

Capital markets are global, operating 24 hours a day as investors continually react to information, manage risk and look to generate returns. Markets are also complex and like with so many things, the deeper one looks often the more one finds.

This includes looking at asset class level risk and return characteristics by trading period. From a trading perspective, this means closely evaluating the differences between when exchanges are open (the “day”) and when they are not (the “night”).

The Value of Distinguishing Between Day and Night (the Night Effect)

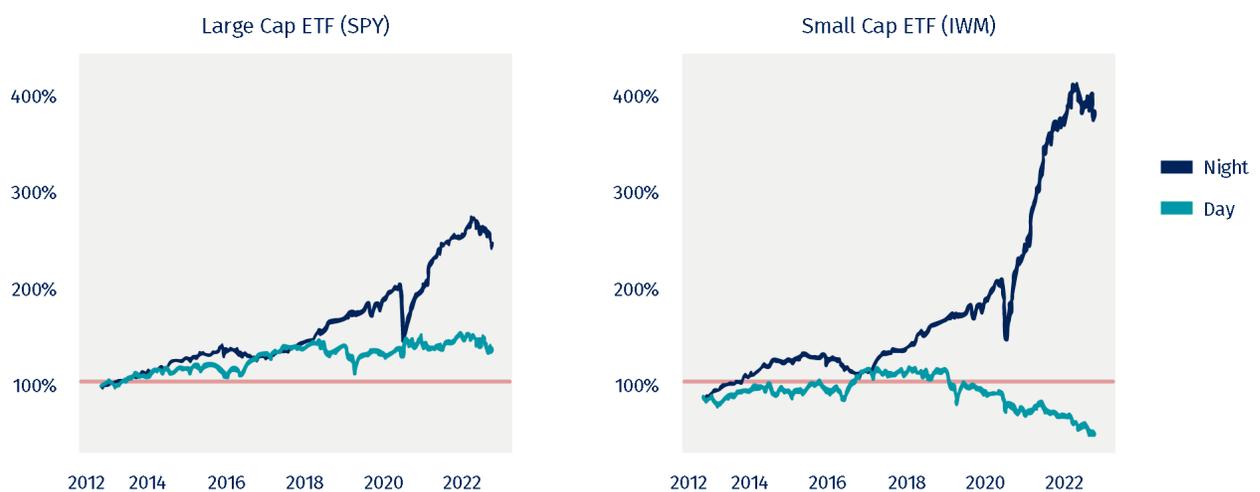
For decades, stocks have performed better at night. As early as 2008, capital markets researchers reported the following:

“We use transaction-level data and decompose the US equity premium into day (open to close) and night (close to open) returns. We document the striking result that the US equity premium over the last decade is solely due to overnight returns; the returns during the night are strongly positive, and returns during the day are close to zero and sometimes negative.”¹

Or as the New York Times wrote in a 2018 article titled “The Stock Market Works by Day, but It Loves the Night”:

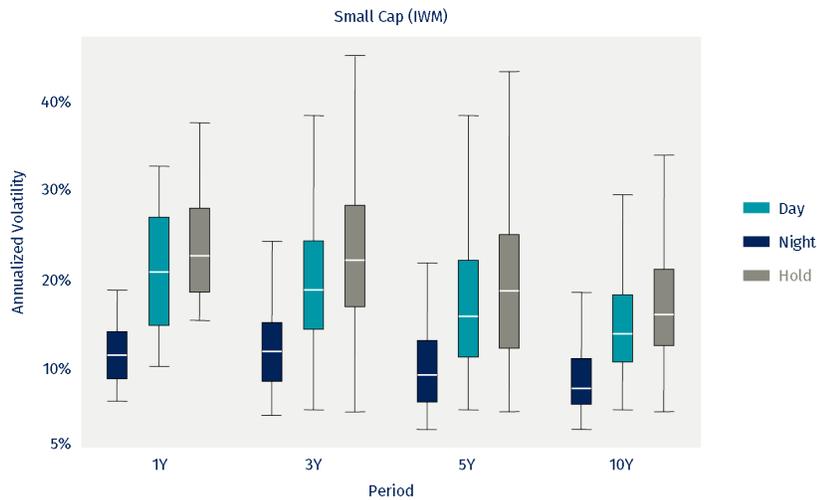
“To paraphrase Ray Charles, the nighttime has been the right time to be invested in the stock market.”²

This Night Effect, the difference in returns between the day and night sessions, can be found in large and small cap equities (Figure 1).



