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Decimal Stock Pricing: Dragging the Securities Industry into the Twenty-First Century

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DECIMAL STOCK PRICING: DRAGGING THE SECURITIES INDUSTRY INTO THE TWENTY- FIRST CENTURY

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I. INTRODUCTION

As the Securities and Exchange Commission (SEC)¹ ponders the structure of the modern stock markets,² it confronts an industry that has

1. For a description of the SEC and its functions, see *infra* notes 72-74 and accompanying text.

2. In July 1992, the SEC's Division of Market Regulation published a concept release that announced it would undertake a comprehensive study of the U.S. equity markets entitled "Market 2000." U.S. Equity Market Structure Study, Exchange Act Release No. 30,920, 51 SEC Docket (CCH) 1524 (July 14, 1992) [hereinafter Market 2000 Release]. The release "(i) outlines the general purpose, scope and objectives of the Division's study; (ii) poses questions on critical equity market structure issues; and (iii) requests information from market participants and observers regarding certain issues the Division believes relevant to its study." *Id.* at 1525.

undergone substantial change in the past quarter century. For example, today, brokers in the United States can execute stock trades electronically from their desktops, with a guarantee that they will receive the best quoted price available, only seconds after their customers have made the decision to buy or sell.³ Further, in order to compete internationally for a share of the volume of U.S. stocks traded daily on foreign stock exchanges, the primary exchanges⁴ have lengthened the hours during which investors may execute trades.⁵ The New York Stock Exchange (NYSE) has even contemplated developing trading systems that would accommodate stock trading twenty-four hours a day.⁶

Even as U.S. stock markets modernize, however, they encourage many antiquated practices of colonial stock trading.⁷ This should not be surprising. The NYSE, the most influential of the U.S. stock markets, seeks to preserve the status quo, which is responsible for the NYSE's near monopoly in the auction trading⁸ of securities.⁹ The American Stock Exchange (AMEX) and the regional exchanges, fearful of losing

3. See Order Instituting Proceedings to Determine whether to Approve or Disapprove Proposed Rule Change, Exchange Act Release No. 19,858, 28 SEC Docket (CCH) 16, 17-18 (June 9, 1983); 5 LOUIS LOSS & JOEL SELIGMAN, *SECURITIES REGULATION* 2560-62 (3d ed. 1989) (discussing derivative pricing systems used by Midwest Stock Exchange, Pacific Stock Exchange and Philadelphia Stock Exchange).

4. There are currently seven stock exchanges in the United States. See Market 2000 Release, *supra* note 2, at 1529 n.14. Two of them, the New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX), are known as primary exchanges. *Id.* The other five are regional exchanges: the Boston Stock Exchange, the Cincinnati Stock Exchange, the Midwest Stock Exchange (MSE) in Chicago, the Philadelphia Stock Exchange and the Pacific Stock Exchange with branches in Los Angeles and San Francisco. *Id.*

5. See Order Granting Temporary Approval to Proposed Rule Changes Relating to the New York Stock Exchange's Off-Hours Trading Facility, Exchange Act Release No. 29,237, 48 SEC Docket (CCH) 1512 (May 24, 1991) (approving NYSE's Off-Hours Trading System); Accelerated Approval of Proposed Rule Change Relating to the American Stock Exchange's After-Hours Trading Facility, Exchange Act Release No. 29,515, 49 SEC Docket (CCH) 742 (Aug. 2, 1991) (temporarily approving AMEX's after-hours trading facility).

6. Request for Comments on Issues Concerning Internationalization of the World Securities Markets, Exchange Act Release No. 21,958, 32 SEC Docket (CCH) 1241, 1244 (Apr. 18, 1985); OFFICE OF TECHNOLOGY ASSESSMENT, *TRADING AROUND THE CLOCK: GLOBAL SECURITIES MARKETS AND INFORMATION TECHNOLOGY* 18 (1990) (discussing NYSE's "intention to study the feasibility of off-board 24-hour trading systems").

7. See *infra* part II.

8. For a discussion of the auction trading of securities, see *infra* note 129.

9. See 1990 SEC ANN. REP. 141 (1991). "The volume of trading in stocks on all registered exchanges totaled 54.2 billion shares . . . with 81% of the total accounted for by trading on the NYSE." *Id.* However, not all stocks are traded on registered exchanges. The Over-the-Counter (OTC) market accounted for 33.5 billion shares of stocks traded in the United States in 1989. *Id.* at 144. Thus, although the NYSE nearly monopolizes trading in the *exchange* markets, it accounts for just over one-half of the shares traded in *all* U.S. stock markets. *Id.* at 141, 144.

order flow,¹⁰ simply mimic the NYSE's practices. These practices, retained out of self-interest, do not necessarily promote the best interests of the investing public or the overall welfare of the stock markets themselves.

In particular, the stock markets continue to trade stocks and quote stock prices in fractions,¹¹ usually multiples of $\$1/8$.¹² To most individual

10. In this Comment, the term "order flow" denotes the volume of trading that occurs on a particular exchange floor, at a particular specialist's post, or in which a particular market maker participates. For a discussion of the two types of order flow, see *infra* note 27. For a definition of a specialist, see *infra* note 124. For a definition of a market maker, see *infra* note 164.

11. The NYSE insists that its members price stocks in fractions. The NYSE Guide states that:

Bids or offers in stocks above one dollar per share shall not be made at a less variation than $1/8$ of one dollar per share; in stocks below one dollar but above $1/2$ of one dollar per share, at a less variation than $1/16$ of one dollar per share; in stocks below $1/2$ of one dollar per share, at a less variation than $1/32$ of one dollar per share . . . provided that the Exchange may fix variations of less than the above for bids and offers in specific [stocks].

2 N.Y.S.E. Guide (CCH) ¶ 2062 (Dec. 1991) (rule 62).

The AMEX similarly requires its members to price stocks fractionally:

The minimum fractional change for dealings in [stocks] shall be as follows: [Stocks] selling under \$1.00 and above $1/4$ of \$1.00, $1/16$ of \$1.00 per share; under $1/4$ of \$1.00, $1/32$ of \$1.00 per share; at \$1.00 and over, $1/8$ of \$1.00 per share . . . However, different minimum fractional changes for dealings in [stocks] may be fixed by the Exchange.

2 Am. Stock Ex. Guide (CCH) ¶ 9277 (Sept. 6, 1962) (rule 127). The SEC recently approved an AMEX rule change that raised the minimum price below which stocks can be traded in intervals of $\$1/16$ to five dollars. Order Approving Proposed Rule Change Relating to Amendments to Rule 127-Minimum Fractional Changes, Exchange Act Release No. 31,118, 52 SEC Docket (CCH) 1219 (Aug. 28, 1992).

The regional exchanges generally adopt the pricing structure of the primary exchanges for stocks listed on the primary exchanges, but create unique rules for the fractional pricing of stocks listed only on the regional exchanges. For example, the Pacific Stock Exchange requires that:

Unless specifically ruled otherwise the trading differentials on stocks shall be as follows: (1) On stocks other than those traded on the [NYSE] or [AMEX]:

Selling Price	Trading Differential
Below $1/2$ of \$1	$1/32$
$1/2$ of \$1 but under \$5	$1/16$
\$5 and above	$1/8$

(2) On stocks also traded on the [NYSE] or [AMEX] the trading differentials shall be the same as those prescribed by such Exchange.

Pac. Stock Ex. Guide (CCH) ¶ 3937 (Aug. 1990) (rule 5.3(b)).

The National Association of Securities Dealers (NASD), which regulates the OTC market under SEC supervision, requires fractional stock pricing as well. Lawrence Harris, *Stock Price Clustering and Discreteness*, 4 REV. FIN. STUD. 389, 390 n.2 (1991) ("The [NASD] permits trades on sixty-fourths for all stocks. Quotes in the NASDAQ system, however, must be a multiple of $\$1/8$ if the bid is above \$10 and $\$1/64$ if the bid is under \$10.").

12. Although the rules of the various exchanges permit low-priced stocks to be quoted in fractions smaller than $\$1/8$, see *supra* note 11, the almost exclusive price for a share of stock

investors, fractional stock pricing is a cumbersome anachronism that unnecessarily complicates trading in U.S. stock markets.¹³ Perhaps more importantly, to some observers of U.S. stock market structure, fractional stock pricing threatens the competitive posture and health of the U.S. securities industry in an increasingly global securities market.

For example, fractions artificially inflate the spreads between stock prices.¹⁴ Consequently, various market participants generate higher profits at the expense of the investing public.¹⁵ Moreover, fractions restrict the ability of these same market participants to compete with one another directly. Thus, they must compete only indirectly through the practice of payment for order flow so that broker-dealers, not their customers, benefit from the competition.¹⁶ Finally, fractions handicap the ability of domestic stock markets to effectively compete with foreign stock markets for international order flow.¹⁷

Many of these same observers have suggested, as a remedy to these structural defects, that U.S. stock markets replace the fractions with decimals.¹⁸ Decimals would create incentive to compete directly for

traded in U.S. stock markets is a multiple of $\$1/8$; thus, a $\$1/8$ interval in the price of a stock is known as a "point" or "tick." Craig Torres & Kevin G. Salwen, *SEC Weighs Switch to Decimal Stock Quotes*, WALL ST. J., June 12, 1991, at C1. For example, of the 2315 closing stock prices quoted for NYSE-listed stocks on August 5, 1992 (a randomly selected date), 2296, or more than 99%, were quoted in intervals of $\$1/8$. See L.A. TIMES, Aug. 6, 1992, at D6-8. The remaining stocks, totalling less than one percent of those listed were quoted in intervals of $\$1/16$ (eight stocks), $\$1/32$ (eight stocks) and $\$1/64$ (three stocks). See *id.*

13. See, e.g., Herb Greenberg, *Business Insider*, S.F. CHRON., Apr. 27, 1991, at B1 ("These antique stock traders should get out of their rut and make it more understandable for Mr. and Ms. average." (quoting letter from reader)); Beatson Wallace, *Old Companies Can be Tracked Down*, BOSTON GLOBE, Sept. 30, 1980, at C1 ("I can't handle fractions without pencil and paper and think it would be easier in decimals for most people." (quoting letter from reader)).

Some commentators have suggested that the American public would reject a conversion to decimals for many of the same reasons that the American public rejected a conversion to the metric system during the 1970s. See, e.g., Chris Wloszczyna, *Stock-Pricing Idea Settles Fractional Differences*, USA TODAY, June 13, 1991, at B3. That conclusion does not necessarily follow. The metric system introduced new basic units of measurement with which the American public was not familiar. Conversely, the American public uses decimals everyday. Indeed, American consumers pay for virtually everything they buy in dollars and cents.

14. See *infra* part IV.A.1 for a discussion of the spreads between stock prices and the effect of fractional stock pricing on spreads.

15. See *infra* notes 148-55, 176-77.

16. See *infra* notes 179-201 for a discussion of payment for order flow.

17. See *infra* notes 210-26.

18. See RICHARD W. JENNINGS ET AL., *SECURITIES REGULATION* 567 (7th ed. 1992); Joel Seligman, *The Future of the National Market System*, 10 J. CORP. L. 79, 134 (1984); Michael J. Simon & Robert L.D. Colby, *The National Market System for Over-the-Counter Stocks*, 55 GEO. WASH. L. REV. 17, 98 n.480 (1986); John C. Coffee Jr., *Brokers and Bribery*, N.Y. L.J., Sept. 27, 1990, at 5, 31 [hereinafter Coffee, *Brokers and Bribery*]; John C. Coffee Jr.,

stock trade order flow, thereby narrowing spreads¹⁹ and discouraging the practice of payment for order flow.²⁰ In each instance, the ultimate beneficiary would be the investing public. Additionally, decimals would enable domestic stock markets to compete with foreign stock markets for international order flow on a more level playing field.²¹

Despite the validity of these arguments, however, the NYSE and the AMEX have resisted attempts to convert to decimals. After all, in an industry that trades securities worth nearly \$2.5 trillion annually,²² there is little incentive to eliminate fractional stock pricing which has, in part, made artificially inflated profits possible.²³ Moreover, the SEC has been unwilling to mandate the conversion.²⁴ Indeed, the SEC has never systematically investigated or solicited public comment on the defects associated with fractional stock pricing or the feasibility (both practically and as a matter of administrative authority) of forcing the primary exchanges to convert to decimals.²⁵

Therefore, as a prelude to an ultimate recommendation that the SEC conduct a thorough inquiry into such a conversion as part of its impending Market 2000 study of the structure of the U.S. stock markets,²⁶ part II of this Comment presents the historical development of fractional stock pricing. It concludes that fractional stock pricing is merely the end product of the evolution of colonial New York currency and, therefore, not necessarily the most beneficial or efficient means of pricing stocks. Part III examines the SEC's administrative authority to create a rule that forces U.S. stock markets to adopt decimal stock pricing. The remainder of this Comment addresses the advisability of adopting a decimal stock pricing rule. Accordingly, part IV discusses the most significant benefits to be gained: improved competition for domestic and international order flow.²⁷ This Comment then examines the institu-

Mysteries of the National Market System, N.Y. L.J., Jan. 23, 1992, at 5, 7 [hereinafter *Coffee, National Market System*].

