

APPENDIX A

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 issuers based on the value of their registrations. This appendix provides the formula for determining such fees, which the Commission adjusts annually. Congress has mandated that the Commission determine these fees based on the “aggregate maximum offering prices,” which measures the aggregate dollar amount of securities registered with the SEC over the course of the year. 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 aggregate maximum offering prices. As a percentage, the fee rate equals the ratio of the target amounts of monies to the projected aggregate maximum offering prices.

For 2005, the Commission has estimated the aggregate maximum offering prices by projecting forward the trend established in the previous decade. More specifically, an ARIMA model was used to forecast the value of the aggregate maximum offering prices for months subsequent to March 2004, the last month for which the Commission has data on the aggregate maximum offering prices.

The following sections describe this process in detail.

A. Baseline estimate of the aggregate maximum offering prices for fiscal year 2005.

First, calculate the aggregate maximum offering prices (AMOP) for each month in the sample (March 1994 - March 2004). Next, calculate the percentage change in the AMOP from month-to-month.

Model the monthly percentage change in AMOP as a first order moving average process. The moving average approach allows one to model the effect that an exceptionally high (or low) observation of AMOP tends to be followed by a more “typical” value of AMOP.

Use the estimated moving average model to forecast the monthly percent change in AMOP. These percent changes can then be applied to obtain forecasts of the total dollar value of registrations. The following is a more formal (mathematical) description of the procedure:

1. Begin with the monthly data for AMOP. The sample spans ten years, from March 1994 to March 2004. There are 4 months in the sample for which the data are omitted because of the impact of extraordinary events (e.g., the 1995 government shutdown).
2. Divide each month’s AMOP (column C) by the number of trading days in that month (column B) to obtain the average daily AMOP (AAMOP, column D).
3. For each month t , the natural logarithm of AAMOP is reported in column E.
4. Calculate the change in $\log(\text{AAMOP})$ from the previous month as
$$\Delta_t = \log(\text{AAMOP}_t) - \log(\text{AAMOP}_{t-1}).$$
 This approximates the percentage change.
5. Estimate the first order moving average model $\Delta_t = \alpha + \beta e_{t-1} + e_t$, where e_t denotes the forecast error for month t . The forecast error is simply the difference between the one-month ahead forecast and the actual realization of Δ_t . The forecast error is expressed as
$$e_t = \Delta_t - \alpha - \beta e_{t-1}.$$
 The model can be estimated using standard commercially available

software such as SAS or Eviews. Using least squares, the estimated parameter values are $\alpha=0.01112$ and $\beta=-0.76742$.

6. For the month of April 2004, forecast $\Delta_{t=4/04} = \alpha + \beta e_{t=3/04}$. For all subsequent months, forecast $\Delta_t = \alpha$.
7. Calculate forecasts of $\log(\text{AAMOP})$. For example, the forecast of $\log(\text{AAMOP})$ for June 2004 is given by $\text{FLAAMOP}_{t=6/04} = \log(\text{AAMOP}_{t=3/04}) + \Delta_{t=4/04} + \Delta_{t=5/04} + \Delta_{t=6/04}$.
8. Under the assumption that e_t is normally distributed, the n-step ahead forecast of AAMOP is given by $\exp(\text{FLAAMOP}_t + \sigma_n^2/2)$, where σ_n denotes the standard error of the n-step ahead forecast.
9. For June 2004, this gives a forecast AAMOP of \$16.8 Billion (Column I), and a forecast AMOP of \$368.9 Billion (Column J).
10. Iterate this process through September 2005 to obtain a baseline estimate of the aggregate maximum offering prices for fiscal year 2005 of \$4,842,692,718,337.

B. Using the forecasts from A to calculate the new fee rate.

1. Using the data from Table A, estimate the aggregate maximum offering prices between 10/1/04 and 9/30/05 to be \$4,842,692,718,337.
2. The rate necessary to collect the target \$570,000,000 in fee revenues set by Congress is then calculated as: $\$570,000,000 \div \$4,842,692,718,337 = 0.00011770$ (or \$117.70 per million.).

Table A. Estimation of baseline of aggregate maximum offering prices .

