

## Spreads, Markups, Sales Credits and Trading Costs

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On May 11, 2001 H&R Block announced the settlement<sup>2</sup> of a 1996 state class action<sup>3</sup> involving sales practices at Olde Discount Corporation. H&R Block had acquired Olde in 1999. After a three week trial, the case settled during jury deliberations for \$21 million, which represented a return to investors of over 115% of their out-of-pocket losses. The successful result was in large part accomplished by showing that Olde's advertising fooled investors by using technical industry terms to create misleading impressions.<sup>4</sup>

The class claims centered on deceptive statements in the advertising Olde used to attract business.<sup>5</sup> To prove the falsity of the advertising the meaning of industry terms like spreads, markups, sales credits and trading costs moved center stage. We found the task of explaining these terms challenging, especially in the context of a trial where the other side's experts were

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<sup>2</sup> <http://biz.yahoo.com/prnews/010511/cgf042.html>

<sup>3</sup> *Sabet v. Olde Discount Corporation*, Maricopa County Superior Court Case No. CV 96-17622.

<sup>4</sup> For examples of cases prohibiting such practices see *Madsen v. Western American Mortgage Co.*, 143 Ariz. 614, 618, 694 P.2d 1228, 1232 (App. 1985) ("Technical correctness of the representations is irrelevant if the capacity to mislead is found."); *In re District Business Conduct Committee v. Gene Morgan Financial*, 1995 WL 1093358 \*4 (NASDR 1995) (explaining that advertisements by a brokerage firm may be "deceptive and misleading in their overall effect even though when narrowly and literally read, no single statement of a material fact was false." (quotation omitted)).

<sup>5</sup> One of Olde's defenses was that its advertising was not "in connection with" class purchases. See generally Francesca Muratori, *The Boundaries of the "In Connection With" Requirement of Rule 10b-5: Should Advertising be Actionable as Securities Fraud*, 56 Bus. Law. 1057 (2001).

spinning the words to defend Olde's advertising. This note examines these industry concepts and the manner in which they affect the prices that customers pay. Intermittently we use Olde's advertising to illustrate the discussion.

From April 1993 through 1996 Olde advertised that qualifying trades under its SmartTrade and SmartTrading programs would be done without commissions or markups of any kind. Olde went on to claim in a press release that it absorbed all trading costs on qualified trades. Some of the firm's brochures went so far as to say Olde was executing trades free of charge. Olde reinforced this message of free trading by failing to answer direct customer questions honestly and by representing that the trading it offered under the Smart programs was analogous to banks offering loss leader services.

In 1998, two years after the class action was filed, the NASD found that Olde violated its advertising rules<sup>6</sup> by failing to disclose information necessary for the public to evaluate the services Olde described as "commission-free" or "commissionless."<sup>7</sup> Contemporaneously, the SEC found that Olde and some of its registered representatives violated the antifraud provisions of the securities laws by omitting or misrepresenting material information concerning the profits Olde and its registered representatives earned from the "commission-free" or "commissionless" trading.<sup>8</sup>

While the class litigation focused on Olde's advertising, our analysis of Olde's market making activities and its compensation practices has implications in a broad range of brokerage

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<sup>6</sup> NASD Conduct Rule 2210.

<sup>7</sup> The NASD's summary of its findings and the disciplinary sanctions imposed on Olde and its officers are available in its Disciplinary Actions Reported for October 1998, *available at* 1998 WL 1707982 \* 19.

disputes. Bid-ask spreads and sales credits create potential conflicts of interests for brokers.<sup>9</sup> The spreads and credits also impose significant trading costs on investors, costs which are usually ignored in casual analyses.<sup>10</sup> In the discussion that follows we explain that the bid-ask spread is a markup and that sales credits are commissions, as those terms are generally understood.

### **Spreads**

In the class litigation a key issue was the truthfulness of Olde's advertised claim that purchasers under its Smart programs could buy stocks "without markups of any kind." The class alleged that the statement was misleading because Olde charged its customers markups in the form of undisclosed spreads. We argued, successfully, that Olde's advertising should be evaluated, not by technical industry definitions, but by the standard of a reasonable investor, i.e., how would a reasonable investor interpret the ads? To show that reasonable investors would view the difference in price between the bid and the ask as a markup, we offered dictionary definitions which commonly define markup as "an amount added to the cost to determine the

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<sup>8</sup> See *In re Olde Discount Corp., Ernest Olde, Stanley A. Snider, and Daniel D. Katzman*, SEC Release Nos. 33-7577 & 34-40423, available at 1998 WL 575171 (September 10, 1998).