19. See *infra* part IV.A.1.

20. See *infra* part IV.A.2.

21. See *infra* part IV.B.

22. See 1990 SEC ANN. REP., *supra* note 9, at 144 (citing statistics indicating that market value of securities traded on exchanges in 1989 was \$1.8 trillion and that market value of securities traded on NASDAQ System was \$431.4 billion).

23. See *infra* part V.A.

24. See *infra* part VI.

25. See *infra* part VI for a discussion of the SEC's previous efforts to investigate a potential conversion to decimal stock pricing.

26. For a brief description of the Market 2000 study, see *supra* note 2.

27. In this Comment, the phrase "competition for domestic order flow" includes all competition among domestic stock markets for all stock trades, regardless of whether the stocks are of foreign or domestic issue. Conversely, the phrase "competition for international order flow"

tional response to these arguments and addresses the various arguments used to defend fractional stock pricing.²⁸

II. HISTORICAL DEVELOPMENT OF FRACTIONAL STOCK PRICING

A. Introduction

In 1792, twenty-four New York stockbrokers created the Buttonwood Agreement to form the first organized stock market in New York.²⁹ Accounting records suggest that they traded stocks priced in shillings and pence.³⁰ Those accounting records, however, masked actual trading in fractions of the Spanish dollar.³¹ They traded in fractions not because they had determined that fractions were more advantageous to them or to those who bought their stocks, but because fractions of the Spanish dollar had become the standard currency of New York.³²

Although Philadelphia was the site of the first organized U.S. stock market,³³ the New York market soon evolved into the New York Stock and Exchange Board,³⁴ and eventually into the present-day New York Stock Exchange.³⁵ In doing so, the influence of the New York market

includes all competition *between domestic markets and foreign markets* for all stock trades, regardless of whether the stocks are of foreign or domestic issue.

28. See *infra* part V.

29. These brokers had traded stocks informally beneath a buttonwood tree in front of 68 Wall Street; hence, their first agreement was known as the Buttonwood Agreement. SERENO S. PRATT, *THE WORK OF WALL STREET* 4-5 (1921); ROBERT SOBEL, *THE BIG BOARD* 20 (1968); Robert Steiner, *200 Years Later, Small Investors Find Clout at America's Premier Exchange*, WALL ST. J., May 13, 1992, at C1. The brokers who signed the Buttonwood Agreement agreed to "give . . . preference to each other in [their] Negotiations." FRANCIS L. EAMES, *THE NEW YORK STOCK EXCHANGE* 14 (1968) (quoting Buttonwood Agreement). These brokers were the predecessors of the present-day NYSE. See *infra* notes 34-35 and accompanying text. For a discussion of the early history of the New York stock market, see EAMES, *supra*, at 13-17; JEFFREY B. LITTLE & LUCIEN RHODES, *UNDERSTANDING WALL STREET* 18-22 (3d ed. 1991); PRATT, *supra*, at 4-8; SOBEL, *supra*, at 14-27; ROBERT I. WARSHOW, *THE STORY OF WALL STREET* 31-38 (1929); and E.C. Stedman & A.N. Easton, *History of the New York Stock Exchange*, in *THE NEW YORK STOCK EXCHANGE* 15, 30-43 (Edmund C. Stedman ed., 1957).

30. See EAMES, *supra* note 29, at 15 (showing stock quotation list from May 26, 1792).

31. See LESLIE V. BROCK, *THE CURRENCY OF THE AMERICAN COLONIES* 4 (1975); ROBERT M. SHARP, *THE LORE AND LEGENDS OF WALL STREET* 34 (1989).

32. See *infra* notes 53-63 and accompanying text.

33. PRATT, *supra* note 29, at 9; WARSHOW, *supra* note 29, at 40.

34. EAMES, *supra* note 29, at 18; PRATT, *supra* note 29, at 7-8. In 1817 the brokers who had been trading under the 1792 Buttonwood Agreement formed the New York Stock and Exchange Board and adopted a constitution, in which they agreed not to disclose to the public the names of buyers and sellers of stocks. EAMES, *supra* note 29, at 18; PRATT, *supra* note 29, at 7-8.

35. LITTLE & RHODES, *supra* note 29, at 20.

eclipsed that of the Philadelphia market,³⁶ and stock markets nationwide adopted the characteristics of the New York market.³⁷ Thus, all U.S. stock markets now price stocks in fractions, generally in multiples of $\$1/8$.³⁸

B. Colonial New York Currency

The early colonists had very little currency³⁹ and, consequently, operated in a barter economy.⁴⁰ However, as the colonies developed and the colonists' need for a stable currency increased, they began to use commodities as money⁴¹ because no single coin could sustain the colonists' currency needs.⁴² In particular, New York, due to its lack of coinage, was possessed of "a vicious currency system which not only worked iniquity in its own time but bequeathed to a later generation the effects of its debasement."⁴³

One commodity, *wampumpeague* (wampum),⁴⁴ had served as a stable form of currency among Indian communities long before the colonists arrived.⁴⁵ Wampum was a string of beads made of seashells.⁴⁶

36. PRATT, *supra* note 29, at 9; WARSHOW, *supra* note 29, at 40-41.

37. See PRATT, *supra* note 29, at 7 ("The history of Wall Street from [the early 1800s] becomes practically the history of the agricultural, industrial, and commercial development of the United States."); SOBEL, *supra* note 29, at 26 ("New York became 'the tip of the tongue that laps up the cream of the commerce of a continent.'" (quoting LEONARD L. LEVINSON, WALL STREET: A PICTORIAL HISTORY 13 (1968) (quoting Oliver Wendell Holmes))).

38. See *supra* text accompanying notes 11-12.

39. NEIL CAROTHERS, FRACTIONAL MONEY 21 (1930); SHARP, *supra* note 31, at 31.

40. SHARP, *supra* note 31, at 31; WILLIAM G. SUMNER, A HISTORY OF AMERICAN CURRENCY 5 (New York, Henry Holt and Co. 1874).

41. CAROTHERS, *supra* note 39, at 20; SHARP, *supra* note 31, at 31. The colonists used the staple and, therefore, stable products of the colonial economy: corn, cattle, wool, lumber, tobacco, beaver skins, rice, furs, pitch, nails and bullets. CAROTHERS, *supra* note 39, at 20; SHARP, *supra* note 31, at 31.

42. Although the colonies circulated an impressive array of foreign-minted coins, they lacked a single coin that could serve, in large quantities, as the currency foundation for the developing colonial economy. See BROCK, *supra* note 31, at 4-5; CAROTHERS, *supra* note 39, at 21. "A complicated circulation of currency consisting of guineas, doubloons, pistoles, johannes pieces, and sequins, all of foreign origin, had served to complicate and confuse the simplest transactions." WARSHOW, *supra* note 29, at 39.

43. Stedman & Easton, *supra* note 29, at 30.

44. *Wampumpeague* was known variously as wampum, peag(e), peak(e) and roanoke. CAROTHERS, *supra* note 39, at 20; SHARP, *supra* note 31, at 31; SUMNER, *supra* note 40, at 3. In New Amsterdam (later New York), it was known as seawant. Stedman & Easton, *supra* note 29, at 22.

45. SHARP, *supra* note 31, at 31; SUMNER, *supra* note 40, at 3.

46. Wampum has been described as follows:

[Wampum] consisted of beads of two kinds, one white, made out of the end of a periwinkle shell, and the other black, made out of the black part of a clam shell. These beads were rubbed down and polished as articles of ornament, and arranged in

“White” wampum was made of white beads and “dark” or “black” wampum was made of black beads.⁴⁷ Because black beads were rarer than white beads, dark wampum was more valuable.⁴⁸

The colonists adopted the Indian wampum as their own currency soon after colonization.⁴⁹ When other commodities failed to provide the colonists with a stable currency, wampum became “legal tender from Massachusetts to Virginia.”⁵⁰ In most colonies, it remained valuable as a general medium of circulation throughout the seventeenth century, but New York used wampum well into the eighteenth century⁵¹ because, beyond wampum, New York colonists lacked small change currency.⁵²

Early in the seventeenth century, Spanish dollars began pouring into the colonies⁵³ and soon became the predominant coin.⁵⁴ The colonists traded wampum, English coinage⁵⁵ and the Spanish dollar side by side; however, the value and, therefore, the trading ratios of these three currencies varied from colony to colony and over time.⁵⁶

In New York, by 1700 the trading ratios stabilized at one Spanish dollar to eight shillings⁵⁷ or eight feet of white wampum.⁵⁸ Because of this ratio, and because of the ease with which the Spanish dollar could be chiseled into pie-shaped subdivisions, the Spanish dollar was broken into

strings or belts These beads and belts were used by the Indians themselves as money, and were real money. They regarded one black bead as worth two white. . . .

. . . A fathom or belt of wampum consisted of 360 beads.

SUMNER, *supra* note 40, at 3-4.

47. See Stedman & Easton, *supra* note 29, at 22.

48. See SHARP, *supra* note 31, at 33; SUMNER, *supra* note 40, at 3-4; Stedman & Easton, *supra* note 29, at 22.

49. CAROTHERS, *supra* note 39, at 20; SHARP, *supra* note 31, at 33; SUMNER, *supra* note 40, at 4; Stedman & Easton, *supra* note 29, at 22.

50. CAROTHERS, *supra* note 39, at 20.

51. *Id.* at 20-21. Wampum was useful to the early colonists because its value was stable and because production of wampum did not exceed the production of goods and services. SHARP, *supra* note 31, at 33.

52. CAROTHERS, *supra* note 39, at 27.

53. *Id.* at 21.

54. *Id.*

55. There was never a significant amount of English coinage (pounds, shillings and pence) in circulation in the colonies because the Crown had prohibited its exportation from England to the colonies. BROCK, *supra* note 31, at 4. Nevertheless, the colonists kept their accounting records in pounds, shillings and pence even as they traded with wampum and the Spanish dollar. See *id.*

56. CAROTHERS, *supra* note 39, at 23.

57. *Id.*

58. SHARP, *supra* note 31, at 34. Dark wampum was twice as valuable as white wampum. *Id.* at 33; see *supra* note 48 and accompanying text. Thus, by implication, the Spanish dollar also traded for four feet of dark wampum.

as many as eight pieces known as "bits."⁵⁹ Hence, the Spanish dollar was also known as the "piece-of-eight."⁶⁰ Each bit, then, was worth one foot of white wampum. Thus, New York merchants priced their goods and services in bits, for which their customers could pay in either wampum or eighths of a Spanish dollar, because New York colonists accepted each equally, and the two currencies traded in a one-to-one ratio.

After the Spanish dollar began circulating widely, wampum, in all its forms, fell into disuse, even in New York.⁶¹ Although it had usefully stabilized New York currency well into the eighteenth century, it was obsolete after the rise of the Spanish dollar.⁶² Among other deficiencies, wampum was fragile, less mobile than small coinage, and easily counterfeited by artificial coloring.⁶³ Nevertheless, wampum left its mark on the Spanish dollar, and subsequently on U.S. stock markets, by causing the Spanish dollar to be chiseled into eighths.

When organized stock trading began in New York in 1792 pursuant to the Buttonwood Agreement, stock prices were quoted in bits or eighths.⁶⁴ That tradition continues today.⁶⁵ Although stock quotation lists dated May 26, 1792 (nine days after the signing of the Buttonwood Agreement) displayed quotations in shillings and pence,⁶⁶ such displays were probably for accounting purposes only.⁶⁷ Actual trading probably was in the form of Spanish dollars or fractions thereof.⁶⁸

Congress adopted a plan for a decimal-based U.S. dollar in 1787, and in 1794 the federal government began minting the new currency.⁶⁹ By 1794, New York stockbrokers had been operating an organized stock market for almost two years. Accustomed to quoting stock prices in fractions of the Spanish dollar, they never adjusted to the new decimal

59. SHARP, *supra* note 31, at 34.

60. CAROTHERS, *supra* note 39, at 21. The Mexican-minted Spanish dollar, or piece-of-eight, was also known as the "pillar dollar" for its depiction, on the reverse side, of a "crown above a shield, flanked by the 'Pillars of Hercules.'" SHARP, *supra* note 31, at 33.

