., 2005; Porter and Weaver, 1998; Bloomfield et al., 2011). However, there is less agreement on the direction of the effect, i.e. whether increased transparency improves or deteriorates market quality....

[Show abstract](#) 

Trader see, trader do: How do (small) FX traders react to large counterparties' trades?

2010, Journal of International Money and Finance

Citation Excerpt :

...In this respect, Foucault et al. (2007) demonstrate that closing pre-trade trader identifiers at the Paris Bourse in 2001 significantly decreased the information content of quotes, indicating that traders' identities provide relevant information. Porter and Weaver (1998) show for US stock markets that post-trade transparency also seems to be a valuable source of information that is worth being strategically delayed. Overall, these studies motivate the examination of the interaction of differently informed traders in real time....

[Show abstract](#) 

Ripples through markets: Inter-market impacts generated by large trades

2006, Journal of Financial Economics

[Show abstract](#) 

Trades outside the quotes: Reporting delay, trading option, or trade size?

2006, Journal of Financial Economics

[Show abstract](#) 

Profitable predictability in the cross section of stock returns

2005, Journal of Financial Economics

[Show abstract](#) 



[View all citing articles on Scopus](#)

Recommended articles (6)

Research article

Introduction to the Special Issue on Entry Timing Strategies

Long Range Planning, Volume 46, Issues 4–5, 2013, pp. 297-299

Research article

A structural model with Explicit Distress

Journal of Banking & Finance, Volume 58, 2015, pp. 112-130

[Show abstract](#) 

Research article

Regulating dark trading: Order flow segmentation and market quality

Journal of Financial Economics, Volume 130, Issue 2, 2018, pp. 347-366

[Show abstract](#) 

Research article

What makes the bonding stick? A natural experiment testing the legal bonding hypothesis

Journal of Financial Economics, Volume 129, Issue 2, 2018, pp. 329-356

[Show abstract](#) 

Research article

Why cryptocurrency markets are inefficient: The impact of liquidity and volatility

The North American Journal of Economics and Finance, Volume 52, 2020, Article 101168

[Show abstract](#) 

Research article

Price Leadership in Romanian Capital Market

Procedia Economics and Finance, Volume 15, 2014, pp. 1185-1191

[Show abstract](#) 

- 1 We would like to thank Tom Abbott, Robert Battalio, George Benston, Bill Christie, Larry Fisher, Steve Foerster, Jason Greene, Mike Jensen, Pete Kyle, Paul Laux, Ananth Madhavan, Jean Masson, Junius Peake, Paul Schultz, Paul Seguin, Paul Torregrosa, Dave Whitcomb, as well as seminar participants at the Northern, Southern, and Western Finance Meetings, the Symposium on the Organization of Financial Trade and Exchange Mechanisms, the Symposium in Tribute to Larry Fisher, Baruch College, Georgetown University, the University of Wisconsin-Madison, the SEC, and Paul Seguin (the referee), for helpful comments and suggestions on earlier versions of this paper.

[View full text](#)

Copyright © 1998 Elsevier Science S.A. All rights reserved.



Copyright © 2023 Elsevier B.V. or its licensors or contributors.
ScienceDirect® is a registered trademark of Elsevier B.V.

RELX™