<sup>9</sup> See, e.g., *Chasins v. Smith, Barney & Co., Inc.*, 438 F.2d 1167, 1168-69 (2d Cir. 1971) (holding failure to disclose market maker status a material omission); *In re Scientific Control Corp. Lit.*, 71 F.R.D. 491, 509 (S.D.N.Y. 1976) (finding classwide common issues as to whether nondisclosure of production credits was a material omission); *In re Matthew I. Balk*, NASD Notice to Members of Disciplinary Actions (Oct. 10, 2000), available at 2000 WL 1538683 \* 9 (sanctioning broker and finding that incentive compensation in the form of special sales credits was a material omission); see also Norman S. Poser, *Broker-Dealer Law and Regulation* § 2.03[A], at 2-54 to 56 (3d ed. 1999) (discussing conflicts of interest and disclosure duties arising from broker-dealer compensation).

<sup>10</sup> See, e.g., Brad M. Barber and Terrance Odean, *Trading is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors*, 55 *Journal of Finance* 773 (2000) (documenting the largely ignored performance penalty individual investors pay for active trading and linking it to increased trading costs).

selling price.”<sup>11</sup> On a more intellectual level, we presented an explanation of pricing in the over-the-counter (OTC) market to make our point.

OTC stocks are traded in a dealer market in which firms called market makers or dealers buy from and sell to investors through brokers acting as intermediaries. Both exchange-listed and Nasdaq stocks trade in the OTC market. Market makers generally sell OTC stocks to brokers at prices that have been marked up from the prices at which the market maker is simultaneously buying the same stocks from brokers.

The difference between the prices market makers pay for shares (the “bid”) and the higher prices at which they sell shares (the “ask” or “offer”) is the market makers’ gross profit. The difference is euphemistically known in the industry as the bid-ask spread, or just the “spread.” The spread is simply a distribution or inventory markup.<sup>12</sup> It is a cost investors pay for the services market makers provide in creating liquidity so that stocks can be immediately bought and sold regardless of supply and demand.<sup>13</sup>

Market makers control their exposure to market risk by holding only very small inventories; they are said to try to be essentially *flat* at the end of each day. A market maker accumulates an inventory when it receives more sell orders than it receives buy orders. To remain flat, the market maker must either lower its ask price to attract more buy orders or sell shares to another market maker to cover the order imbalance.

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<sup>11</sup> *E.g., Webster’s Unabridged Third New International Dictionary of the English Language* (1993).

<sup>12</sup> See Harold Demsetz, *The Cost of Transacting*, 34 *Quarterly J. of Economics* 32, 35-36 (1968).

<sup>13</sup> *Id.*

Each OTC stock has more than one market maker. Market makers post bid and ask quotes for each OTC stock in which they make a market. For instance, a market maker might offer to buy up to 1,000 shares of ABC at \$20 per share and offer to sell up to 1,000 shares of ABC at \$20.75 per share.

The highest bid price and lowest offer price in a security posted by market makers is known as the National Best Bid or Offer (NBBO) to securities professionals, i.e., securities market makers, brokers and regulators. Continuing the example above, if the only other market maker in ABC has quotes to buy at \$20.25 per share and to sell at \$21.25 per share, the NBBO are \$20.25 bid, \$20.75 ask.

Securities regulators assess the fairness of retail prices by comparing the prices brokers transact with the public at relative to the NBBO.<sup>14</sup> This practice makes sense if the NBBO is set competitively.<sup>15</sup> In a genuinely competitive market the bid-ask spread is reduced to the level that compensates market makers for the functions they perform, including compensation for the risk they bear in providing liquidity. However, the regulatory structure of the industry and collusion amongst market makers may cause bid-ask spreads to remain significantly larger than necessary to compensate market makers. In fact, the Department of Justice and the SEC found that market makers colluded to maintain spreads above competitive levels during part of the class period

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<sup>14</sup> NASD Notice to Members 92-16, *Markups/Markdowns in Equity Securities*, available at 1992 WL 1319225. In this context, for expositional purposes regulators sometimes refer to the NBBO as the *prevailing market price*.

<sup>15</sup> *Id.* \* at 3 (“an integrated market maker that risks its capital by continuously buying and selling a security in an active, competitive market may look to prices it charges other dealers in actual sale transactions, or validated quotations, as the best evidence of prevailing market price from which to calculate markups and markdowns, as opposed to its contemporaneous cost.”).

covered in the Olde litigation.<sup>16</sup> Olde was one of the market makers found to have engaged in such collusion.<sup>17</sup>

Market makers are required to execute transactions at prices no worse for the customer than the NBBO. That is, market makers are required to buy shares from brokers at the highest bid price contemporaneously posted by any market maker, and to sell to brokers at the lowest offer price contemporaneously posted by any market maker. In our example, both market makers must buy from brokers at prices no less than \$20.25 and sell to brokers at prices no higher than \$20.75, even though neither market maker is posting both these quotes.