61. See CAROTHERS, *supra* note 39, at 20-21.

62. See *id.* at 20.

63. *Id.* Because dark wampum traded at a premium over white wampum, the colonists had an incentive to produce counterfeit dark wampum. They accomplished this by coloring the white wampum to make it look like the more valuable dark wampum. See *id.*; SHARP, *supra* note 31, at 33; Stedman & Easton, *supra* note 29, at 22.

64. SHARP, *supra* note 31, at 34.

65. *Id.*

66. EAMES, *supra* note 29, at 15 (showing stock quotation list from May 26, 1792).

67. See BROCK, *supra* note 31, at 4.

68. See *id.*; SHARP, *supra* note 31, at 34.

69. Stedman & Easton, *supra* note 29, at 42-43. Congress abolished the Spanish dollar in 1853. SHARP, *supra* note 31, at 34.

scheme.⁷⁰ Thus, there was no affirmative *decision* to price stocks in fractions and, consequently, no study of the impact of fractional stock pricing on the securities industry. Rather, the practice evolved over time and failed to adjust to subsequent changes in the structure of U.S. currency. Stock markets nationwide continue to price stocks in fractions today.⁷¹

III. SEC RULEMAKING AUTHORITY

The SEC is an independent, bipartisan, quasi-judicial agency of the federal government.⁷² Composed of five members, the SEC and its staff administer the several statutes that constitute the federal securities laws⁷³ by conducting investigations, processing various filings, adjudicating securities disputes and creating rules to regulate the securities markets.⁷⁴ The SEC's authority to create rules is plenary. The only limitations on its authority are: (1) the extent to which any rule is inconsistent with congressional intent;⁷⁵ and (2) the SEC's statutory role as a remedial supervisor in an industry that is primarily self-regulated.⁷⁶ A decimal stock pricing rule is consistent with congressional intent.⁷⁷ Moreover, the SEC's supervisory role does not practically limit the SEC's ability to directly intervene in the securities markets in a nonremedial capacity by forcing U.S. stock markets to convert to decimals.⁷⁸

A. Statutory Basis

Congress created the Securities and Exchange Commission in section 4⁷⁹ of the Securities Exchange Act of 1934 (1934 Act)⁸⁰ and endowed it with the general authority to "make such rules and regulations as may be necessary or appropriate to implement the provisions of [the

70. See SHARP, *supra* note 31, at 34.

71. See *supra* notes 11-12 and accompanying text.

72. SEC, THE WORK OF THE SECURITIES AND EXCHANGE COMMISSION vii (1971).

73. The seven federal securities statutes, in amended form, are: the Securities Act of 1933, 15 U.S.C. §§ 77a-77m (1988 & Supp. II 1990), the Securities Exchange Act of 1934, *id.* §§ 78a-78kk, the Public Utility Holding Company Act of 1935, *id.* §§ 79 to 79z-6, the Trust Indenture Act of 1939, *id.* §§ 77aaa-77bbbb, the Investment Company Act of 1940, *id.* §§ 80a-1 to 80a-52, the Investment Advisers Act of 1940, *id.* §§ 80b-1 to 80b-21, and the Securities Investor Protection Act of 1970, *id.* §§ 78aaa-78lll.

74. See HAROLD S. BLOOMENTHAL, SECURITIES LAW HANDBOOK 1 (1991-92 ed.); THOMAS L. HAZEN, THE LAW OF SECURITIES REGULATION § 1.4, at 12 (1985).

75. See *infra* note 91.

76. See *infra* part III.B.

77. See *infra* part III.A.

78. See *infra* part III.B.

79. 15 U.S.C. § 78d (1988).

80. Securities Exchange Act of 1934, ch. 404, 48 Stat. 881 (codified at 15 U.S.C. §§ 78a-78kk (1988 & Supp. II 1990)).

federal securities statutes]."⁸¹ Additionally, each of the seven federal securities statutes specifically authorizes the SEC to adopt rules necessary for the SEC to carry out its statutory functions.⁸² Because the 1934 Act targeted only organized securities exchanges,⁸³ the SEC's rulemaking authority did not reach the Over-the-Counter (OTC) market⁸⁴ until 1938, when Congress amended the 1934 Act.⁸⁵ Hence, today, the SEC may regulate the National Association of Securities Dealers (NASD), as well as the stock exchanges, all of which are "self-regulatory organizations" (SROs).⁸⁶

More importantly for purposes of this Comment, however, Congress's National Market System legislation of 1975 (1975 amendments),⁸⁷ which also amended the 1934 Act, authorized the SEC to change the rules and regulations of the SROs "in any manner in furtherance of the purposes of the [1934 Act]."⁸⁸ When the SEC regulates in this manner, its rules replace or supplement those of the SROs.⁸⁹ Consequently, after the 1975 amendments, the SEC's power to regulate the stock exchanges and the OTC market is plenary,⁹⁰ and all rules consistent with congressional intent are valid.⁹¹

81. 15 U.S.C. § 78w(a)(1) (1988).

82. 3 LOUIS LOSS, *SECURITIES REGULATION* 1936-37 (2d ed. 1961).

83. See Roberta S. Karmel, *Securities Industry Self-Regulation: Tested by the Crash*, 45 WASH. & LEE L. REV. 1297, 1298-99 (1988).

84. The OTC market is a nationwide network of broker-dealers that trade all stocks that are not listed (traded) on the various stock exchanges. LITTLE & RHODES, *supra* note 29, at 16; Simon & Colby, *supra* note 18, at 17 n.2. In addition, OTC broker-dealers trade some stocks that are listed on the stock exchanges, as well as various other kinds of securities, such as government and corporate bonds and options. *Id.* The most significant portion of the OTC market is the NASD, a self-regulatory organization comprised of OTC broker-dealers that regulates the OTC market under the supervision of the SEC. *Id.* at 18 n.4.

85. Securities Exchange Act Amendments of 1938, ch. 677, 52 Stat. 1070 (codified at 15 U.S.C. §§ 78o, 78o-3, 78q, 78cc, 78ff (1988 & Supp. II 1990)).

86. The 1934 Act categorized the stock exchanges and the NASD, among other groups, as "self-regulatory organizations." 15 U.S.C. § 78c(a)(26) (1988). As such, they must regulate themselves under SEC supervision. Karmel, *supra* note 83, at 1298-99. For further discussion of the nature and role of the SEC with respect to SROs, see *infra* part III.B.

87. Securities Acts Amendments of 1975, Pub. L. No. 94-29, 89 Stat. 97 (codified as amended in scattered sections of 15 U.S.C.).

88. 15 U.S.C. § 78s(c) (1988).

89. See 6 LOSS & SELIGMAN, *supra* note 3, at 2714; David A. Lipton, *The SEC or the Exchanges: Who Should Do What and When?*, 16 U.C. DAVIS L. REV. 527, 533 (1983).

90. Lipton, *supra* note 89, at 533-35.

91. See Mark A. Kahrs, Note, *Is the Securities and Exchange Commission Overreaching its Rulemaking Authority Under Rule 14e-3?* [United States v. Chestman, 903 F.2d 75 (2d Cir. 1990)], 30 WASHBURN L.J. 300, 321 (1990) ("[Congress] has placed the [SEC] in the role of safeguarding congressional intent."). One federal court has described the SEC's general rulemaking authority as follows:

Therefore, to define the scope of the SEC's rulemaking authority, and more specifically the SEC's authority to insist that the SROs adopt a decimal stock pricing rule, one need only define the congressional intent supporting the 1934 Act and its various amendments. Congress enacted the original 1934 Act partly in response to the unnecessary and destructive speculation in securities that contributed to the Great Depression and the preceding stock market crash.⁹² Accordingly, one goal of the original 1934 Act was to protect the investing public from subsequent market abuses.⁹³

Among other purposes, Congress enacted the 1975 amendments to facilitate the creation of a National Market System.⁹⁴ The legislators hoped that a National Market System would promote "fair competition among brokers and dealers, among exchange markets, and between exchange markets and markets other than exchange markets."⁹⁵ Further, they hoped that such a system would promote the economically efficient execution of transactions.⁹⁶ Accordingly, Congress granted the SEC broad discretion to oversee the implementation of a National Market System⁹⁷ pursuant to the attainment of these and other enumerated goals.⁹⁸

A conversion from fractional to decimal stock pricing is consistent with two congressional objectives relating to both the original 1934 Act and the 1975 amendments: (1) investor protection; and (2) increased competition between stock markets.⁹⁹ Consequently, such a conversion is well within the SEC's general rulemaking authority to alter SRO rules.

[Section] 19(c) . . . allows the [SEC] on its own initiative to amend the rules of a [SRO] as it deems necessary or appropriate [1] to insure the fair administration of the [SRO], [2] to conform its rules to requirements of [the 1934 Act] . . . , or [3] otherwise in furtherance of the purposes of [the 1934 Act].

Business Roundtable v. SEC, 905 F.2d 406, 408-09 (D.C. Cir. 1990) (bracketed enumeration in original) (emphasis added).

92. See Walter Werner, *The SEC as a Market Regulator*, 70 VA. L. REV. 755, 757 (1984).

93. *Id.* at 755. The seven federal securities statutes create two types of investor protection. "First, they seek to provide investors with the information needed to trade intelligently in markets free of fraud and other abuse. Second, they attempt to ensure the effective and responsible operation both of those markets and of the securities industry." *Id.*

94. 15 U.S.C. § 78k-1(a)(2) (1988).

95. *Id.* § 78k-1(a)(1)(C)(ii).

96. *Id.* § 78k-1(a)(1)(C)(i).

97. *Id.* § 78k-1(a)(2).

98. These were not the only goals of the National Market System and the 1975 amendments. Rather, Congress also sought to make quotation and transaction data available to market participants, to enhance brokers' ability to execute customer orders in the best market, and to enhance investors' ability to execute transactions without a dealer. *Id.* § 78k-1(a)(1)(C)(iii)-(v) (1988).

99. See *infra* parts III.B to VII.

B. Securities Industry Self-Regulation

Although plenary, the SEC's rulemaking authority is not absolute. As discussed above, the SEC may only adopt rules that are consistent with congressional intent.¹⁰⁰ More fundamentally, however, Congress intended the securities industry to be self-regulated.¹⁰¹ Only when the SROs failed to execute their statutory obligations¹⁰² was the SEC to use its rulemaking authority to correct those failures.¹⁰³

In creating a system of SEC oversight, Congress was particularly concerned that the SROs, empowered by self-regulation and motivated by self-interest, would adopt only those rules that tended to promote their respective competitive positions in the securities marketplace.¹⁰⁴ Alternatively stated, Congress was concerned that the SROs would prefer their own interests to those of the public at large. Hence, even from the beginning of securities industry self-regulation, Congress intended for the SEC to regulate the SROs to prevent or remove anti-competitive barriers.¹⁰⁵ Under this scheme, the SEC has regulatory authority to amend SRO rules with a decimal stock pricing rule of its own if the SEC can show that the SROs' failure to adopt a similar rule burdens competition.

Today, the scheme of self-regulation remains largely intact.¹⁰⁶ However, the SEC no longer regulates the SROs in a purely remedial fashion by reacting only to SRO failures. Rather, the SEC often directly regulates the SROs by enacting rules even before the SROs have failed to conform their own rules to the dictates of the securities laws.¹⁰⁷ This

100. See *supra* note 91 and accompanying text.

101. See, e.g., Karmel, *supra* note 83 (discussing effectiveness of securities industry self-regulation); Lipton, *supra* note 89 (discussing evolving role of SEC in self-regulation of securities industry); Marianne K. Smythe, *Government Supervised Self-Regulation in the Securities Industry and the Antitrust Laws: Suggestions for an Accommodation*, 62 N.C. L. REV. 475 (1984) (discussing accommodation of antitrust laws to securities industry self-regulation).

102. The SROs are obligated to regulate their own members by adopting rules "designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, . . . to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general, to protect investors and the public interest." 15 U.S.C. § 78f(b)(5) (1988).

103. WILLIAM DOUGLAS, *DEMOCRACY AND FINANCE* 82 (1940). Justice Douglas's description of the SEC's intended role has been frequently cited: "[T]he exchanges take the leadership with Government playing a residual role. Government would keep the shotgun, so to speak, behind the door, loaded, well oiled, cleaned, ready for use but with the hope it would never have to be used." *Id.*

104. See Karmel, *supra* note 83, at 1299; Smythe, *supra* note 101, at 479.

105. See *supra* note 95 and accompanying text.

106. Karmel, *supra* note 83, at 1299.

107. See Richard W. Jennings, *Self-Regulation in the Securities Industry: The Role of the Securities and Exchange Commission*, 29 LAW & CONTEMP. PROBS. 663, 665-67 (1964); Lipton, *supra* note 89, at 529.

expanded role may have been inherent in the statutory scheme since the SEC's inception in 1934.¹⁰⁸ Even if it was not, the SEC has informally adopted that role for itself by virtue of its consistent, preventive supervision of the SROs.¹⁰⁹ Congress formally sanctioned that new role by conferring broad rulemaking authority on the SEC in the 1975 amendments to the 1934 Act.¹¹⁰

Therefore, whether in its originally intended remedial role, or in its broader, historically developed preventive role, the SEC does not repudiate the concept of industry self-regulation by adopting rules designed to promote and remove barriers to competition. Accordingly, neither the concept of industry self-regulation nor the SEC's general rulemaking authority prevents the SEC from adopting a decimal stock pricing rule if it can be shown that such a rule would promote competition between stock markets.

