Semiconductor Trading Strategy Write-Up

Trading Strategy Objective

Our trading strategy goal was to determine a way to find semiconductor companies to invest in that would yield above-average returns. Our team started by understanding the semiconductor market and environment followed by determining the benchmark requirements to filter out companies and finalized by backtesting our approach.

Market Overview

The semiconductor market initially caught our attention given the returns it yielded over the years. When comparing the semiconductor index SOXX to the S&P 500, SOXX over the last 5 years has beaten the market by at least double the returns every year. Aside from the returns the semiconductor market has much potential given new emerging technologies like machine learning, artificial intelligence, and self-driving cars. This has resulted in much additional demand and growth for the industry. While demand and returns are positive throughout the semiconductor industry the geopolitical tensions among China and the United States result in a major risk factor. 75% of semiconductors are manufactured in Asia, and with China eying an invasion of Taiwan investors should be concerned. Luckily funding from Washington has supported in creation of a more diverse semiconductor supply line by relocating manufacturing facilities to the U.S.

Filtering Technique

Our team utilized the Bloomberg ESQ screening tool (see the guide on how to use the feature). Our filtering criteria consisted of actively listed securities > primary listed companies > semiconductor industry > U.S. stock exchange > market cap greater than $100 million > share

price greater than $10 > positive EBITDA > 5-year CAGR greater than 10% > R&D expense greater than 14.2%. This filtering resulted in 10 companies to invest in. Those companies are ACM Research, AVD Micro Device, Broadcom Inc, Lattice Semiconductors, Marvell Technology, Maxlinear, Nvidia Corp, Nova LTD, Universal Display, and Rambus Inc.

Backtesting

Our filtering process chose certain filters to yield the best results. We determined these results through backseting using the Bloomberg feature (see guide on how to use the feature). Ultimately, we found that by setting key parameters in our filter to 14.2% R&D expense and a minimum 10% CAGR our 3-year returns on our portfolio were 102%. For comps, the semiconductor index (SOXX) returned 53% and the S&P 500 returned 39%.

Investing Amounts

We recommended to invest our 6.55% of our SIF portfolio into the semiconductor stocks. We came to this number simply through the fact that the semiconductor industry represents 6.55% of the S&P 500. Ultimately after the SIF class voted we decided to invest 3.2% or $35k into these 10 stocks.