Because all market makers must transact at the inside quotes,<sup>18</sup> a market maker that reduces its ask price will only get a share – perhaps only a small share – of the increased buy orders generated by the lower ask price. Narrowing the quotes is therefore not an effective method for a market maker to reduce its inventory; market makers layoff inventories by trading with other market makers at, or inside, the quotes.

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<sup>16</sup> See *In the Matter of Certain Market Making Activities On Nasdaq*, SEC Release No. 40900 January 11, 1999, available at 1998 WL 919673.

<sup>17</sup> See *In the Matter of Certain Market Making Activities on Nasdaq*, SEC Release No. 34-40917, January 11, 1999, available at 1999 WL 6692 (sanctioning Olde and three of its traders).

<sup>18</sup> The words “inside quotes,” “inside market,” “inside bid” and “inside ask” are industry expressions used to identify the highest and lowest prevailing prices. As explained by the SEC,

The “inside bid” is the highest prevailing bid price in a stock at any given time, while the “inside ask” is the lowest prevailing asked price.

Together, the inside bid and inside ask represent the “inside market.” The difference between the inside bid and the inside ask is commonly referred to as the “spread” or “inside spread.”

*In the Matter of Certain Market Making Activities on Nasdaq*, SEC Release No. 34-40900, January 11, 1999, available at 1998 WL 919673 \* 1.

## Markups

Retail brokerage firms are required to buy OTC stocks from the public at a price no lower than the highest market maker bid price less a reasonable additional markdown and are required to sell OTC stocks to the public at a price no higher than the lowest market maker offer price plus a reasonable additional markup.<sup>19</sup>

For instance, when market makers are paying \$20.25 per share for stock they buy from brokers, brokers may deduct an additional markdown of, say, \$0.50 making the price paid to the retail investors only \$19.75. At the same time, brokers may add an additional markup of, say, \$0.50 to the \$20.75 per share market makers are charging for sales, making the price paid by retail investors \$21.25.<sup>20</sup>

Broker-dealers that perform both the dealer function of a market maker and the retail service function of a brokerage firm are known as integrated broker-dealers. During the class period, Olde acted as an integrated broker-dealer with respect to the stocks on its recommended list. Under Olde's internal rules the only stocks for which the firm's brokers were allowed to solicit orders were stocks on the firm's recommended list, all of which were stocks in which the firm made a market. Through this system Olde insured that its traders always had the opportunity to capture a spread when an order was filled. Most customers, untutored in the

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<sup>19</sup> NASD Notice to Members 92-16, *Markups/Markdowns in Equity Securities*, available at 1992 WL 1319225.

<sup>20</sup> The NASD's rule against excessive markups is often thought to allow additional markups and markdowns of up to 5%. *See id.* 3 (explaining that the 5% benchmark "serves as a guideline, not a rule"). Commissions charged by brokerage firms on trades in exchange-listed stocks are effectively the same as the additional markups and markdowns charged on trades in OTC stocks.

intricacies of market making, were oblivious to the firm's profit incentives or the trading cost the spreads imposed.

In our continuing example, an integrated broker-dealer is buying shares from public investors at \$19.75 and selling the shares the same day for \$21.25. The broker-dealer has clearly marked up the price of the shares it has purchased \$1.50 and sold them the same day. Part of this markup is the spread measured by the NBBO and the remainder is the additional markdown and markup from and to the NBBO. In our example, if Olde elected not to charge an additional markdown from the inside bid price or add an additional markup to the inside ask price, it would sell shares it had just bought at \$20.25 for \$20.75. Still, however, Olde would be charging a \$0.50 markup for its services as a market maker. In these circumstances in which a brokerage firm is selling stock acquired at \$20.25 for \$20.75 it is misleading to advertise, as Olde did, that it sells shares without *a markup of any kind*.<sup>21</sup>

Brokerage firms set the markups (i.e., the difference between the price they charge their customers and the price they pay their customers) with considerable discretion. While the regulatory structure of the industry requires that customers receive a price no worse than the inside bid or offer, brokerage firms occasionally execute trades for customers inside the inside quotes. This is referred to as "price improvement."<sup>22</sup> In our example, if brokerage firms are required to sell to the public at a price no higher than \$20.75 plus a reasonable additional markup but can and do occasionally sell shares at \$20.50, then it is obvious that the true markup is the

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<sup>21</sup> It is irrelevant to the determination of whether a markup was charged that some part of the markup could be described as compensating for a service rendered or a risk taken. In every example where the sale price of a good is marked up from its acquisition cost, some service has been provided or some risk has been taken.