IV. COMPETITION FOR ORDER FLOW

A. *Competition for Domestic Order Flow*

The SEC has the authority to adopt a rule that would force U.S. stock markets to quote and trade stocks in decimals if such a rule would promote competition between domestic stock markets and benefit the investing public.¹¹¹ Theoretically, stock exchanges and OTC market makers¹¹² may compete for domestic order flow¹¹³ based on superior pricing or better service.¹¹⁴ Currently, however, U.S. stock exchanges compete on service, but do not systematically compete on price.¹¹⁵ OTC market makers *do* compete on price, but the fraction format of stock prices restricts the extent to which they can do so effectively.¹¹⁶

A decimal stock pricing rule would promote competition for domestic order flow in two ways. First, it would promote *direct* price competition among OTC market makers and among exchange specialists by giving them the incentive to publish superior price quotes in a way that

108. See Lipton, *supra* note 89, at 529.

109. See *id.* at 529-30.

110. *Id.* at 530.

111. See *supra* part III.

112. See *infra* note 164 for the definition of an OTC market maker.

113. See *supra* note 27.

114. As used in this Comment, "service-based competition" is competition that allows broker-dealers to execute orders more quickly with fewer transaction costs.

115. 5 LOSS & SELIGMAN, *supra* note 3, at 2555-56 (discussing derivative pricing); see *infra* text accompanying notes 148-53.

116. For a discussion of the means by which fractions prevent effective price-based competition between OTC market makers, see *infra* part IV.A.1.b.

most benefits their customers.¹¹⁷ Second, by creating incentive to compete directly, it would eliminate the nettlesome practice of payment for order flow,¹¹⁸ which regional exchange specialists and NASD market makers use as a form of *indirect* price competition to attract order flow away from each other and from the primary exchanges.¹¹⁹

1. Direct price competition: Published stock prices

An investor who seeks to buy or sell shares of a stock usually employs a broker-dealer¹²⁰ to execute the order. If the order is for an exchange-listed stock, the broker-dealer must generally execute the order in the exchange market.¹²¹ Alternatively, if the order is for an OTC-listed stock, the broker-dealer must execute the order in the OTC market.¹²² Direct competition for that order is fundamentally different depending on whether the order is for an exchange-listed stock or an OTC-listed stock.¹²³ In either case, superior pricing attracts the broker-dealer's order and directly reduces the investor's cost of trading.

a. the exchange markets

The specialist is the focal point of the exchange market.¹²⁴ Once the broker-dealer has located an exchange member firm (member) capable of

117. See *infra* part IV.A.1.

118. See *infra* note 179 and accompanying text.

119. See *infra* part IV.A.2.

120. As its name suggests, a "broker-dealer" is both a broker and a dealer. A broker is "any person engaged in the business of effecting transactions in securities for the account of others, but does not include a bank." 15 U.S.C. § 78c(a)(4) (1988). A dealer is

any person engaged in the business of buying and selling securities for his own account, through a broker or otherwise, but does not include a bank, or any person insofar as he buys or sells securities for his own account, either individually or in some fiduciary capacity, but not as a part of a regular business.

Id. § 78c(a)(5).

121. LITTLE & RHODES, *supra* note 29, at 28. In a very small percentage of transactions, broker-dealers execute exchange-listed stock orders in the OTC market. Nicholas Wolfson et al., *The Securities Markets: An Overview*, 16 HOW. L.J. 809, 824 (1971). Such transactions are said to be executed in the "third market." *Id.* Third market transactions have accounted for a shrinking percentage of exchange-listed stock transactions. In 1969 the value of third market transactions in NYSE-listed stocks comprised only 5.5% of the value of all NYSE-listed stock activity. *Id.* at 824 n.115. In 1980 that percentage had declined to two percent. Norman S. Poser, *Restructuring the Stock Markets: A Critical Look at the SEC's National Market System*, 56 N.Y.U. L. REV. 883, 894 (1981). In recent years, however, the third market has experienced renewed growth. See *infra* note 183 and accompanying text.

122. LITTLE & RHODES, *supra* note 29, at 30.

123. Compare *infra* part IV.A.1.a (discussing competitive structure of exchange markets) with *infra* part IV.A.1.b (discussing competitive structure of OTC market).

124. Wolfson et al., *supra* note 121, at 815. A specialist is a member of the exchange to whom the exchange allocates the trading of a specific stock. Poser, *supra* note 121, at 889.

executing the stock trade on the exchange floor,¹²⁵ that member proceeds to the post belonging to the specialist in that stock.¹²⁶ If the order is a "limit" order, the member simply leaves the order with the specialist, which executes the order when the market price reaches the limit price.¹²⁷ When executing a limit order, the specialist acts as a broker and receives a commission from the member.¹²⁸

If, on the other hand, the customer's order is to buy or sell "at the market," it is a "market order," and the member attempts to match the order with a corresponding buy or sell order by an auction process in front of the specialist's post.¹²⁹ If the member succeeds in finding a matching buyer or seller, the two parties execute the trade without the assistance of the specialist.

If the market is not liquid, that is, if the market does not produce a matching order at a price reasonably related to the last sale price,¹³⁰ then the specialist must intervene and take up the other side of the trade by

During trading hours, the specialist remains at its post, which is simply a fixed location where all member broker-dealers can congregate to trade the stock for which the specialist is responsible. Therese H. Maynard, *What is an "Exchange?"—Proprietary Electronic Securities Trading Systems and the Statutory Definition of an Exchange*, 49 WASH. & LEE L. REV. 833, 841-42; Poser, *supra* note 121, at 889.

125. Only exchange members may execute stock trades on a particular stock exchange. Maynard, *supra* note 124, at 840-41; Wolfson et al., *supra* note 121, at 812. If the broker-dealer is not a member of the exchange at which it seeks to execute the trade, it must locate a member and compensate the member with a commission for executing the trade on the broker-dealer's behalf. Maynard, *supra* note 124, at 841; Poser, *supra* note 121, at 889; Wolfson et al., *supra* note 121, at 812-14.

126. Maynard, *supra* note 124, at 841-42.

127. Limit orders "require . . . brokers to buy at or below the stated (limit) price in the case of a buy limit order, or alternatively, to sell at or above the stated (limit) price in the case of a sell limit order." *Id.* at 841. For example, if a broker-dealer leaves the specialist a \$40 sell limit order for a stock currently trading at \$39³/₈, the specialist does not execute the trade for the customer until the market produces a \$40 offer. The customer dictates the limit price at which the specialist should execute the trade.

128. Poser, *supra* note 121, at 890.

129. The "auction process" is the means by which buy and sell order activity is centralized at the specialist's post so that member broker-dealers can meet face to face and execute their customers' orders with each other at the best price available. Maynard, *supra* note 124, at 841.

130. Poser, *supra* note 121, at 886 ("[L]iquidity [is] a market characteristic that enables investors to dispose of or purchase securities at a price reasonably related to the preceding price.").

buying or selling from its own inventory.¹³¹ In this capacity, the specialist acts as a dealer.¹³²

In its dealer capacity, however, the specialist does not buy and sell at the same price. Rather, the specialist buys stocks at its quoted "bid" price and sells stocks at its quoted "ask" price.¹³³ The specialist sets the bid price lower than the ask price so that it profits as it deals stocks with the member broker-dealers at its post. The difference between the specialist's bid and ask prices is the "spread."

For example, a specialist may offer to buy stock at a quoted bid price of \$50, and offer to sell stock at a quoted ask price of \$50½. Its profit is the spread, which is the fifty cents per share difference between the quoted bid and ask prices.¹³⁴

Notably, the specialist does not participate in all trades executed at its post. The specialist only becomes involved with limit orders or at times of market imbalance. Member broker-dealers auction off all other orders at the specialist's post without the specialist's intervention. The exchange specialist profits, therefore, when it acts as a dealer or when it participates in a limit order transaction. Limit orders trigger a commission.¹³⁵ When the specialist trades for its own account (as a dealer to rectify market imbalances), it profits by buying stocks at a lower price than that at which it sells.

The key to competition between exchange specialists is the dual trading¹³⁶ of stocks, which enables a broker-dealer to execute a single stock trade on any one of several exchanges, for "[t]here is no bar to a company's listing its securities on more than one stock exchange."¹³⁷ The "listing" standards of the several stock exchanges govern whether a given stock may be traded on each exchange.¹³⁸ The NYSE and the AMEX are the primary markets.¹³⁹ "The NYSE serves as the primary

131. The primary exchange specialist has a statutory obligation to maintain a "fair and orderly market." 17 C.F.R. § 240.11b-1(a)(2)(ii) (1992); 2 N.Y.S.E. Guide (CCH) ¶ 2104 (Nov. 1992) (rule 104.10(2)-(3)); 2 Am. Stock Ex. Guide (CCH) ¶ 9310 (July 1988) (rule 170(d)). The regional exchange specialist does not have the same obligation, except to the extent that the rules of the regional exchange impose it. Wolfson et al., *supra* note 121, at 815 n.99. For a general discussion of this obligation, see *id.* at 815-19.

132. Maynard, *supra* note 124, at 842.

133. See Poser, *supra* note 121, at 890.

134. *Id.*

135. *Id.*

136. Stocks are dually traded when they are traded on more than one exchange, generally a primary exchange and one or more regional exchanges. See *id.* at 893.

137. *Id.* at 888.

138. *Id.* Exchange listing standards "typically relate to matters such as share distribution, amount of assets, and history of earnings." *Id.*

139. Maynard, *supra* note 124, at 844 n.53.

market for the stocks listed there. On a much smaller scale, the AMEX has historically served as the primary market for . . . smaller, newer companies."¹⁴⁰ The regional exchanges primarily list stocks that are also listed on the NYSE and the AMEX.¹⁴¹

Some stock exchanges even grant unlisted trading privileges,¹⁴² in which case a stock need not be formally listed to be admitted for trading on the exchange floor.¹⁴³ The SEC, which has the authority to regulate such privileges, routinely grants permission for unlisted trading in stocks that are already listed on another stock exchange.¹⁴⁴

Because the exchange specialist profits on some trades executed at its post, and because a broker-dealer may be able to execute a stock trade on only one of several exchanges that list the stock or grant it unlisted trading privileges, the exchange specialist has an incentive to compete for order flow. In other words, the exchange specialist has an incentive to attract orders to its post that might otherwise be executed on another exchange.

This framework, however, merely begs the question: *How* do exchange specialists compete for order flow and attract stock orders to their posts? First, they can and do compete on *service* by lowering the transaction costs associated with trading on the exchange. For example, many regional exchanges retain automated small order execution systems that circumvent the auction process and lower the costs of trading by forcing a trade at the best quoted price available.¹⁴⁵ However, the benefits of such competition are minimal. Service-based competition merely eliminates the cost of finding the best matching price to an order, but it does not affirmatively reduce the prices at which trades occur.¹⁴⁶

Second, and more importantly, the exchanges can conceivably compete on *price*. Price competition requires specialists to narrow their bid-ask spreads. For example, today, a specialist can narrow a spread defined by a quoted bid of \$40¹/₄ and a quoted ask of \$40⁷/₈ to a quoted bid of \$40¹/₂ and a quoted ask of \$40³/₄. The narrower spread attracts the broker-dealer's order because if the market is not liquid at the time the member tries to find a match, the specialist must act as a dealer and take up the other side of the trade.¹⁴⁷ In that case, the broker-dealer prefers

140. *Id.* at 844.

141. *Id.* at 844 n.53.

142. 15 U.S.C. § 78I(f) (1988).

143. Poser, *supra* note 121, at 888.

144. *Id.* at 888-89.

145. *See supra* note 3 and accompanying text.

146. *See* 5 LOSS & SELIGMAN, *supra* note 3, at 2562.

147. *See supra* notes 130-34 and accompanying text.

the specialist with the narrower spread because the customer receives a better price. In this example, if the broker-dealer's order is a buy order, its customer must pay only $\$40\frac{3}{4}$ instead of $\$40\frac{7}{8}$. Similarly, if the broker-dealer's order is a sell order, its customer will receive $\$40\frac{1}{2}$ instead of $\$40\frac{1}{4}$. Although the specialist may not take up the other side of the trade (in a liquid market), the narrow spread still attracts the order because of the *possibility* that the order may require the specialist's participation in an imbalanced market.

