

Review of 2017

The US stock market performed well in 2017. The Dow went up 25% and NASDAQ 28%. The last time stock market performed this well was in 2013. Our composite portfolio fell in the last quarter and finished the year gaining 25%, the same as the Dow. We had several extraordinary gains for the year: DVAX was up 373%; IMGN was up 214%; MU was up 88%. However, we had some losses that made our gains less than spectacular: AMD lost 9%, ATRS lost 15%, INFN lost 25%, and PACB lost 31% among our holdings. Our top ten holdings at the end of the year, in order, are DVAX (www.dynavax.com), PONDIX, AMD (www.amd.com), BRK (www.berkshirehathaway.com), MU (www.micron.com), IMGN (www.immunogen.com), NVDA (www.nvida.com), IBB (iShare Nasdaq Biotech ETF), SPY (S&P 500 ETF), and SGEN (www.seattlegenetics.com). During the quarter, I added shares of AGEN, AMD, DVAX, MU, and NVDA, and sold some INFN.

Noticeable News/Events with Our Top Ten Stocks and Recent Picks in the Past Quarter

DVAX: DVAX received FDA approval of HEPLISAV-B on November 11, 2017. Its share price reached \$24, a one-year high on October 5th, anticipating FDA's approval. Since then, the share price has settled around \$19 +/- \$2. We will likely not see any meaningful news on the sales data on HEPLISAV-B for a while. Therefore, the next share price driver will have to come from DVAX's other cancer drug trials.

AMD: AMD continues to report better performance and its share price keeps dropping. I guess this is what the Street means of buying on rumors and selling on news. I am projecting AMD to reach \$15 per share again by mid of 2018.

MU: The price of MU continued to rise in the past quarter, reaching close to \$50 before settling back to close the year at \$41. MU reported a terrific quarter, with the trailing P/E at 6.50 and the forward P/E projected to be 4.8. Its stock price has been held back due to the anticipation of the inevitable drop in NAND chip prices as many competitors ramp up manufacturing capacities.

IMGN and SGEN: Share prices of both these ADC stocks have been volatile in the past quarter with no significant news.

NVDA: Angie had wanted to write about NVDA, one of her favorite companies; but had not done so because its price keeps on going up (81% in 2017). We have picked up some additional shares and now it is one of our top 10 holdings.

Stock Picks of the Quarter

Our stock picks this quarter are Albemarle Corporation (www.albemarle.com and ALB on NYSE) and Western Digital Corporation (www.wdc.com and WDC on NASDAQ). While I picked ALB as a growth stock with value; I picked WDC as a value stock with growth.

ALB, based in Charlotte, NC, is a global developer, manufacturer and marketer of specialty chemicals. Albemarle operates

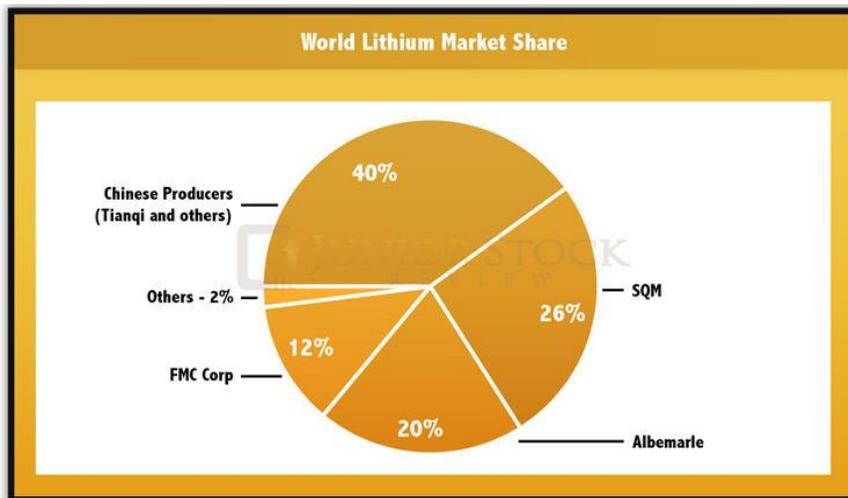


through three segments: Lithium and Advanced Materials, Bromine Specialties and Refining Solutions (i.e., catalysts for oil refineries).