<sup>22</sup> For a simple discussion of price improvement, see John Schott and Chris Schott, *Trading – Price Improvement*, available at <http://invest-faq.com/articles/trade-price-impr.html>.



difference between the sale price and the price the brokerage firms have just paid public investors for the shares.

### **Sales Credits**

Olde paid its stockbrokers undisclosed “sales credits” to sell its recommended stocks, which the firm called Special Ventures. The sales credits were quoted within the firm as a fraction of the spread and were paid from the traders’ profits. The credits were set by the firm’s trading department and changed throughout the day. They were displayed on the brokers’ computer screens. The traders varied the sales credits so that they could sell off inventory they had accumulated while capturing some of the total markup. Through the credits the traders were able to induce the retail brokers to sell what the traders wanted sold by temporarily giving them (or increasing) sales credits.<sup>23</sup>

At trial the class alleged that Olde’s advertised promise of commission-free trading was deceptive because the firm’s sales credits were commission-equivalents. Alternatively, the class argued that regardless of whether the credits were commissions, it was misleading not to disclose them. We pointed to the SEC’s finding that Olde’s differential sales credits created potential conflicts of interest<sup>24</sup> and cited case law holding that any special compensation that could influence a broker’s recommendation must be disclosed.<sup>25</sup>

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<sup>23</sup> Sales credits were used primarily to sell positions in Special Ventures to customers. This allowed Olde to keep more of the spread than it otherwise would have because it did not need to lay off inventory to other market makers. Occasionally, Olde would have an excess demand for a particular Special Venture and it would offer sell side sales credits. These sell side sales credits allowed Olde to buy in inventory without paying other market makers their ask price.

<sup>24</sup> *In re Olde Discount Corp.*, *supra* note 8, 1998 WL 57517 \* 2, 6.

<sup>25</sup> *See Addeo v. Braver*, 956 F. Supp. 443, 452 (S.D.N.Y. 1997) (concluding that failure to disclose commission of .25% on the interest paid in connection with solicited investments bought

Sales credits (or production credits as they are sometimes called) are part of a broker-dealer's total markups paid to the retail sales force for selling certain stocks. These markups (to the extent they come from capturing the bid-ask spread) represent the revenue realized by a broker-dealer's trading department. From this revenue, the credits are paid. In their economic impact, the sales credits increase the prices investors pay when they buy and lower the prices investors receive when they sell.

To understand this, suppose that brokerage firm **A** has accumulated 100,000 shares of a stock it makes a market in. **A** might reduce its inventory by reducing its asking price. But, as noted above, regulations require all broker-dealers to sell at the inside quotes. If **A**'s asking price is at or higher than the lowest ask price posted by other market makers, **A**'s action has no impact. If **A**'s lowered asking price is below the previous inside quote, all other market makers must match **A**'s new lower asking price. Because all other market makers must, by regulation, match any announced price cuts, lowering the ask price would not increase the flow of buy orders to the firm significantly.<sup>26</sup>

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on margin was a material omission even though commission was small); *SEC v. Feminella*, 947 F. Supp. 722, 730-31 (S.D.N.Y. 1996) (discussing disclosure of sales credits); *SEC v. Hasho*, 784 F. Supp. 1059, 1073, 1110 (S.D.N.Y. 1992) (holding that nondisclosure of 12% commission on house stocks was a material omission because nondisclosure “deprives the customer of the knowledge that his registered representative might be recommending a security based upon the registered representative’s own financial interest rather than the investment value of the recommended security.”); see also Note, *Differential Commissions as a Material Fact*, 34 Emory L.J. 507 (1985).

<sup>26</sup> The impact of competitors matching behavior on the effectiveness of price cuts is a well-known phenomenon, referred to in introductory economics textbooks as a “kinked demand curve” where competitors match price cuts but don’t match price increases. Consider a situation where local gas stations vigorously compete with one another, swiftly matching any price cuts posted. The first gas station to lower its posted price may take customers away from other gas stations for a very brief time but once the other stations match the lower prices, the price cutting gas station will be getting the same customers as before the price cuts but now will be selling gas

After **A** lowers the inside ask other market makers become short the stock if the order flow to other market makers had been balanced at the previously prevailing quotes. This aggregate short position at other market makers develops because at the previous inside quotes the buy and sell orders were, by assumption, balanced. Now with the reduced asking price in effect through all market makers, there will be more public buy orders than public sell orders. The developing short position at other market makers would allow **A** to lay off its excess inventory without further affecting the quotes. **A** only captures the bid-ask spread on the shares it sells to its customers; most or all of the bid-ask spread on shares **A** lays off to other market makers is captured by the other market makers.

