

Appendix B

With the passage of the Investor and Capital Markets Relief Act, Congress has established a target amount of monies to be collected from fees charged to investors based on the value of their transactions. This appendix provides the formula for determining such fees, which the Commission adjusts annually, and may adjust semi-annually.¹ In order to maximize the likelihood that the amount of monies targeted by Congress will be collected, the fee rate must be set to reflect projected dollar transaction volume on the securities exchanges and the Nasdaq over the course of the year. As a percentage, the fee rate equals the ratio of the target amounts of monies to the projected dollar transaction volume.

For 2004, the Commission has estimated dollar transaction volume by projecting forward the trend established in the previous decade. More specifically, dollar transaction volume was forecasted for months subsequent to March 2003, the last month for which the Commission has data on transaction volume.

The following sections describe this process in detail.

A. Baseline Estimate of the Aggregate Dollar Amount of Sales for Fiscal Year 2004

First, calculate the average daily dollar amount of sales (ADS) for each month in the sample (March 1993–March 2003). The data obtained from the exchanges and Nasdaq are presented in Table B. The monthly aggregate dollar amount of sales (exchange plus Nasdaq) is contained in column E.

Next, calculate the change in the natural logarithm of ADS from month-to-month. The

average monthly percentage growth of ADS over the entire sample is 0.014 and the standard deviation 0.115. Assuming the monthly percentage change in ADS follows a random walk, calculating the expected monthly percentage growth rate for the full sample is straightforward. The expected monthly percentage growth rate of ADS is 2.0 percent.

Now, use the expected monthly percentage growth rate to forecast total dollar volume. For example, one can use the ADS for March 2003 (\$79,400,010,175) to forecast ADS for April 2003 ($\$81,017,133,678 = \$79,400,010,175 \times 1.020$).² Multiply by the number of trading days in April 2003 (21) to obtain a forecast of the total dollar volume for the month (\$1,701,359,807,234). Repeat the method to generate forecasts for subsequent months.

The forecasts for total dollar volume are in column I of Table A. The following is a more formal (mathematical) description of the procedure:

1. Divide each month's total dollar volume (column E) by the number of trading days in that month (column B) to obtain the average daily dollar volume (ADS, column F).

2. For each month t , calculate the change in ADS from the previous month as $\Delta_t = \log(ADS_t / ADS_{t-1})$, where $\log(x)$ denotes the natural logarithm of x .

3. Calculate the mean and standard deviation of the series $\{\Delta_1, \Delta_2, \dots, \Delta_{120}\}$. These are given by $\mu = 0.014$ and $\sigma = 0.115$, respectively.

4. Assume that the natural logarithm of ADS follows a random walk, so that Δ_s and Δ_t are statistically independent for any two months s and t .

5. Under the assumption that Δ_t is normally distributed, the expected value of ADS_t

$/ADS_{t-1}$ is given by $\exp(\mu + \sigma^2/2)$, or on average $ADS_t = 1.020 \times ADS_{t-1}$.

6. For April 2003, this gives a forecast ADS of $1.020 \times \$79,400,010,175 = \$81,017,133,678$. Multiply this figure by the 21 trading days in April 2003 to obtain a total dollar volume forecast of \$1,701,359,807,234.

7. For May 2003, multiply the April 2003 ADS forecast by 1.020 to obtain a forecast ADS of \$82,667,192,799. Multiply this figure by the 21 trading days in May 2003 to obtain a total dollar volume forecast of \$1,736,011,048,776.

8. Repeat this procedure for subsequent months.

B. Using the Forecasts From A To Calculate the New Fee Rate

1. Use Table B to estimate fees collected for the period 10/1/03 through 10/31/03. The projected aggregate dollar amount of sales for this period is \$2,103,016,143,001. Projected fee collections at the current fee rate of 0.0000468 are \$98,421,155.

2. Estimate the amount of assessments on securities futures products collected during 10/1/03 and 9/30/04 to be \$19,182 by projecting a 2% monthly increase from a base of \$1,245 in March 2003.

3. Subtract the amounts \$98,421,155 and \$19,182 from the target offsetting collection amount set by Congress of \$1,028,000,000 leaving \$929,559,663 to be collected on dollar volume for the period 11/1/03 through 9/30/04.

4. Use Table B to estimate dollar volume for the period 11/1/03 through 9/30/04. The estimate is \$23,815,705,499,548. Finally, compute the fee rate required to produce the additional \$929,559,663 in revenue. This rate is \$929,559,663 divided by \$23,815,705,499,548 or .0000390314.

5. Consistent with the system requirements of the exchanges and the NASD, round the result to the seventh decimal point, yielding a rate of .0000390 (or \$39.00 per million).

¹ Congress requires that the Commission make a mid-year adjustment to the fee rate if 4 months into the fiscal year it determines that its forecasts of aggregate dollar volume are reasonably likely to be off by 10% or more.

² The value 1.020 has been rounded. All computations are done with the unrounded value.