Exchange structure, then, suggests that exchange specialists, particularly on the regional exchanges, vigorously compete on price. However, that is not the case. In today's securities markets, exchange specialists do not systematically compete on price.¹⁴⁸ Primary exchange specialists have no incentive to compete given the large volume of trading that already occurs at their posts.¹⁴⁹ Regional exchange specialists have tried to compete in the past, but failed because broker-dealers did not route orders to the exchange that displayed the best quotation.¹⁵⁰ Broker-dealers continued to route orders to the primary exchanges because of the higher transaction costs associated with executing stock trades on the regional exchanges.¹⁵¹ Thus, today, the regional exchanges are known as "derivative" markets¹⁵² because regional exchange specialists do not compete with the primary exchange specialists on the basis of their bid and ask quotations.¹⁵³ Rather, they mimic the price structure established by the primary exchange specialists.

Another reason for the absence of price competition among exchange specialists is the practice of fractional stock pricing. Even if it could attract order flow, a regional exchange specialist might bankrupt itself by narrowing its spread. To narrow its spread, the specialist must raise its quoted bid price or lower its quoted ask price by a minimum of $\$1/8$ (12.5¢) per share, the minimum "tick" by most exchange rules for most stocks.¹⁵⁴ Multiplied by the number of shares in the average order,

148. See 5 LOSS & SELIGMAN, *supra* note 3, at 2556.

149. See *supra* note 9.

150. 5 LOSS & SELIGMAN, *supra* note 3, at 2556.

151. See Poser, *supra* note 121, at 954 ("This practice, based on considerations of operating efficiency and maximum opportunity to obtain a favorable execution price, serves to perpetuate a particular exchange as the primary market.").

152. Derivative markets do not discover their own prices. Rather, they derive their prices from those discovered in other markets. "Price discovery involves the determination of the price of a security through the interaction of supply and demand." Market 2000 Release, *supra* note 2, at 1544 (quoting Letter from William Heyman, Director of SEC's Division of Market Regulation, to Richard Breedren, Chairman of NYSE (July 3, 1991)).

153. Maynard, *supra* note 124, at 844 n.53; Poser, *supra* note 121, at 2555-56.

154. See *supra* notes 11-12.

the exchange specialist would lose a significant amount of revenue on every trade.

Moreover, an aggressively competitive specialist simply cannot narrow the spread beyond $\$1/8$ (12.5¢) on the typical stock. For example, once the specialist has narrowed the spread to $\$40^{1/8}$ and $\$40^{1/4}$ the specialist cannot narrow it any further. To do so would require the specialist to buy and sell at the same price, and the specialist would not profit from the transaction.¹⁵⁵

Therefore, fractions prohibit the specialist from narrowing the spread in a financially feasible or efficient way. The result is a barrier to competition that causes the investing public to buy at a higher price and sell at a lower price whenever an exchange specialist participates in a stock trade as a dealer.

The solution is decimal stock pricing. Decimal stock pricing would enable exchange specialists to compete more effectively because a decimal structure offers the exchange specialist a greater number of price points per dollar at which it can set its bid and ask prices. Consequently, the exchange specialist would not need to narrow the spread by a minimum of 12.5¢. Rather, if necessary to preserve its solvency, the specialist could, for example, narrow the spread by 7¢ per share and distribute the

155. It may be true that if the spread has been narrowed to $\$1/8$, the price of the stock is so low that under the rules of the exchanges, *see supra* note 11, quotes in intervals of $\$1/16$ or even smaller fractions would be permitted. However, smaller fractions do not fundamentally change the analysis; rather, they simply shift to a finer level the extent to which an aggressively competitive exchange specialist can no longer compete. When trading intervals fall to $\$1/16$, $\$1/32$ or even $\$1/64$, the specialist cannot narrow the spread beyond 6.25¢, 3.125¢ or 1.56¢. In isolation, the numbers seem insignificant, generating unrealistic competition. However, at the prices at which such intervals would be necessary, spreads of 6¢ or smaller would be a significant percentage of the price of the stock. Further, multiplied by the number of shares in the average trade, individually small numbers amount to significant savings to the investor.

Some commentators have argued that exchange rules on fractional pricing should be liberalized to permit trading in smaller fractions at lower minimum prices, or even for all stocks, regardless of the price. *See, e.g.,* Harris, *supra* note 11 (studying likelihood of specialists' and market makers' use, if permitted, of trading intervals of $\$1/16$); Coffee, *National Market System*, *supra* note 18, at 5 (suggesting that conversion to trading intervals of $\$1/16$ or $\$1/20$ may precede conversion to decimals); LAWRENCE HARRIS, MINIMUM PRICE VARIATIONS, DISCRETE BID/ASK SPREADS, AND QUOTATION TRANSPARENCY (NYSE Working Paper No. 91-42, Draft 1.3, 1992) (unpublished manuscript, on file with *Loyola of Los Angeles Law Review*) (studying structural effects of conversion to trading intervals of $\$1/16$). These arguments fail to address the fundamental problem: Fractional stock pricing, whether in intervals of $\$1/8$, $\$1/16$ or smaller fractions, artificially limits the extent to which an exchange specialist can compete for order flow on its quoted bid-ask spread. However, as these commentators have recognized, the logistics and customs of U.S. stock markets may prevent a simple, quick conversion from fractions to decimals. A conversion to trading in smaller fractions may be the first step toward the ultimate goal of a conversion to trading in decimals. Coffee, *National Market System*, *supra* note 18, at 5.

savings to buyer and seller alike.¹⁵⁶ Moreover, aggressively competitive specialists could narrow the spread beyond the artificial 12.5¢ barrier and achieve even tighter spreads.¹⁵⁷

More importantly, competition generated by decimal stock pricing would not be defeated by a derivative pricing model, because in the modern stock markets, the incentive to price derivatively has been greatly reduced. Automation of the securities markets and implementation of the National Market System through the Consolidated Quotation System¹⁵⁸ have lowered, if not eliminated, the broker-dealer's transaction costs associated with finding the best price. The broker-dealer's best execution obligation requires it to execute the trade on the exchange displaying the best quotation.¹⁵⁹ Hence, regional exchange specialists that could not previously attract order flow in response to narrower spreads would be able to do so under a decimal regime. The benefits would flow directly to investors who would pay less to buy stocks and receive more to sell them.¹⁶⁰

b. the OTC market

The OTC market is fundamentally different from the exchange market. In the OTC market, stock trades are not centralized on an exchange

156. JENNINGS ET AL., *supra* note 18, at 567; Wloszczyna, *supra* note 13, at B3.

157. See Anne Schwimmer, *Decimal System Debuts in Toronto*, PENSIONS & INVESTMENT AGE, Dec. 9, 1991, at 10; Bernard Simon & Robert Gibbens, *Toronto Abandons Dollar Fractions*, FIN. TIMES, Oct. 1, 1991, § 1, at 35; Torres & Salwen, *supra* note 12, at C1; Victor F. Zonana, *SEC Weighs Decimal Stock Pricing System*, L.A. TIMES, June 13, 1991, at D2.

158. "The [Consolidated Quotation System (CQS)] gathers quotations from all [market makers and exchange specialists] in exchange-listed stocks and disseminates them to vendors. The . . . CQS quotation information [is] publicly available through vendors' desktop terminals." Market 2000 Release, *supra* note 2, at 1530; see also 5 LOSS & SELIGMAN, *supra* note 3, at 2554-58 (discussing development of CQS); Seligman, *supra* note 18, at 90-93 (discussing development of CQS).

159. See *infra* note 190 and accompanying text for a description of the best execution obligation.

160. Wloszczyna, *supra* note 13, at B3. If decimals could narrow spreads by only 10¢ per share, aggregate savings to investors would amount to \$192 million per year. Seligman, *supra* note 18, at 134. Professor Harris estimates that a conversion to a trading interval of $\$1/16$ would reduce the average spread from 20.7¢ to 14.4¢. He further estimates (although less reliably) that a conversion to a trading interval of $\$1/32$ would reduce the average spread to 11.2¢. HARRIS, *supra* note 155 (manuscript at 34). By implication, a conversion to decimals would narrow the average spread even further, generating even greater savings for investors. Although the impact of decimals would be greater for stocks trading under \$10 per share (a conversion to a trading interval of $\$1/16$ for stocks trading under \$10, for example, would narrow spreads for those stocks by 38%), the impact of decimals would nevertheless be significant on all spreads for all stocks, regardless of price. For example, a conversion to a trading interval of $\$1/16$ would, on average, reduce spreads on stocks trading above \$40 by 21%. *Id.* at 24.

floor.¹⁶¹ Rather, the OTC market consists of a system of professional dealers who publicize their bid and ask prices by computer.¹⁶² The most significant portion of the OTC market is the NASD, which uses the National Association of Securities Dealers' Automated Quotations System (NASDAQ System) to publicize dealer quotes.¹⁶³ Although the OTC market is structurally different from the exchange market, fractions have caused similar problems.

In the OTC market the analog to the exchange specialist is the OTC market maker.¹⁶⁴ Like the specialist in the exchange market, not all trades for OTC-listed stocks involve market makers. When a broker-dealer receives an order to buy or sell an OTC-listed stock it may, acting as a principal, take up the other side of the trade and charge a commission for its services.¹⁶⁵ If, however, the broker-dealer does not frequently deal in the stock or is simply unwilling to act as a principal, it may arrange for a market maker to take up the other side of the trade.¹⁶⁶ Upon execution, the broker-dealer receives a commission or a mark-up for its services.¹⁶⁷

The market maker, on the other hand, profits in the same way that the exchange specialist profits when the specialist behaves as a dealer. The market maker buys stocks at its quoted bid price and sells stocks at its quoted ask price, and profits on the spread.¹⁶⁸ Just as exchange specialists face competition from the dual listing of stocks and the potential for execution on another exchange floor, so too do market makers face competition from other market makers in the same stocks.

Unlike exchange specialists, however, market makers compete on price.¹⁶⁹ In 1982 the average OTC stock had 7.6 market makers.¹⁷⁰ The NASDAQ System publishes and continuously updates each market maker's bid and ask quotes,¹⁷¹ which are instantaneously accessible via

161. Maynard, *supra* note 124, at 846.

162. *Id.* at 846-47.

163. See Seligman, *supra* note 18, at 95-96.

164. A market maker is any broker-dealer that "with respect to securities, holds himself out (by entering quotations in an inter-dealer communication system or otherwise) as being willing to buy and sell such security for his own account on a regular or continuous basis." 15 U.S.C. § 78c(a)(38) (1988).

165. Maynard, *supra* note 124, at 846; Poser, *supra* note 121, at 894.

166. See Maynard, *supra* note 124, at 846; Poser, *supra* note 121, at 894.

167. Maynard, *supra* note 124, at 846; Poser, *supra* note 121, at 894.

168. See Maynard, *supra* note 124, at 846.

169. Seligman, *supra* note 18, at 95.

170. *Id.* Actively traded stocks may have as many as 20 to 30 market makers. Maynard, *supra* note 124, at 849; Poser, *supra* note 121, at 895; Seligman, *supra* note 18, at 95.

171. Maynard, *supra* note 124, at 847.

computer to every NASD member broker-dealer.¹⁷² Because of the large number of market makers per stock, and because market makers' quotes are so well advertised, no single market maker in any stock can thwart favorable price competition.¹⁷³ It is a simple and inexpensive process for any broker-dealer to find the best quoted price for its order and to execute accordingly.¹⁷⁴ In the OTC market, the incentive to compete on price is strong.¹⁷⁵

Therefore, to the extent that OTC market makers attempt to narrow their bid-ask spreads to attract order flow, fractions have not inhibited competition. Nevertheless, fractions complicate trading in the OTC market in a manner similar to the manner by which they complicate trading in the exchange markets. The minimum 12.5¢ increment in stock prices may discourage otherwise competitive market makers from narrowing their spreads because they might be unable to afford to substantially reduce their profits.¹⁷⁶ Further, they cannot narrow spreads beyond 12.5¢ per share.¹⁷⁷ Collectively, market makers benefit from the artificially inflated spreads, but the investing public loses the opportunity to execute trades at prices discovered by free and uninhibited market forces.

In the same way that decimal stock pricing would cure these inefficiencies in the exchange markets, it would also cure similar inefficiencies in the OTC market. Decimals would allow market makers to narrow spreads beyond the artificial limit imposed by fractions and to compete without requiring them to narrow spreads by a minimum of 12.5¢.¹⁷⁸ The resulting increase in competition would benefit the investing public.