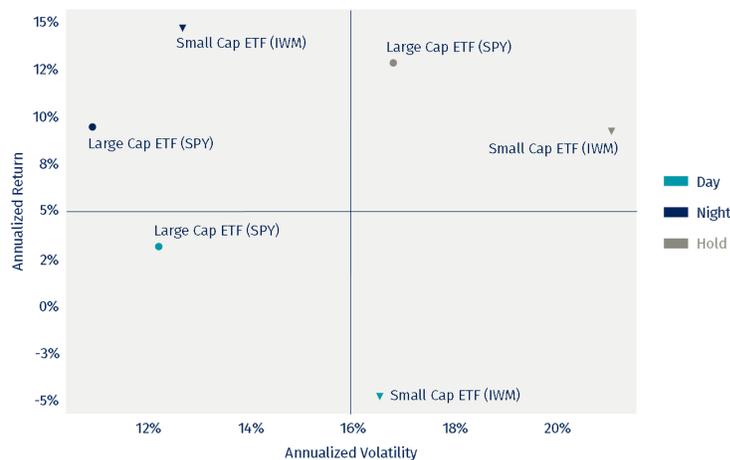
Cumulative return of night, day, and hold based on Exchange Traded Funds tracking broad market weighted indices. Source: AlphaTrAI Research (7/1/2012 – 6/30/2022)

These historically positive overnight returns are not accompanied by increased risk, as measured by volatility. As an example, the annualized daily volatility for US small cap stocks has been lower in the night session than the day sessions across a range of time periods (Figure 2).



Annualized volatilities are calculated as the standard deviation of "daily" (night, day, hold) returns on a 30-day-rolling basis, multiplied by the square root of 252, the typical number of trading days/year. Source: AlphaTrAI Research (6/30/2022)

Though the night session does not dominate the day session each and every day, it has historically outperformed the day session from a risk and/or return perspective (Figure 3).



Annualized returns are calculated as the average "daily" returns over the full period, multiplied by 252. Annualized volatility is calculated as the standard deviation of the "daily" returns over the full period, multiplied by the square root of 252. Source: AlphaTrAI Research (7/1/2012-6/30/2022)

It is worth noting that the effect is not unique to the US stock market, and overnight returns have been shown to beat intraday ones in at least 23 different countries.^{3,4,5,6}

Capturing the Night Effect

Capital markets researchers have shown that the Night Effect can offer investors a better outcome than simply staying invested across the full 24 hour cycle. At the same time, many have pointed out that the transaction costs associated with capturing the Night Effect could potentially outweigh the value delivered by the Night Effect. Certainly a broad index oriented strategy that buys all the securities at their respective weights every night and sells them every morning could lead to a high level of transaction costs that would negate the value of the Night Effect.

Fortunately, sophisticated investors can use a variety of financial instruments to implement their strategies, including equity index futures and/or swaps. Liquid equity index futures allow for large and small cap exposure and reduce the cost of gaining exposure compared to trading individual stocks. Swaps contracts, created with well capitalized investment banks, allow investors to create a range of return streams that align with the end investors' return objectives. Combined with institutional trading approaches, such as algorithmic trading, portfolio managers looking to capture the Night Effect can use a range of financial instruments to efficiently gain exposure to the overnight portion of the market.

Footnotes

1 "Return Differences between Trading and Non-trading Hours: Like Night and Day" Michael Cliff (Virginia Tech), Michael J Cooper (University of Utah), Huseyin Gulen (Purdue University), September 26 2008.

2 "The Stock Market Works by Day, but It Loves the Night", New York Times, February 2, 2018.

3 "Night Trading: Lower Risk but Higher Returns?", Marie-Eve Lachance (San Diego State University), July 18, 2015.

4 "Bad Days and Good Nights: A Re-examination of Non-Traded and Traded Period Returns", Robert G. Tompkins (Frankfurt School of Finance and Management) and Zvi Wiener (Hebrew University of Jerusalem), March 4, 2008.

5 "On Overnight Return Premiums of International Stock Markets", Mei Qui and Tao Cai (Massey University/New Zealand).

6 "Overnight returns of stock indexes: Evidence from ETFs and futures", Qingful Liu (Fudan University/China) and Yiuman Tse (University of Missouri), January 9, 2017.

Day returns are calculated on the ETF price at daily opening auction to the ETF price at daily closing auction, night returns are calculated on the ETF price at daily closing auction to the ETF price at daily opening auction, and hold returns are calculated on the daily closing auction to daily closing auction.