My interest of ALB is predominantly in lithium. Lithium, with atomic number 3, is the lightest metal element in the periodic table. Theoretically, it will pack the densest charge per weight/volume in any battery. So far, this theory has proven true, as more and more lithium batteries have been used in our daily lives. Lithium production as a result, has soared since 2000 from 200,000 tons/year to more than 600,000 tons/year today, See chart excerpted from Wikipedia on right (https://en.wikipedia.org/wiki/Lithium_as_an_investment). The exponential demand growth rate is projected to continue in the next decade, with the highest growth rates in transportation use (electronic vehicles) at roughly 20-30% per year and renewable (grid storage) at 30+% per year.



Lithium is not a rare mineral but in nature its concentration in rocks or brine tends to be low. Best quality rock contains about 3% lithium, and best quality brine contains less than 2% lithium. To economically



extract lithium from these sources, the operations have to be large. The top lithium producers in the world are heavily concentrated (See chart on left based on SQM 2017 presentation) -- ALB is ranked number three in this chart when the Chinese producers are lumped together. For us to trade, ALB, SQM (Sociedad Quimica Y Mineral De Chile), and FMC (FMC Corporation) are all traded on NYSE while the Chinese producers are traded in the Chinese stock

markets. Lithium is a minor branch of FMC's business. Lithium production is a major part of business for both ALB and SQM. ALB has a more attractive P/E ratio of 17 while SQM's P/E ratio is 39. I also like ALB because it owns Greenbushes Mine in Australia, the largest hard rock lithium mine with the best quality rock and 50-year mine life. ALB also operates the largest brine lithium operation with the highest Lithium Chloride concentration in the world at Salar de Atacama, Chile. Size and quality matter in lithium production efficiency/profitability and I believe that ALB is in an envious position to continue its storied growth.

ALB closed at \$127.89 on December 29, 2017. I have assigned ALB a value rating of 2 (out of 5 with 1 being of the best value) and a risk rating of 3 (out of 5 with 1 being the least risky).

WDC, based in San Jose, CA, is one of the largest computer data storage companies in the world. WDC's major products include hard disk drives, hybrid drives, and solid-state drives. WDC has a capitalization of \$23 billion, annual revenue of \$20 billion, after-tax earning of \$5 billion (just in time for the lower corporate tax rate!), and a dividend rate of about 2.4%.



In May 2016, WDC acquired SanDisk for \$19 billion and became one of the largest NAND flash drive makers. This acquisition triggered a major law suit with Toshiba, a past joint venture partner with SanDisk. The lawsuit is finally settled in mid-December 2017, removing a major uncertainty about WDC's future.

As we discussed back in October 2015 on MU, the 3-D NAND flash drive is the most significant technology breakthrough in memory drives since 1989. The explosive market growth has produced two extraordinarily profitable companies in S&P 500: Using forward P/E ratio as the measurement, out of all 500 stocks, number one is MU (forward P/E is 4.8); number three is WDC (forward P/E is 6.7); with number two at forward P/E of 5.1 belongs to our last quarter's stock pick CHK.

A word of caution about memory drive and chip makers (e.g., WDC, MU): their business is cyclical. Technical advances increase demand and drive up price; trigger competitors to invest and build up capacities that lower price and slow down investment; then the cycle restarts. In the current case of 3-D NAND, the building up of capacity has yet to catch up with the demand of the new technology, pushing the high profitability. It is advisable for investors to watch for signs of over-capacity and get out of the market before or right after the start of the down cycle.

WDC closed at \$79.53 on December 29, 2017. I have assigned WDC a value rating of 2 (out of 5 with 1 being of the best value) and a risk rating of 3 (out of 5 with 1 being the least risky).

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Chen-yu Yen can be reached at www.InvestWithYen or email at chenyuyen1@hotmail.com