2. Indirect price competition: Payment for order flow

Payment for order flow is "the practice of market makers or exchange specialists compensating [broker-dealers] for directing customer orders to them."¹⁷⁹ When a broker-dealer directs a customer's order to a particular exchange specialist or to a specific OTC market maker, the specialist or market maker may compensate the broker-dealer with a re-

172. Poser, *supra* note 121, at 895 n.47.

173. See Wolfson et al., *supra* note 121, at 823.

174. See Seligman, *supra* note 18, at 96-101.

175. *Id.* at 95.

176. See *supra* text accompanying note 154.

177. See *supra* note 155 and accompanying text.

178. See *supra* notes 156-57 and accompanying text.

179. Market 2000 Release, *supra* note 2, at 1537. Payment for order flow also has been described as the practice of exchange specialists and OTC market makers buying orders from broker-dealers. See Torres & Salwen, *supra* note 12, at C20.

bate, usually about two cents per share.¹⁸⁰ Payment for order flow, then, is indirect price competition because the rebate attracts orders without altering the bid and ask prices at which exchange specialists and market makers trade stocks. The competition is not for the customer's business, but for the broker-dealer's.¹⁸¹

The practice of payment for order flow is not new. In recent years, however, it has rewarded broker-dealers with rebates in an increasing number of stock transactions.¹⁸² Moreover, it has permitted the recent fast growth of the third market in which OTC market makers compete with exchange specialists for buy and sell orders of exchange-listed stocks.¹⁸³ Ostensibly welcome as a spur to competition between market centers, the practice is subject to much criticism.¹⁸⁴

The foremost criticism is that the competition manifested by payment for order flow benefits broker-dealers rather than their custom-

180. Coffee, *Brokers and Bribery*, *supra* note 18, at 5. Payment for order flow practices also include nonmonetary forms of compensation:

It should be noted that there is a debate among the commentators about precisely what types of practices should be deemed to involve payment for order flow. [Some] commentators argue that other forms of economic incentives to direct order flow to a particular market are, at least, the economic equivalent of payment for order flow.

Market 2000 Release, *supra* note 2, at 1537 n.54.

Soft dollar payments are similar to payments for order flow in that soft dollar payments involve "brokerage firms offering services, such as research, to money managers to obtain order flow and the commission revenues that the orders produce." *Dingell to Introduce Order Flow Bill; Criticizes SEC for Inaction on Issue*, BNA WASH. INSIDER, Mar. 18, 1992, at 7. Soft dollar practices create many of the same problems as payment for order flow practices, *see infra* notes 185-95 and accompanying text, because both practices are means by which OTC market makers and regional exchange specialists compete for order flow without altering their bid and ask prices. Therefore, a conversion to decimals, by curing the problems associated with payment for order flow, would also implicitly cure the problems associated with the related practice of soft dollar payments.

181. Coffee, *Brokers and Bribery*, *supra* note 18, at 5.

182. *See* Market 2000 Release, *supra* note 2, at 1537; Coffee, *Brokers and Bribery*, *supra* note 18, at 5. "The [SEC] has estimated that 30 percent to 40 percent of trades may involve some form of compensation for order flow, including cash rebates." *Study Shows Small Investors Pay Less on NYSE Than Most Other Exchanges*, ATLANTA J. & CONST., Mar. 7, 1992, at D5.

183. *See* Coffee, *Brokers and Bribery*, *supra* note 18, at 5. For a discussion of the third market, *see supra* note 121.

184. *See generally* Market 2000 Release, *supra* note 2, at 1537-38 (discussing commentators' various criticisms of payment for order flow); Simon & Colby, *supra* note 18, at 97 ("Payment for order flow theoretically reflects heightened competition for orders, and as such, could benefit investors if properly directed. In its present form, however, this practice has a dubious reputation . . ."); Coffee, *Brokers and Bribery*, *supra* note 18, at 5-6, 31 ("But doesn't this practice amount to paying a bribe to the broker? Isn't it a clear fiduciary breach for brokers to receive an undisclosed side payment in transactions where they are serving as agents for their customers?").

ers.¹⁸⁵ Currently, regardless of whether and to what extent broker-dealers are under an obligation to disclose these payments to their customers,¹⁸⁶ customers generally are not aware of them.¹⁸⁷ Therefore, the rebates directly reduce broker-dealers' transaction costs¹⁸⁸ but, because customers are not aware of the rebates, those costs are not reflected in lower commission rates. Consequently, investors lose approximately \$47 million to \$55 million per year.¹⁸⁹

A second criticism is that payment for order flow may interfere with the broker-dealer's best execution obligation.¹⁹⁰ Best execution requires the broker-dealer to execute its customer's order "so that the customer's total cost or proceeds are the most favorable under the circumstances."¹⁹¹ When a potential rebate makes it cheaper for the broker-dealer to execute the order in a market displaying an inferior bid or ask price, the broker-dealer has an incentive to execute the order in that market even though execution there would not necessarily be the most favorable to the customer.¹⁹² Further, rebate mechanics often require a broker-dealer to aggregate orders to receive a rebate.¹⁹³ Such aggregation also may deprive the individual customer of best execution because the broker-dealer does not provide execution on an order-by-order basis.¹⁹⁴ Rather, the broker-dealer may execute its customer's order at an inferior price because the broker-dealer must aggregate that customer's order with other orders to receive a volume-based rebate.¹⁹⁵

The existence of rebates signals the intention of exchange specialists and OTC market makers to compete for order flow based on price. Because they will receive the same net price regardless of whether they offer

185. Market 2000 Release, *supra* note 2, at 1537-38; Coffee, *Brokers and Bribery*, *supra* note 18, at 31 ("Put very simply, price competition is a good thing, but its benefits are supposed to benefit the customer, not the customer's agent.").

186. For a discussion of potential sources of the broker-dealer's duty to disclose rebates to its customer, see Coffee, *Brokers and Bribery*, *supra* note 18, at 5-6, 31.

187. Simon & Colby, *supra* note 18, at 97 ("The natural temptation with regard to sales of order flow, given the customer's predictable misunderstanding of the practice, is to not disclose the sale at all. . . . [N]otice generally is included in confirmation fine print, leaving customers uninformed of the true nature of order flow sales practices.").

188. Market 2000 Release, *supra* note 2, at 1537.

189. *SEC Criticized For Lack of Interest in Payment For Order Flow*, SEC. WK., Mar. 16, 1992, at 2.

190. Market 2000 Release, *supra* note 2, at 1537-38; Simon & Colby, *supra* note 18, at 97; Coffee, *Brokers and Bribery*, *supra* note 18, at 5; Torres & Salwen, *supra* note 12, at C20.

191. Market 2000 Release, *supra* note 2, at 1536.

192. *See Congressman Says SEC's Order Flow Study Should Be Comprehensive*, SEC. WK., Apr. 6, 1992, at 3.

193. Market 2000 Release, *supra* note 2, at 1538.

194. *Id.*

195. *See id.*

a rebate or narrow their spreads, why do exchange specialists and market makers choose to offer rebates?

First, to the extent that specialists and market makers are willing to compete on price, they may be willing to do so only in small increments.¹⁹⁶ When a specialist or market maker seeks to compete by offering to buy at one or two cents more per share, or sell at one or two cents less per share, it cannot do so by narrowing the spread in a fractional regime. Fractional stock pricing requires the specialist or market maker to compete in increments of 12.5¢ or more.¹⁹⁷

Second, payment for order flow permits exchange specialists and OTC market makers to engage in price discrimination.¹⁹⁸ A narrower bid-ask spread forces the specialist or market maker to buy at a higher price or to sell at a lower price on *all* trades.¹⁹⁹ Conversely, rebates allow them to buy at a higher price or to sell at a lower price *only when necessary* to attract a particular order.²⁰⁰ Many specialists and market makers offer rebates only for trades in stocks with large spreads so that others must transact the less profitable business.²⁰¹ Specialists and market makers use rebates, then, to target specific orders for competitive pricing.

Many commentators have suggested various solutions to the problem of payment for order flow. For example, they argue that, by SEC or SRO rule, broker-dealers should be obligated to either disclose,²⁰² or pass through,²⁰³ to their customers any rebates received from specialists or market makers in exchange for orders. Alternatively, to the extent that payment for order flow constitutes price discrimination, it may be prohibited under state or federal antitrust laws.²⁰⁴ Representative John

196. See Coffee, *Brokers and Bribery*, *supra* note 18, at 31; Coffee, *National Market System*, *supra* note 18, at 7.

197. See Coffee, *Brokers and Bribery*, *supra* note 18, at 31; Coffee, *National Market System*, *supra* note 18, at 7.

198. Coffee, *National Market System*, *supra* note 18, at 7.

199. See *id.*

200. *Id.*

201. *Id.*

202. In April 1990, the NASD sought SEC approval of a proposed rule change that would have required a broker-dealer to disclose, by written statement, any payments received for directing order flow to a particular specialist or market maker. Proposed Rule Change Relating to Disclosure of Payment for Order Flow, Exchange Act Release No. 28,020, 46 SEC Docket (CCH) 325 (May 15, 1990).

203. In May 1990, the MSE proposed that the SEC adopt a rule that would require broker-dealers to, among other things, remit to their customers cash payments received from any market maker in exchange for broker-dealers' orders. Coffee, *Brokers and Bribery*, *supra* note 18, at 31. The SEC never formally published the MSE's proposal, and in October 1991, the MSE withdrew its petition. *Id.*

204. See Barbara Franklin, *Stock Inquiry Looks at Fees For 'Steering'; 'Order Flow' Payments to Brokers Questioned*, N.Y. L.J., Aug. 16, 1990, at 5.

Dingell, Chairman of the House Energy and Commerce Committee, has demanded that the SEC resolve the payment for order flow problem and has threatened to introduce legislation prohibiting it.²⁰⁵ Finally, the SEC has indicated that the practice of payment for order flow will be a central focus of its pending study of the securities markets.²⁰⁶ The objective of any solution, however, should be to preserve the competitive energy manifested in the practice of payment for order flow and to direct its benefits toward the investing public.²⁰⁷

The simplest solution, then, may be to eliminate specialists' and market makers' incentive to use rebates by converting to decimal stock prices. By converting to decimals, specialists and market makers that are unable to compete in 12.5¢ increments could divert their competitive energies from rebates to narrower spreads because decimals would allow them to narrow spreads by the one or two cents per share that they currently offer as rebates.²⁰⁸ One commentator has suggested that "[s]uch a system fosters open and visible competition and, coupled with the duty of best execution, would predictably narrow the [bid-ask] spread. If adopted, no legitimate argument for rebates would remain."²⁰⁹

Decimal pricing alone, however, cannot eliminate the practice because it cannot reduce the incentive to discriminate on price. Therefore, although decimals would preserve and redirect competitive energy to narrower spreads and, thus, redirect the benefits of competition from broker-dealers to the investing public, either legislation or an SEC rule should proscribe the practice altogether to prevent "selective" competition based upon price discrimination.

B. Competition for International Order Flow

Increasingly, domestic stock markets face competition for order flow not just from other domestic market centers, but also from foreign market centers.²¹⁰ The principal rivals of U.S. stock markets for interna-

205. See *Congressman Says SEC's Order Flow Study Should Be Comprehensive*, *supra* note 192, at 3.

206. See Market 2000 Release, *supra* note 2, at 1538.

207. Coffee, *Brokers and Bribery*, *supra* note 18, at 31.

208. JENNINGS ET AL., *supra* note 18, at 567.

209. Coffee, *Brokers and Bribery*, *supra* note 18, at 31. *But see* Torres & Salwen, *supra* note 12, at C20 (quoting market maker that claims decimals are "certainly not going to change anything regarding payment for order flow").

210. OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 6, at 23. "Most international securities trading now involves debt securities rather than equities. To what extent this globalization will also apply to corporate equities, and how quickly, is somewhat uncertain, but by most measures it is well underway." *Id.* Both foreign investment in U.S. equities and U.S. investment in foreign equities have increased:

tional order flow are the Tokyo Stock Exchange (TSE) and London's International Stock Exchange (LSE).²¹¹ Other European markets, particularly the German exchanges, the Paris bourse and the Swiss exchanges, have also begun to vigorously compete for international order flow.²¹² Much of this increase is attributable to automation of the global securities markets.²¹³ "Global telecommunications shrink distances and time differences, tie together national economies, and thus encourage the growth of securities trading across national boundaries."²¹⁴

Significant barriers to international competition for order flow remain.²¹⁵ Nevertheless, automation has reduced the transaction costs associated with extraterritorial execution of stock orders.²¹⁶ Consequently, domestic broker-dealers are increasingly likely to satisfy their best execution obligation by sending their customers' orders overseas.²¹⁷ Likewise, foreign broker-dealers can take advantage of better stock prices in U.S. stock markets at a lower cost. Because U.S. exchange specialists and OTC market makers profit on all trades in which they are involved,²¹⁸ both have an incentive to compete for international order flow.