Instead of lowering its asking price below the current inside ask, **A** could simply start laying off its 100,000 shares to other market makers at the inside bid. As the other market makers see their bids hit repeatedly and their inventories building, they will lower their quotes. This process continues until the market makers in aggregate, including **A**, are holding zero inventories. By lowering the inside quotes, this process eliminates **A**'s excess inventory and benefits all market makers' purchasers. But once again, **A** would not be keeping the bid-ask spread on shares it lays off to other market makers at the inside bid. Sales to the public would be done by other market makers who would capture the difference between the inside bid paid to **A** for its shares and the higher inside ask charged to public investors.

There is a direct relationship between the existence and magnitude of sales credits and the prices paid by a brokerage firm's customers. If, instead of paying sales credits, Olde had narrowed its quotes by the amount of the credits, it would have netted the same amount on its

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at lower, perhaps unremunerative, prices. Rules requiring market makers to match the inside quotes have exactly the same discouraging impact on price competition.

trades with the public and all buyers (not just the firm's customers) would pay less. Instead, Ode kept the quotes wider and paid its stockbrokers a commission (sales credit) to sell the firm's Special Venture stocks. From the public investor's perspective, no meaningful difference exists between sales credits and undisclosed sales commissions.

### **Trading Costs**

When investors buy and sell stocks they incur costs imposed on them by other market participants; we call these trading costs.<sup>27</sup> Trading costs are easy to understand. Suppose that an investor buys 100 shares of ABC Company shares for \$105 each and sells those shares before the quotes change for \$100 each. The investor has incurred \$5 per share in trading costs.

Trading costs are a significant drag on investment performance.<sup>28</sup> The investment management industry measures trading costs to include bid-ask spreads, any additional markups or markdowns and explicit commissions and price impact.<sup>29</sup> From the point of view of the investor there is no meaningful distinction between these components of costs.

Dozens of published papers on investment returns and market microstructure issues measure the bid-ask spread component of trading costs incurred by investors as the difference between the transaction price before markups, markdowns or explicit commissions and the mid-

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<sup>27</sup> We ignore for present purposes the time and out-of-pocket costs (postage, subscriptions, computer expenses, etc.) incurred by investors.

<sup>28</sup> See, e.g., Barber and Odean, *supra*, note 10.

<sup>29</sup> Price impact is the term given to the temporary effect purchases or sales can have on market prices. The price impact of small retail orders in actively traded securities is negligible but large institutional orders can change market prices.

point of the NBBO. The SEC recently also measured the spreads paid by investors as the difference between the price paid or received and the mid-point of the NBBO.<sup>30</sup>

The scientific community and the SEC measure the bid-ask spread relative to the mid-point of the NBBO because the quotes and the spread change between the time an investor purchases and the time an investor sells. For example, an investor might buy when the inside quotes are \$20.25 bid and \$20.75 ask and sell the acquired shares when the quotes are \$21.50 bid and \$21.75 ask. The spread was \$0.50 when the investor bought but only \$0.25 when the investor sold. What is the spread cost actually incurred by this investor?

The developed scientific convention is to measure the bid-ask spread cost incurred on this round-trip as \$0.375. The spread cost incurred on the purchase is the \$0.25 difference between the \$20.75 paid and \$20.50. The spread cost incurred on the sale is the \$0.125 difference between the \$21.50 received and \$21.625. The total spread cost is \$0.375.<sup>31</sup> At trial we showed that by insinuating through its advertising and direct representations to customers that trading in the SmartTrade and SmartTrading programs were free of costs Olde misled investors by not, at least, disclosing that investors were incurring these spread costs.

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30 See *Office of Economic Analysis: Report on the Comparison of Order Executions Across Equity Market Structures*, available at <http://www.sec.gov/news/studies/ordrxmkt.htm>.

<sup>31</sup> The method academic researchers and the SEC use to measure the bid-ask spread implies that the mid-point of the NBBO is the best estimate of a security's value. The literature on investment returns that adjusts for "bid-ask bounce" likewise implies that the best estimate of a security's value is the mid-point of the NBBO. In our example, the correct measure of the change in the value of the stock is \$1.125 (i.e. \$21.625 - \$20.50) and the simple percentage return is 5.5% ( $\$1.125 \div \$20.50$ ).