TABLE 5. Price Volatility Comparisons: Minute-by-Minute Standard Deviations of Returns for S&P 500 Futures and Cash Index.

Panel A: Down Days

Futures	Control	Test	F Statistic: Control v. Test
Before 50 Points	7.44	6.48	.76
After 50 Points	7.99	7.64	.91
F Statistic: Before v. After	1.15	1.39	

Cash	Control	Test	F Statistic: Control v. Test
Before 50 Points	3.05	3.55	1.35
After 50 Points	3.90	2.34	*.36
F Statistic: Before v. After	*1.63	*.44	

Panel B: Up Days

Futures	Control	Test	F Statistic: Control v. Test
Before 50 Points	8.04	4.30	*.29
After 50 Points	6.98	4.63	*.44
F Statistic: Before v. After	.75	1.16	

Cash	Control	Test	F Statistic: Control v. Test
Before 50 Points	2.71	2.14	.62
After 50 Points	2.81	1.84	*.43
F Statistic: Before v. After	1.07	.74	

The F-statistic is the test statistic of the null hypothesis of equal variance between the indicated samples. A F-statistic greater than one indicates that the "after" sample variance is greater than the "before" sample variance or the test sample variance is greater than the control sample variance. The 1 percent critical values vary from one matched pair to another. However, the F(100,100) values of 1.59 and 0.63 approximate the correct critical F values for our samples. All numbers are in basis points using minute-by-minute data. Significant differences are denoted in the table with an asterisk. The futures price is from the nearest S&P 500 futures contract. The cash price is the S&P 500 index. This table excludes all events on days when S&P 500 contract circuit breakers were triggered.