Fee rate calculation.

a. Baseline estimate of the aggregate maximum offering prices, 10/1/04 to 9/30/05 (\$Millions)	4,842,693
b. Implied fee rate (\$570 Million / a)	\$117.70

Data

(A) Month	(B) # of Trading Days in Month	(C) Aggregate Maximum Offering Prices, in \$Millions	(D) Average Daily Aggregate Max. Offering Prices (AAMOP) in \$Millions	(E) log(AAMOP)	(F) Change in AAMOP	(G) Forecast log(AAMOP)	(H) Standard Error	(I) Forecast AAMOP	(J) Forecast Aggregate Maximum Offering Prices, in \$Millions
Mar-94	23	105,914	4,605	22.250					
Apr-94	19								
May-94	21	78,564	3,741	22.043					
Jun-94	22	94,814	4,310	22.184	0.141				
Jul-94	20	65,628	3,281	21.912	-0.273				
Aug-94	23	75,874	3,299	21.917	0.005				
Sep-94	21	139,422	6,639	22.616	0.699				
Oct-94	21	144,953	6,903	22.655	0.039				
Nov-94	21	73,625	3,506	21.978	-0.677				
Dec-94	21	74,903	3,567	21.995	0.017				
Jan-95	21	86,714	4,129	22.141	0.146				
Feb-95	19	102,999	5,421	22.414	0.272				
Mar-95	23	91,561	3,981	22.105	-0.309				
Apr-95	19	62,518	3,290	21.914	-0.190				
May-95	22	106,333	4,833	22.299	0.385				
Jun-95	22	117,557	5,344	22.399	0.100				
Jul-95	20	65,127	3,256	21.904	-0.495				
Aug-95	23	124,662	5,420	22.413	0.510				
Sep-95	20	131,774	6,589	22.609	0.195				
Oct-95	22	132,141	6,006	22.516	-0.093				
Nov-95	21	110,646	5,269	22.385	-0.131				
Dec-95	20								
Jan-96	22								
Feb-96	20								
Mar-96	21	117,780	5,609	22.448					
Apr-96	21	158,005	7,524	22.741	0.294				
May-96	22	142,452	6,475	22.591	-0.150				

Jun-96	20	122,598	6,130	22.536	-0.055				
Jul-96	22	113,637	5,165	22.365	-0.171				
Aug-96	22	128,154	5,825	22.485	0.120				
Sep-96	20	108,763	5,438	22.417	-0.069				
Oct-96	23	171,507	7,457	22.732	0.316				
Nov-96	20	164,574	8,229	22.831	0.098				
Dec-96	21	214,241	10,202	23.046	0.215				
Jan-97	22	136,615	6,210	22.549	-0.496				
Feb-97	19	317,624	16,717	23.540	0.990				
Mar-97	20	140,809	7,040	22.675	-0.865				
Apr-97	22	182,657	8,303	22.840	0.165				
May-97	21	163,702	7,795	22.777	-0.063				
Jun-97	21	162,111	7,720	22.767	-0.010				
Jul-97	22	168,007	7,637	22.756	-0.011				
Aug-97	21	153,705	7,319	22.714	-0.042				
Sep-97	21	179,559	8,550	22.869	0.155				
Oct-97	23	260,719	11,336	23.151	0.282				
Nov-97	19	219,618	11,559	23.171	0.020				
Dec-97	22	228,605	10,391	23.064	-0.106				
Jan-98	20	228,030	11,402	23.157	0.093				
Feb-98	19	250,266	13,172	23.301	0.144				
Mar-98	22	378,185	17,190	23.568	0.266				
Apr-98	21	242,310	11,539	23.169	-0.399				
May-98	20	298,454	14,923	23.426	0.257				
Jun-98	22	328,994	14,954	23.428	0.002				
Jul-98	22	272,957	12,407	23.242	-0.187				
Aug-98	21	392,104	18,672	23.650	0.409				
Sep-98	21	325,144	15,483	23.463	-0.187				
Oct-98	22	139,786	6,354	22.572	-0.891				
Nov-98	20	269,065	13,453	23.322	0.750				
Dec-98	22	248,596	11,300	23.148	-0.174				
Jan-99	19	253,448	13,339	23.314	0.166				
Feb-99	19	217,433	11,444	23.161	-0.153				
Mar-99	23	415,145	18,050	23.616	0.456				

