1. **Data and Variables**

Our sample consists of all stocks in the US Market from 2011-1-1 to 2023-11-22. We applied several filters to curate our data based on literature review:

1. Exclude stocks that become public after 2022 to avoid extreme volatility and liquidity in stock prices after the initial public offerings.
2. Keep firms having a minimum of 75% of non-zero-volume trading days only to guarantee stock liquidity and data quality.
3. Exclude months that have fewer than 15 days of trading records for each stock to construct variables reflecting our interest.

The final sample 1271 firms.

Table 1: Intraday return reversal intensity measures

|  |  |
| --- | --- |
| Variable | Variable definitions and description |
|  | Daytime return (open-to-close) |
|  | Daily close-to-close return |
|  | Overnight return (close-to-open)  Daytime reversal |
| NR | The frequency of negative daytime reversals |
| PR | The frequency of positive daytime reversals |
| ABNR | The abnormal frequency of negative daytime reversals |
| ABPR | The abnormal frequency of postive daytime reversals |

**2. Summary statistics of main variables**

Table 2 reports the time-series average of monthly cross-sectional statistics of four return reversal intensity measures: NR, ABNR, PR, and ABNR. The mean levels of the NR and PR are 0.261 and 0.229. Both negative and positive daytime reversal frequencies are close to 0.25, indicating NR and PR are nearly even-distributed. The mean of ABNR and ABPR are close to 1.030, indicating the differences between their averages over the previous 12 months are both around 3.0%. Besides, the variance in ABNR and ABNR are similar as well, corresponding with 0.082 and 0.081.

Table 2: Summary statistics of return reversal intensity measures

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Mean | Median | Min | Max | SD |
| NR | 0.261 | 0.263 | 0.002 | 0.336 | 0.023 |
| ABNR | 1.036 | 1.010 | 0.975 | 1.866 | 0.082 |
| PR | 0.229 | 0.230 | 0.015 | 0.308 | 0.025 |
| ABPR | 1.028 | 1.003 | 0.960 | 1.745 | 0.081 |

Table 1 presents the contemporaneous correlations, first-order autocorrelations, and cross-order autocorrelations between NR, ABNR, PR, and ABNR. Lead\_NR, Lead\_ABNR, Lead\_PR and Lead\_ABPR represent NR, ABNR, PR, and ABPR in next calendar month, respectively. The correlations are calculated cross-sectionally from the time-series average of each stock. NR (PR) and ABNR (ABPR) are negatively correlated, while NR (ABNR) and PR (ABPR) are highly positively correlated, with correlation of 0.368 (0.958). The first-order autocorrelations for all four variables are close to 1, ranging from 0.992 to 0.999, indicating significant persistence in both the abnormal level of the return reversal intensity and the level itself.

Table 2: Correlations

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | NR | ABNR | PR | ABPR | Lead\_NR | Lead\_ABNR | Lead\_R |
| ABNR | -0.476 |  |  |  |  |  |  |
| PR | 0.368 | -0.494 |  |  |  |  |  |
| ABPR | -0.456 | 0.958 | -0.485 |  |  |  |  |
| Lead\_NR | 0.999 | -0.457 | 0.361 | -0.437 |  |  |  |
| Lead\_ABNR | -0.500 | 0.992 | -0.506 | 0.948 | -0.480 |  |  |
| Lead\_R | 0.360 | -0.471 | 0.999 | -0.461 | 0.353 | -0.485 |  |
| Lead\_ABPR | -0.458 | 0.959 | -0.492 | 0.997 | -0.440 | 0.952 | -0.466 |