The practice of pricing stocks in fractions, however, may place U.S. stock markets at a competitive disadvantage. Fractions require U.S. exchange specialists and OTC market makers to set their bid and ask

Net foreign purchases of United States equities increased from \$3.9 billion in 1982 to \$5.2 billion in 1983 . . . United States investment in foreign equities has also increased through the years. It has been estimated that United States institutions now hold \$10-\$13 billion in foreign stocks, compared to \$1-2 billion five to ten years ago.

Request for Comments on Issues Concerning Internationalization of the World Securities Markets, Exchange Act Release No. 21,958, 32 SEC Docket (CCH) 1241, 1243 (Apr. 18, 1985).

211. OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 6, at 3.

212. *Id.*

213. See Manning G. Warren III, *Global Harmonization of Securities Laws: The Achievements of the European Communities*, HARV. INT'L L.J. 185, 186 (1990).

214. OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 6, at 1; see also Carolyn B. Clawson, Comment, *International Securities Markets: Will 24-Hour Trading Make a Difference?*, 16 DENV. J. INT'L L. & POL'Y 393, 393 (1988) (discussing effect of automation on international securities trading).

215. OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 6, at 2. Such barriers include differing legal and regulatory structures and cultural differences between nations and markets. *Id.*

216. See *id.* at 1.

217. Because automation reduces the transaction costs associated with extra-territorial execution, a broker-dealer can execute its customer's trade overseas at a lower cost. Accordingly, the chance that the best *overall* available price is at a foreign exchange has increased with the advent of global securities trading. For a definition of the broker-dealer's best execution obligation, see *supra* note 191 and accompanying text.

218. See *supra* notes 124-35, 161-68 and accompanying text.

quotes in increments of $\$1/8$ (12.5¢).²¹⁹ Because currency formats and securities regulations vary in the international markets, foreign exchanges do not trade stocks in the same intervals.²²⁰ As barriers to international competition for order flow collapse, discrepancies in trading intervals between international markets may determine which of those markets can most effectively compete for cross-border trades. Therefore, because the TSE and the LSE dominate international securities trading, the trading intervals on those exchanges are crucial to the competitiveness of U.S. exchange specialists and OTC market makers in a global market.

On the TSE, Japanese broker-dealers²²¹ currently publish bid and ask quotes in 8¢ intervals for stocks trading for more than \$8 per share, or 0.8¢ for lower-priced stocks, which are more common.²²² On the fully automated LSE,²²³ British market makers publish bid and ask quotes in intervals of only 1.5¢.²²⁴ Therefore, the U.S. stock markets' two most powerful foreign competitors for international order flow quote stock prices in significantly smaller intervals.

219. See *supra* notes 11, 155 and accompanying text.

220. See *infra* notes 222, 224, 228-30 and accompanying text.

221. There are two types of market participants on the TSE: regular members and Saitori. OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 6, at 38. Neither regular members nor Saitori perform functions similar to those performed by U.S. market makers or exchange specialists. Saitori keep trading records and match buy and sell orders but do not participate as principals in trades executed at the exchange. *Id.* at 39. Regular members are the Japanese equivalent of U.S. broker-dealers in that they receive orders from their customers and either trade as dealers for their own accounts or, as brokers, take the orders to the TSE in an attempt to find matching buy or sell orders. *Id.* This Comment refers to the regular members of the TSE as "Japanese broker-dealers."

222. Japanese securities regulations require the TSE's regular members to trade in increments of 10 yen when the price of the stock exceeds 1000 yen and, otherwise, in increments of one yen. HARRIS, *supra* note 155 (manuscript at 26). On January 18, 1993, 126.08 yen traded for one U.S. dollar. See WALL ST. J., Jan. 21, 1993, at C1. Thus, 1000 yen equates to \$7.93, a 10 yen trading increment equates to 7.93¢, and a one yen trading increment equates to 0.79¢.

Lower-priced stocks are more common. Of the 218 TSE-listed stocks quoted on January 20, 1993, 135 (greater than 60%) were quoted at prices less than 1000 yen and, thus, in trading intervals of one yen, or 0.8¢. See *id.* at C6. Therefore, a 0.8¢ trading interval is more common on the TSE.

223. The LSE closely resembles the NASD's OTC market. Compare *infra* part IV.A.1.b with OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 6, at 44-45. British market makers display their bid and ask quotes on a computer network. OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 6, at 44. Although trades may take place over the telephone or on the exchange floor, most British market makers have abandoned trading on the exchange floor in favor of telephone trading. *Id.*

224. Of the 105 LSE-listed stocks quoted on January 20, 1993, 96 traded in increments of one pence. See WALL ST. J., Jan. 21, 1993, at C6. The remaining nine traded in increments of $1/2$ pence. See *id.* On January 18, 1993, 0.65 British pounds and 65 pence traded for one U.S. dollar. See *id.* at C1. Therefore, a one pence trading interval equates to 1.54¢.

The effect of this discrepancy could well be a diversion of order flow from domestic markets to the TSE and the LSE. By virtue of their smaller trading intervals, Japanese broker-dealers and British market makers can achieve tighter spreads than their U.S. counterparts. As the securities markets become more global, broker-dealers that ordinarily execute trades in U.S. markets may instead route their orders to the TSE or LSE, where narrower spreads represent more attractive pricing.

For example, suppose that a U.S. broker-dealer seeks to sell 10,000 shares of a stock trading at a U.S. bid price of \$7 $\frac{1}{8}$. The equivalent TSE price is 898 yen, and the equivalent LSE price is 463 pence. To attract that broker-dealer's order to the TSE, a Japanese broker-dealer can raise its quoted bid price to 900 yen. Similarly, a British market maker can attract that order to the LSE by raising its quoted bid price to 465 pence.

In an increasingly global securities market, the U.S. exchange specialist or the OTC market maker must also raise its quoted bid price to remain competitive or risk losing the order to a foreign exchange. After all, in a 10,000 share sell order, a two yen increase of the TSE bid price generates \$159 more income for the broker-dealer's customer. Similarly, a two pence increase of the LSE bid price generates \$308 more income.

In attempting to compete with the TSE and the LSE for that order, however, the U.S. exchange specialist or the OTC market maker faces a dilemma. On the one hand, it may not be able to afford to raise its quoted bid price by \$ $\frac{1}{8}$. On the other hand, even if it could, Japanese broker-dealers and British market makers could respond once again by adding a couple yen or a couple pence per share to their quoted bid prices. At some point, the U.S. exchange specialist or the OTC market maker would be unable to compete and would lose the order to a foreign exchange. Fractions, therefore, portend a significant diversion of order flow from domestic to foreign stock markets.

Fortunately for the U.S. markets, internationalization of the global stock markets is not complete.²²⁵ Although the transaction costs associated with cross-border stock trading have been reduced, they have not yet been eliminated.²²⁶ Until they have been eliminated, U.S. exchange specialists and OTC market makers have time to find and implement a solution that would level the global competitive playing field.

Once again, that solution is to force the U.S. stock markets to convert to decimal stock pricing. Such a conversion would permit U.S. exchange specialists and market makers to compete for international order

225. See *supra* notes 210, 215 and accompanying text.

226. See *supra* note 216 and accompanying text.

flow in increments of 1¢. The TSE and the LSE, which quote stock prices in intervals of 0.8¢ and 1.5¢ respectively,²²⁷ would be unable to take advantage of currency exchange rates to significantly outbid U.S. stock markets for international order flow. Although fluctuations in currency exchange rates may alter their relative positions, a conversion to decimals would, at a minimum, protect U.S. exchange specialists and OTC market makers to the fullest extent permitted by the structure of U.S. currency.

Finally, even under the current fraction format, the trading ratios of some foreign currencies have made U.S. stock markets *more effective* competitors for international order flow than some internationally competitive, but less powerful foreign exchanges. The Swiss exchanges, for example, quote stocks in increments of 67¢ to \$6.67.²²⁸ The Paris bourse quotes stocks in increments of 18¢.²²⁹ Only the German exchanges can match the ability of the TSE and the LSE to compete more effectively than the U.S. exchanges for international order flow because the German exchanges quote stocks in intervals of 6¢.²³⁰ At current exchange rates, a conversion to decimals would eliminate the competitive gap between the U.S. stock markets and the German exchanges and it would widen the gap between the U.S. markets and the Paris bourse and Swiss exchanges.

V. THE INSTITUTIONAL RESPONSE

The arguments for converting to decimal stock quotes are strong. Decimals would promote domestic competition by encouraging direct price competition for domestic order flow and by discouraging the practice of payment for order flow.²³¹ Further, decimals would enable domestic stock markets to compete more effectively for international order flow.²³² As a result, the investing public would benefit from a conversion

227. See *supra* notes 222, 224 and accompanying text.

228. Of the 19 Swiss exchange-listed stocks quoted on January 20, 1993, eight were quoted in intervals of one Swiss franc, two were quoted in intervals of five Swiss francs and nine were quoted in intervals of ten Swiss francs. See WALL ST. J., Jan. 21, 1993, at C6. At a conversion rate of 1.5 Swiss francs per one U.S. dollar, the Swiss exchanges trade stocks in intervals of 67¢ to \$6.67. See *id.* at C1.

229. Of the 29 Paris bourse-listed stocks quoted for January 20, 1993, 19 were quoted in intervals of one franc and the remaining 10 were quoted in intervals of $\frac{1}{10}$ franc. See *id.* at C6. At a conversion rate of 5.53 francs to one U.S. dollar, the Paris bourse primarily quotes stocks in intervals of 18.1¢. See *id.* at C1.

230. All 32 of the German exchange-listed stocks quoted for January 20, 1993 were quoted in intervals of $\frac{1}{10}$ of a German mark. See *id.* at C6. At a conversion rate of 1.63 German marks per one U.S. dollar, the German exchanges primarily trade stocks in intervals of 6.1¢. See *id.* at C1.

231. See *supra* part IV.A.

232. See *supra* part IV.B.

to decimals through narrower spreads, and the stock markets would benefit through increased international order flow.

Although some market participants believe that a conversion to decimals is inevitable,²³³ U.S. stock markets have resisted efforts to convert.²³⁴ Their resistance is, in part, due to the prohibitive costs of converting computers to handle decimal trading²³⁵ and the alleged adverse effects on market liquidity.²³⁶ More importantly, however, their resistance may be due simply to their fear of generalized competition.

A. *The Stock Markets*

The primary exchanges oppose a conversion to decimal stock pricing. William Donaldson, chairman and chief executive of the NYSE, has stated: "If there is a public demand [for decimal stock prices], which I don't believe there is, we would go for it, but to change something just to change it is probably wasteful."²³⁷ James Jones, chairman of the AMEX, has similarly opposed a conversion.²³⁸

The primary exchanges' reluctance to embrace decimal stock pricing is understandable—decimals breed competition and competition diverts revenue-generating domestic order flow from the primary exchanges to the regional exchanges.²³⁹ What Donaldson has failed to recognize, however, is that there *has been* public demand for decimals.²⁴⁰

233. See *Opposed to Shift to Decimal Pricing*, SEC. WK., June 17, 1991, at 10; Torres & Salwen, *supra* note 12, at C1 ("I think it is inevitable that the system goes to smaller fractions, and then even to decimals." (quoting broker-dealer)); see also William Gruber, *Record-breaking MSE is on a Roll*, CHI. TRIB., Jan. 5, 1990, at C4 (discussing MSE chairman John Weathers's outlook for 1990s, which includes belief that "decimals will replace fractions in quoting stock prices").

234. See *infra* part V.A.

235. See *infra* part V.B.

236. See *infra* part V.C.

237. Zonana, *supra* note 157, at D2.

238. See *SEC Chairman Cool to Idea of Decimal Point Quotes*, BC CYCLE, June 12, 1991, available in LEXIS, Nexis Library ("It is such a tradition and a mode of operation in the industry for so long that it would be a substantial change, and frankly I am not looking for ways to increase costs . . ." (quoting James Jones)).

239. See *infra* part V.C.

240. See Wloszczyna, *supra* note 13, at B3 ("We're all for it." (quoting John Markese, Executive Vice President of American Association of Individual Investors, regarding conversion to decimal stock pricing)). To the extent that the public demand for decimals has been somewhat muted, it is presumably because those who would most benefit from a conversion are those who are least able to publicize their interests because they lack organizational power. For example, small investors generally prefer a conversion to decimals because they benefit from narrower spreads and are not harmed by the specter of a decrease in market depth. See HARRIS, *supra* note 155 (manuscript at 5). Conversely, large institutional traders may not be as eager to convert to decimals because although they benefit from narrower spreads, they are significantly harmed by a decrease in market depth. See *id.* For a discussion of the effect of

Moreover, a conversion to decimals would be neither wasteful nor a change merely for change's sake. Rather, decimal stock pricing would create real benefits for both investors and the exchanges.²⁴¹ In reality, Donaldson's concern with unnecessary change probably masks his more fundamental fear of generalized price competition, which threatens to erode the NYSE's near monopoly of the auction trading of securities.