Apr-99	21	431,280	20,537	23.746	0.129				
May-99	20	229,082	11,454	23.162	-0.584				
Jun-99	22	367,943	16,725	23.540	0.379				
Jul-99	21	332,623	15,839	23.486	-0.054				
Aug-99	22	240,157	10,916	23.114	-0.372				
Sep-99	21	236,011	11,239	23.143	0.029				
Oct-99	21	216,883	10,328	23.058	-0.085				
Nov-99	21	372,582	17,742	23.599	0.541				
Dec-99	22	319,846	14,538	23.400	-0.199				
Jan-00	20	282,165	14,108	23.370	-0.030				
Feb-00	20	665,367	33,268	24.228	0.858				
Mar-00	23	550,107	23,918	23.898	-0.330				
Apr-00	19	244,510	12,869	23.278	-0.620				
May-00	22	269,774	12,262	23.230	-0.048				
Jun-00	22	406,409	18,473	23.640	0.410				
Jul-00	20	230,894	11,545	23.169	-0.470				
Aug-00	23	257,797	11,209	23.140	-0.030				
Sep-00	20	332,120	16,606	23.533	0.393				
Oct-00	22	362,493	16,477	23.525	-0.008				
Nov-00	21	317,653	15,126	23.440	-0.086				
Dec-00	20	246,006	12,300	23.233	-0.207				
Jan-01	21	462,726	22,035	23.816	0.583				
Feb-01	19	388,304	20,437	23.741	-0.075				
Mar-01	22	523,443	23,793	23.893	0.152				
Apr-01	20	289,212	14,461	23.395	-0.498				
May-01	22	274,298	12,468	23.246	-0.148				
Jun-01	21	348,268	16,584	23.532	0.285				
Jul-01	21	264,590	12,600	23.257	-0.275				
Aug-01	23	245,591	10,678	23.091	-0.165				
Sep-01	15	178,524	11,902	23.200	0.108				
Oct-01	23	260,719	11,336	23.151	-0.049				
Nov-01	21	286,199	13,629	23.335	0.184				
Dec-01	20	395,230	19,762	23.707	0.372				
Jan-02	21	401,290	19,109	23.673	-0.034				

Feb-02	19	476,837	25,097	23.946	0.273				
Mar-02	20	380,160	19,008	23.668	-0.278				
Apr-02	22	282,947	12,861	23.277	-0.391				
May-02	22	215,645	9,802	23.006	-0.272				
Jun-02	20	277,757	13,888	23.354	0.348				
Jul-02	22	208,638	9,484	22.973	-0.381				
Aug-02	22	265,750	12,080	23.215	0.242				
Sep-02	20	109,565	5,478	22.424	-0.791				
Oct-02	23	179,374	7,799	22.777	0.353				
Nov-02	20	243,590	12,179	23.223	0.446				
Dec-02	21	212,838	10,135	23.039	-0.184				
Jan-03	21	201,839	9,611	22.986	-0.053				
Feb-03	19	144,642	7,613	22.753	-0.233				
Mar-03	21	444,331	21,159	23.775	1.022				
Apr-03	21	142,373	6,780	22.637	-1.138				
May-03	21	328,792	15,657	23.474	0.837				
Jun-03	21	281,580	13,409	23.319	-0.155				
Jul-03	22	304,383	13,836	23.351	0.031				
Aug-03	21	328,351	15,636	23.473	0.122				
Sep-03	21	459,563	21,884	23.809	0.336				
Oct-03	23	285,039	12,393	23.240	-0.569				
Nov-03	19	257,779	13,567	23.331	0.091				
Dec-03	22	244,998	11,136	23.133	-0.197				
Jan-04	20	369,784	18,489	23.640	0.507				
Feb-04	19	221,517	11,659	23.179	-0.461				
Mar-04	23	448,543	19,502	23.694	0.514				
Apr-04	21					23.467	0.312	16,314	342,594
May-04	20					23.478	0.320	16,540	330,798
Jun-04	22					23.489	0.328	16,769	368,917
Jul-04	21					23.500	0.336	17,001	357,025
Aug-04	22					23.511	0.344	17,237	379,206
Sep-04	21					23.522	0.351	17,475	366,982
Oct-04	21					23.533	0.359	17,717	372,064
Nov-04	21					23.545	0.366	17,963	377,216

Dec-04	22					23.556	0.373	18,211	400,651
Jan-05	20					23.567	0.380	18,464	369,272
Feb-05	19					23.578	0.387	18,719	355,667
Mar-05	22					23.589	0.394	18,979	417,528
Apr-05	21					23.600	0.400	19,241	404,068
May-05	21					23.611	0.407	19,508	409,664
Jun-05	22					23.622	0.413	19,778	435,115
Jul-05	20					23.634	0.420	20,052	401,037
Aug-05	23					23.645	0.426	20,330	467,579
Sep-05	21					23.656	0.432	20,611	432,832

Figure A
Aggregate Maximum Offering Prices Subject to Securities Act Section 6(b)
(Dashed Line Indicates Forecast Values)

