The Earnings Squiggle Framework
(Excepted from *Predicting the Markets*)

In 2000, I hired Joe Abbott to help me develop an in-house database and analytical tools to monitor and analyze the consensus data from I/B/E/S, which stands for "Institutional Brokers' Estimate System," so that we could track forward earnings for the S&P 500, its 11 sectors, and the more than 100 industries that compose them. Joe had been a senior equity strategist at I/B/E/S for 14 years, before it was acquired by Thomson Financial during 2000, so he was exceptionally well qualified for the job. Together, we developed a simple graphical framework for visualizing the I/B/E/S consensus data.

We dubbed the framework "Earnings Squiggles" because the time series for each calendar-year forecast, which we update monthly and weekly, tend to look like squiggly lines. Forward earnings is simply a time-weighted average over the next 12 months of the analysts' latest consensus estimates of earnings for the current year and for the coming year. At the start of a year (i.e., in January), forward earnings is identical to the current year's consensus forecast. One month later (i.e., in February), forward earnings is the weighted average of 11/12 of the current year's estimate and 1/12 of the coming year's estimate. So as any given year progresses, forward earnings gradually converges with the estimate for the coming year, and by January it is once again fully reflective of that next year's outlook. Of course, next year's earnings estimate is a moving target because it changes as analysts revise their earnings estimates, as does the current year's estimate. (See Appendix 13.2, Deriving 12-Month Forward Earnings.)

In the monthly charts, we show every year's squiggle spanning 25 months from February to February, i.e., 11 months before the year begins and two months after it ends. That's because for calculating forward earnings, the next year only enters the calculation once the current year is one month old, as just noted above. Then the squiggles run through the 12 months of the actual year and another two months after it ends. That's because the fourth quarter's results for each year are reported in the earnings season during January, with some stragglers during February. Each annual squiggle starts one year early since it needs to be time-weighted with the current year. Each annual squiggle ends after earnings are released for the final quarter of the year it covers, though it only matters through the end of its year.

This may be a bit confusing, so a more specific example should help to make sense of it all. During January 2016, forward earnings was identical to the consensus estimate for all of 2016. No weight was given to 2017's estimate. During February 2016, we started to track the 2017

squiggle because forward earnings represented 11/12 of the latest 2016 estimate and 1/12 of the latest 2017 consensus estimate. By January 2017, the 2016 squiggle was no longer relevant, but we plotted the squiggle through February 2017 (when data for the final quarter of 2016 were available) to show that it had converged to closely match the actual result for 2016.

One of the biggest advantages of Thomson Reuters' I/B/E/S forward earnings is that the data are available much more frequently than the measures of actual profits that are provided quarterly, with a lag of a few weeks, for the S&P 500 by Standard & Poor's and for the corporate sector broadly in the National Income and Product Accounts (NIPA), compiled by the Bureau of Economic Analysis (BEA). The Earnings Squiggles and forward earnings for the S&P 500 are available not only monthly from September 1978 but also weekly from March 1994.

We have 37 years of complete annual squiggles from 1980 through 2016, i.e., with 25 months of data for each one of them. From the beginning to the end of each annual squiggle, estimates fell for 29 of those years and rose for eight of them. The squiggles tend to decline over time because analysts tend to be overly optimistic about the outlook for their companies' earnings the further out in the future they are. The up-year exceptions were 1980, 1988, 1995, 2004, 2005, 2006, 2010, and 2011. Of course, the steepest downward slopes occur during recessions, when analysts are scrambling to cut their estimates. The few years when they raised their estimates in the past tended to be during economic recoveries, especially following bad recessions during which analysts had become too pessimistic. The overall average decline for the 25 months of the 37 years was –12.9%, with the 29 down years averaging –18.3% and the eight up years averaging 6.7%.