

Taylor Devices, Inc.

NasdaqCM:TAYD

Analyst: Daniel Bacchi

Sector: Industrials

BUY

Price Target: \$19.77

Key Statistics as of 11/24/2015

Market Price:	\$16.44
Industry:	Machinery
Market Cap:	\$ 55.45M
52-Week Range:	\$9.39 – 17.44
Beta:	0.49

Thesis Points:

- Macroeconomics plays a large part in the continued growth for the corporation
- Expansion of facilities created a higher production capability at an increased efficiency
- Limited competition and barriers to entry allow for higher margins

Company Description:

The Company was incorporated in the State of New York on July 22, 1955 and is engaged in the design, development, manufacture and marketing of shock absorption, rate control, and energy storage devices for use in various types of machinery, equipment and structures. In addition to manufacturing and selling existing product lines, the Company continues to develop new and advanced technology products. (Form 10-K, August 27, 2015)



Thesis

Taylor Devices, Inc. (TAYD) has had great growth in the past year, both on the top and bottom line. The main catalyst for that growth has been identified as the turnaround of the economy. For the immediate future, the use of seismic dampers, a premier product sold by Taylor Devices, Inc., is only set to increase thanks to the health of the current economy. The increased demand will be met by the corporation's decision to expand its production facility. Based on the limited competition and high barriers to entry, the firm will gain a strong foothold into the industry and will see continued value creation for some time to come; it is therefore a recommended buy.

Industry Outlook

Taylor Devices, Inc. operates in the Machinery Industry, their key market segments include: Aerospace and Defense, Industrial, and Construction. The breakdown of sales shown in Exhibit 1 demonstrates the increased levels of construction necessitating the seismic/wind protection for both new construction and retrofitting of existing buildings or bridges. The management team noted in their analysis from the 10-K that Aerospace and Defense also saw a sales increase, 35% from 2014, that was far surpassed by the 83% increase from Construction.

Exhibit 1

Year ended May 31		
Market	2015	2014
Industrial	7%	10%
Construction	54%	46%
Aerospace / Defense	39%	44%
Other	7%	0%

The outlook for sales for both Aerospace and Defense and Construction looks positive for Taylor Devices, Inc. Recently, Los Angeles, California passed a law mandating the retrofitting of about 13,500 soft-story apartment buildings and 1,500 concrete buildings. (source: [Los Angeles Passes Earthquake Safety Retrofitting Law for Older Buildings](#)) Taylor Devices, Inc. is sure to get a piece of the pie created by Los Angeles. They primarily compete for customers against UTC Aerospace Systems Division of United Technologies in Ft. Worth, Texas; they only beat Taylor Devices, Inc. on volume, as TAYD

is able to compete directly on price, warranty and product performance. With the \$1.1M expansion set to begin this Autumn, Taylor Devices, Inc. will gain the ability to contend better on volume. Two other competitors produce seismic damping devices and many other corporations produce alternative protection technologies, that present a different solution to the same problem. CEO Douglas P. Taylor remarked on the increased sales in construction in a recent interview with Buffalo News: "It's mostly California. They've tried to postpone things and the state's not letting people in California postpone things anymore. They're putting code changes in and requiring that structures start to comply with the revised seismic code."

In the same interview Taylor expanded on a project that will protect residential homes from seismic activity:

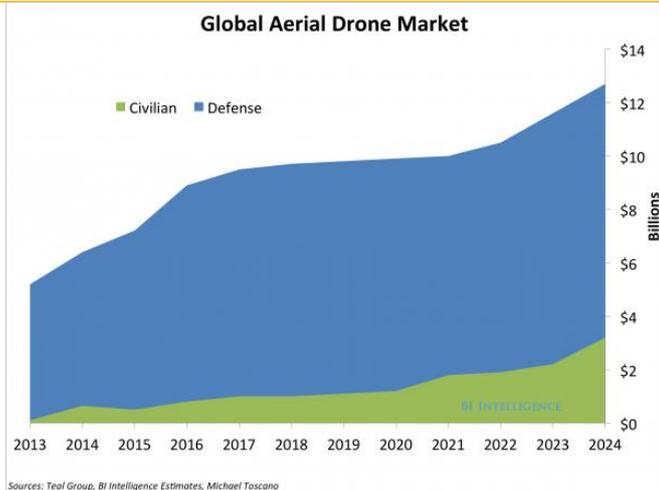
"We've got a new concept, which is being tested at UB right now, which hides the dampers around the perimeter of the cutout, and that seems to work really, really well. We've got a patent filed on it. You wouldn't know they were there." (Source: [Taylor Devices Grows by Keeping Shaking to a Minimum](#))

This comment illustrates Taylor Devices, Inc. commitment to developing business and will serve them well into the future.

The Aerospace and Defense industry indicates a similar potential for growth. The government is required to diversify the supplies for each project, necessitating the use of multiple suppliers. Currently Taylor Devices, Inc. supplies the landing gears for unmanned aerial vehicles (UAV), also known as drones, a growing business for the corporation and the outlook for both the government and Taylor Devices, Inc. is more and more drones.