Thus, the primary exchanges fear that decimal-based price competition would ultimately benefit the regional exchanges through a shift in order flow. Conversely, the regional exchanges and small OTC market makers (smaller markets) fear that decimal-based price competition would take the form of a generalized price war that only the primary exchanges and the largest, most financially stable market makers (larger markets) would be able to survive.²⁴²

The fears of the smaller markets are unwarranted. First, by converting to decimals, their revenues would decline only slightly because narrower spreads would generate an offsetting increase in the volume of stocks traded.²⁴³ Second, the SEC has a vested interest in maintaining the viability of the regional exchanges.²⁴⁴ By insisting that the stock markets trade in decimals, therefore, the SEC would not also insist that the smaller markets sink or swim in the ensuing price competition. Indeed, the SEC has historically protected the smaller markets from possible extinction due to increased competition.²⁴⁵ There is no reason to

decimals on market liquidity and depth, see *infra* part V.C. Small traders may not have the organizational power to mount a campaign demanding a conversion to decimals. Presumably, those with the power to do so, the institutional traders, simply have not been vocal due to their ambivalence on the decimal issue.

241. See *supra* part IV.

242. See Torres & Salwen, *supra* note 12, at C1, C20 (“[Decimals] would . . . make for fierce competition in the pricing of stocks, leaving little room for smaller securities firms that need a minimum 12.5 cent spread to survive as [dealers].”).

243. One study indicates that, following a conversion to trading in intervals of $\$1/16$, for stocks trading below \$10, a 38% reduction in the size of the average spread would be almost completely offset by a 34% increase in volume. HARRIS, *supra* note 155 (manuscript at 24-25). For stocks trading over \$40, however, a 21% reduction in the size of the spread would create only a 2.6% increase in volume. *Id.*

244. See SUSAN M. PHILLIPS & J. RICHARD ZECHER, *THE SEC AND THE PUBLIC INTEREST* 108-10 (1981); Werner, *supra* note 92, at 778. Phillips and Zecher posit that the SEC harbors “considerable concern for the survival of the regionals” because: (1) regulatory agencies such as the SEC believe that the failure of a regulated entity reflects poorly on the agency’s regulatory efforts; and (2) the SEC would be subjected to substantial criticism if the regional exchanges were permitted to fail and leave the NYSE with a monopoly in the securities trading markets. PHILLIPS & ZECHER, *supra*, at 108-09.

245. PHILLIPS & ZECHER, *supra* note 244, at 108-09.

[T]he SEC has consistently acted to preserve the regional exchanges. In spite of constant urging by Congress, the SEC has yet to lift the NYSE Rule 390 which requires its exchange members to clear the floor of an exchange before taking trades

believe that the SEC would refuse to extend that same protection after mandating a conversion to decimals.

Finally, notwithstanding the SEC's paternalism, the smaller markets might still survive the competitive prowess of the larger markets. The smaller markets already *indirectly* compete on price with the larger markets through the practice of payment for order flow.²⁴⁶ This indirect price competition has not yet sounded the death knell of the smaller markets. Furthermore, market fragmentation²⁴⁷ already has begun to erode the NYSE's monopoly on the auction trading of securities.²⁴⁸ The beneficiaries of that fragmentation have, generally, been the regional exchanges, third market makers and off-exchange automated execution systems.²⁴⁹ Thus, the NYSE may no longer have the resources necessary to survive fierce price competition. The price war that the regional exchanges and smaller market makers fear may never materialize. Even if such a price war does develop, it will not necessarily culminate in the extinction of the regional exchanges.

B. Costs of Conversion

All groups contend that the costs of converting computer systems to handle decimals would be prohibitive.²⁵⁰ Donaldson estimates that the costs of conversion would exceed several hundred million dollars.²⁵¹ Even if Donaldson's estimates are correct, the benefits to investors, manifested in narrower spreads, would far exceed the costs of conversion.

off board. That rule has forced the third market into an exchange format (such as the Cincinnati Stock Exchange) to remain competitive. The SEC has mandated integrated sale- and quotation-reporting systems that give equal billing to the regionals for advertisement. . . . The SEC, in granting options to the regionals and not the NYSE, ensures success to one business group at the expense of its major competitor.

Id. at 108.

246. See *supra* part IV.A.2.

247. "Market fragmentation" is the diversion of order flow from one or two primary markets to many different markets, including the regional exchanges, the third market and off-exchange automated execution systems. See Market 2000 Release, *supra* note 2, at 1532-36. Although the extent of market fragmentation is unknown, it unquestionably exists to some degree in the modern stock markets. *Id.* at 1533. Experts debate the advantages of market fragmentation. *Id.* Some view it as a necessary but harmful side effect of generally favorable competition between stock markets. *Id.* Others believe that the disadvantages of market fragmentation—primarily liquidity shortfalls on the primary exchanges—outweigh any benefits to be gained from service-based or price competition. *Id.*

248. *Id.*

249. *Id.*

250. In 1991 the SEC asked the Securities Industry Automation Corporation, which runs the central quote system for U.S. stock exchanges, to study the costs of converting to decimals. Torres & Salwen, *supra* note 12, at C1. The SEC did not pursue the request. See *infra* text accompanying notes 263-64.

251. See Zonana, *supra* note 157, at D2.

One expert has estimated that a conversion to decimal trading would generate savings for investors of nearly \$200 million per year.²⁵² In a very short time, then, the savings to investors would surpass the costs to the exchanges and the OTC market.

It would not be inequitable for the stock markets to bear the costs of conversion: Investors have borne the costs of fractions for two hundred years. Assuming that these short-term costs would be passed through to investors in the form of inflated spreads, the investing public would still benefit in the long term. It would only take a few years of narrower spreads to compensate for the several hundred million dollars in conversion costs that would be passed through in broader spreads. Beyond that short time frame, investors would reap the benefits of decimals and narrower spreads.

C. Liquidity

The stock markets contend that decimals would reduce liquidity²⁵³ in two ways. First, they argue that by diverting order flow away from the primary exchanges, decimals would fragment the stock markets so that no single exchange specialist or market maker could ensure that there would be a match to any buy or sell order at a price reasonably related to the price of the immediately preceding sale.²⁵⁴ Second, they argue that by reducing spreads, decimals would render broker-dealers less willing to risk their own money as dealers to complete trades and would, therefore, reduce the number of participants in the market.²⁵⁵ Accordingly, there would be a smaller chance that a broker-dealer could, as a broker, find matching buy or sell orders for its customers.²⁵⁶

However, it is not certain that overall liquidity would decrease. Although narrower spreads would generate increased volume,²⁵⁷ quoted

252. See *supra* note 160.

253. See *supra* note 130 and accompanying text. Liquidity can be conceived of as a function of volume and depth. Volume is simply the number of shares traded at a market center. Depth is the quoted number of shares that an exchange specialist or OTC market maker is willing to trade at its quoted bid or ask price. An increase in depth or volume should increase liquidity at a market center because an increase in either depth or volume increases the likelihood that an investor can trade the number of shares desired at a price reasonably related to the immediately preceding sale price.

254. See Torres & Salwen, *supra* note 12, at C1.

255. See *id.*; Zonana, *supra* note 157, at D2.

256. See Torres & Salwen, *supra* note 12, at C1; Zonana, *supra* note 157, at D2.

257. See Torres & Salwen, *supra* note 12, at C20; Zonana, *supra* note 157, at D2; *supra* note 243. In September 1991 the Toronto Stock Exchange converted from fractions to nickel and penny decimals on its "Toronto 35 Index Participation Units" (TIPs). Simon & Gibbens, *supra* note 157, at 35. Since the conversion, average daily volume of TIPs transactions has

depth—the *quantity* at which an exchange specialist or OTC market maker will accept an order to buy or sell at its quoted bid or ask price—would decrease.²⁵⁸ Therefore, liquidity would *increase* for small investors, for whom a decrease in the average depth of quoted bid and ask prices would be largely immaterial. Liquidity would *decrease* for larger investors, who demand significant depth before they will participate in the market. The overall effect on liquidity, therefore, would be uncertain.²⁵⁹

At the same time that decimals would fragment order flow, they would increase the total volume of trading in the stock markets.²⁶⁰ Thus, although liquidity would *decrease* on the primary exchanges, liquidity would *increase* on the regional exchanges and in the OTC market. This shift in liquidity would reflect the shift in order flow from the primary exchanges to the regional exchanges due to increased competition in the stock markets. Just as generalized price competition would not necessarily cause the extinction of the smaller markets, it also would not cause broker-dealers to drop out of the dealer business. Once again, revenues lost to narrower spreads are recouped through increased volume. Arguments against decimal stock pricing based on liquidity are generally specious: They mask a more fundamental fear of price competition.

VI. PROPOSAL

The SEC has a statutory obligation to promote competition among market centers and to ensure that the SROs adopt rules designed to protect the investing public from market abuses.²⁶¹ Fractional stock pricing inhibits competition among market centers and, thus, fails to protect the investing public from artificially inflated spreads.²⁶² Therefore, the SEC has an obligation to adopt a decimal stock pricing rule to remedy the failures of the SROs and to give the investing public the benefits of narrower spreads.

Nevertheless, the SEC has never seriously considered adopting such a rule. In June 1991 the SEC consulted with the Securities Industry Automation Corporation (SIAC), which runs the central quote system for the U.S. stock exchanges, regarding the cost of converting to

increased from 220,000 to 300,000 shares. Michael Ellis, *U.S. Investors May Soon Buy TSE Stock Index Units*, BC CYCLE, Oct. 29, 1991, available in LEXIS, Nexis Library.

258. See HARRIS, *supra* note 155 (manuscript at 5).

259. *Id.*

260. See *supra* note 243.

261. See *supra* part III.

262. See *supra* part IV.

decimals.²⁶³ Only one day after news of the SEC's actions was published, the SEC had already begun to distance itself from a proposal to convert to decimals.²⁶⁴ Nothing ever materialized from the SEC's meeting with SIAC.

On the eve of its Market 2000 study, the SEC has an opportunity, once again, to study the effects of converting to decimal stock pricing and to make it a priority. In its release announcing the boundaries of the Market 2000 study, however, the SEC did not identify the format of stock prices as one of the objectives of the study. Rather, it only peripherally identified the issue of decimal stock pricing in a footnote as a potential solution to the practice of payment for order flow.²⁶⁵ Decimal stock pricing would benefit investors beyond its capacity as a remedy to payment for order flow.²⁶⁶ Accordingly, the SEC should include a possible conversion to decimals in its Market 2000 study.

VII. CONCLUSION

Congress created the SEC with the expectation that the SEC would regulate the stock markets. If the stock markets fail to protect investor interests or erect barriers to competition, the SEC must intervene and correct those market failures.

Nearly two hundred years after the creation of organized stock trading in the United States, exchange specialists and OTC market makers continue to price stocks in fractions. Although the format of colonial currency necessitated fractional stock pricing, the practice is impractical in modern markets. Nevertheless, those who profit on investor trading in U.S. stock markets have maintained this outdated practice because it artificially inflates the spreads from which they generate their profits.

Converting to decimals would benefit the investing public. Decimals would generate price competition and narrow spreads. Moreover, decimals would obviate the practice of payment for order flow, which undermines an investor's ability to receive favorable pricing. Further, a conversion to decimals would not necessarily harm the stock markets. Profits lost to narrower spreads would be largely recouped through increased domestic and international order flow.

263. Torres & Salwen, *supra* note 12, at C1.

264. See Wloszczyna, *supra* note 13, at B3 ("Securities and Exchange Commission Chairman Richard Breeden said . . . he hasn't directed his staff to investigate a conversion. An agency spokeswoman said she couldn't comment because SEC staff members haven't made a proposal yet."); Zonana, *supra* note 157, at D2 ("[Decimal stock pricing] is a very low priority for us.") (quoting SEC spokeswoman).

265. See Market 2000 Release, *supra* note 2, at 1537 n.58.

266. See *supra* parts IV.A.1, IV.B., V.

Therefore, to the extent that the SEC continues to ignore the issue of decimal stock pricing, it fails in its capacity as a regulatory watchdog of the securities markets. Complicated by wide-ranging repercussions, the issue of decimal stock pricing demands rigorous study. The SEC's current Market 2000 study is the perfect vehicle.

*Michael A. Hart**

* In recognition of their continuing love and support, I dedicate this Comment to my parents, Steve and Karen Hart, and to my fiancée, Tammy Eden. I owe special thanks to Professor Therese Maynard, my friend and mentor, without whose professional guidance I could not have written this Comment.