

**MEMO# 13035**

January 12, 2001

## **SEC RELEASES STAFF REPORT ON ORDER EXECUTION QUALITY**

[13035] January 12, 2001 TO: EQUITY MARKETS ADVISORY COMMITTEE No. 3-01 SEC RULES COMMITTEE No. 4-01 RE: SEC RELEASES STAFF REPORT ON ORDER EXECUTION QUALITY

The SEC's Office of Economic Analysis has released a report comparing the costs of trading equity securities on the Nasdaq market with the trading of listed securities on the New York Stock Exchange.<sup>1</sup> The report is part of the SEC's ongoing examination of fragmentation in the securities markets and its possible effects on the quality of execution of investor orders. The significant aspects of the report are summarized below and a copy of the report is attached. Background The data in the report includes customer orders for the week of June 5-9, 2000. In selecting stocks to examine for the report, SEC staff applied several filters to ensure the availability of adequate historical information. In total, SEC staff examined 221 Nasdaq stocks, 25 of which were specifically selected by Nasdaq as being their top stocks in terms of trading volume and market capitalization. The SEC staff selected the remaining 196 Nasdaq stocks by taking a random sample of Nasdaq stocks based on dollar trading volume. Using the same filters applied to Nasdaq stocks, SEC staff chose a number of NYSE stocks for examination. In order to control for the fact that Nasdaq stocks and NYSE stocks tend to differ for a variety of reasons, the SEC staff formed "matched pairs" of similar stocks from each market based on similar market capitalization, share price, return volatility and trading volume, and used several different regression techniques. The SEC staff then separated the stocks into four categories based on the Nasdaq stock in the matched pair. The first category contains pairs in which the Nasdaq stock was specifically selected by Nasdaq ("very large"). The remaining categories are based on Nasdaq stocks selected from the SEC's random sample and are categorized by market capitalization. In particular, the remaining three categories are Nasdaq stocks with market capitalization over \$1 billion ("large"); Nasdaq stocks with market capitalization between \$200 million and \$1 billion ("middle"); and Nasdaq stocks with market capitalization less than \$200 million ("small").

<sup>1</sup> Report of the Comparison of Order Executions Across Equity Market Structures, Office of Economic Analysis, U.S. Securities and Exchange Commission, January 8, 2001.

<sup>2</sup> Report Findings The report's findings are based on a variety of measures of order executions, including effective spread,<sup>2</sup> realized spread, quoted spread, speed of execution, and rate of execution. Execution Costs The report found that for market orders of 100-499 shares in the very large category of matched Nasdaq and NYSE stocks, Nasdaq effective spreads were lower than NYSE effective spreads by 1.2 cents per share. However, the SEC staff found this estimate to be statistically insignificant and the results were mixed across a broad range of tests. For 100-499 share market orders in the large, middle and small categories, the first matched-pairs test shows that the average Nasdaq effective spreads are from 5.7 to 11 cents per share wider than those for the matched NYSE stocks. The SEC staff found these differences to be statistically significant and consistent across

the range of tests. To provide a comparison with the effective spreads paid by investors, the report also examines quoted spreads. For each stock, this statistic is calculated by measuring the NBBO quoted spread at the time of arrival of each market order and then averaging across all market orders. In the very large category, the report found that quoted spreads on Nasdaq stocks are on average 5.4 cents per share narrower than quoted spreads for the matched NYSE stocks. According to the report, comparing quoted spreads to effective spreads suggests that in Nasdaq stocks many orders are executed at the quotes, whereas many orders sent to the NYSE are executed at better prices inside the quotes.<sup>3</sup> In the large and small categories, quoted spreads are nearly equal across the two markets, whereas the average Nasdaq quoted spreads are somewhat wider in the middle category. The report stated that, as is the case for the very large stocks, the Nasdaq quoted spreads for the other three categories are roughly equal to the effective spreads, whereas the effective spreads for small market orders sent to the NYSE reflect substantial price improvement. Time to Execution The report found that market order executions are generally faster on Nasdaq than on the NYSE for 100-499 share orders. This difference disappears, however, for the 500-1999 share market orders. In addition, the SEC staff stated that their results indicate that NYSE executions tend to be somewhat faster than Nasdaq executions for 2000-4999 share market orders, but Nasdaq believes that many large "not held" orders are not properly identified in their system and that this miscoding may reduce the accuracy of the comparison between the two markets for the largest category of orders.<sup>4</sup>

<sup>2</sup> The effective spread measures the execution cost paid by investors by comparing the execution price to the midpoint of the NBBO quoted spread at the time that the order arrived at the market center for execution. These cost differences are doubled in order to make the effective spread statistics comparable to quoted spreads.

<sup>3</sup> The report noted that NYSE rules require that the orders be given the opportunity to interact with other orders, which can result in price improvement.

<sup>4</sup> The report's findings did not take into account "not held" orders, which eliminated many trades placed by institutional customers.

<sup>3</sup> The report states that there are several important caveats that should be considered by anyone reviewing the report. First, the report stresses that there is no single, all-encompassing measure of execution quality and although effective spread is an important component, some investors may prefer a fast execution at a guaranteed price (often available on Nasdaq) to a slower execution with the possibility of price improvement (often available on the NYSE). Second, the report noted that the size of the sample used in the report was somewhat limited. As discussed above, the report examined the one-week period of June 5, 2000 to June 9, 2000 which, according to the SEC, covers a single, relatively tranquil time period that followed a period of higher market volatility, and that the results may differ under a different set of circumstances. Finally, the report states that although the report uses both matched sample and regression techniques to try to control for the differences between the stocks that are listed on Nasdaq and the NYSE, these controls can never be perfect. Therefore, there is always the possibility that the reported results are driven by the remaining differences between the stocks rather than by differences in the degree of order interaction between the two market structures. Ari Burstein Associate Counsel Attachment Attachment (in .pdf format)