A recent article from Business Insider examines a report from BI Intelligence that forecasts the business opportunities available in drone technology, from military applications to civilian and commercial. The report highlights the increased activity within the civilian and commercial market that will continue to see growth due to deregulation of drone flight. Taylor Devices, Inc., already a major player in the supply chain for drone technology, will only see increased sales in the drone market. The graph in Exhibit 2 forecasts the drone market to be worth around \$13B by the year 2024, with just above \$3B of the market labelled as civilian. (Source: [UAV Market Forecast](#))

Exhibit 2



Porter's Five Forces

The bargaining power of suppliers is low, Taylor Devices, Inc. maintains a diverse supply chain sourcing its principal raw materials from numerous supplier inside and outside the U.S. The cost of switching supplies would not materially affect the company's operations.

The bargaining power of customers is low, the number of competitors that directly manufacturer a similar product is limited, indicative of very few choices for their application. The high margins of Taylor Devices, Inc. reflect the number of competitors; with little competition, the sellers of the markets are able to charge a higher premium.

The intensity of existing rivalry is medium, Taylor Devices, Inc. fights for the same customers as their rivals and the industry is not superbly large. The industry has seen growth in the past few years due to the increase in regulation that requires buildings and bridges to employ some type of seismic damping technology, and each year brings new opportunities for the members of the industry.

The threat of substitutes is medium, there are a plethora of new technologies that could substitute the use of seismic damping technology, but at the same time they could be used to supplement each other. Depending on the application the substitute could be of higher quality, but because this technology is not new and is well known for its quality the future seems strong for the products offered by Taylor Devices, Inc.

The threat of new competition is low, the capital required to start a business is intense. The technology is constantly evolving, requiring continual research and development. Taylor Devices, Inc. engages in multiple R&D projects; the government often sponsors projects and Taylor Devices, Inc. will often partner with universities to

develop and research new or existing products. In the interview with Buffalo News, Taylor identified working with Iowa State University on a new system. The corporation has an ongoing relationship with nearby SUNY at Buffalo, working with the Structural Engineering and Earthquake Simulation Laboratory. This program uses state funded projects to create the commercial products later sold by Taylor Devices, Inc. Taylor later discusses in the interview the importance of patents which helps Taylor Devices, Inc. maintain a competitive advantage in the marketplace and dissuade new competition.

Expansion

This Autumn Taylor Devices, Inc. will be building an expansion that will add space to allow for the assembly and testing of seismic dampers that have begun to approach 50 ft. in length. The size of the parts have begun to grow in scale year after year reflecting world-wide seismic codes that require ever increasing sizes of energy absorption products.

The expansion will come off the back of a complete move of facilities that took place in late 2014. The new space doubled the space they previously had and working with experts in plant layout they were able to create an optimal layout that produced an efficient flow from workstation to workstation. Because the size of the products needed to increase that meant that they often had to move large materials around the shop, which often travelled over other stations. Time to time they needed to shut down certain workstations to permit the movement of the large parts.

Moving the facility allowed Taylor Devices, Inc. to move products around without having to shut down stations, increasing production capability. Further expansion will only increase capability, not only the size of the product, but also with the throughput of the facility as they can increase the number of workstations.

Financially the impact has had positive implications. When the move in 2014 occurred revenues initially dropped due to the downtime that was required to move the machinery to the new location. This blip on the revenues is explainable relatively easily. FY2015 saw a 53% growth in sales and the LTM have seen 58% growth indicative that Taylor Devices, Inc. has not only seen increasing sales but has been able to act and produce the products requested. In FY2014 net margin was low at 6% of sales, in the LTM they have managed to increase that margin to 8%.

Competitive Advantage

There is no one competitive advantage that Taylor Devices, Inc. sticks to. Instead they managed to have diversified their advantage across the board. Earlier it was mentioned that the R&D for Taylor Devices, Inc. is mainly offsite at the nearby SUNY at Buffalo campus. The advantage of using fresh minds that are paid for with tax dollars presents an advantage to the bottom line as R&D expenses are reduced. R&D expenses reached a high in 2012 at \$540,000, 2% of total revenue for that year. The LTM has seen only \$320,000, 1% of total revenue, much less, translating to much more on the bottom line.

Taylor Devices, Inc. relies heavily on the name and recognition for sales. In an industry that requires heavy engineering it is imperative to have a track record before selling products. Often, firms like Taylor Devices, Inc. will need to test products in the field before they can sell the product, the customers need to know the specifications and whether or not the product really does what it says it will do. By partnering with SUNY at Buffalo they have the ability to simulate the products effects in the field. But for some customers that is not enough, published papers documenting the use of the Taylor Devices, Inc.'s products are necessary and that is often why customers choose TAYD; for their long standing tradition of providing a high quality product that works in the field.

The product itself is generally a cost that has tremendous value. The installation is quick and extends the life cycle of buildings by reducing the stress to the structures due to vibration and motion due to multiple effects. The products also need not to be installed during the initial construction, often the seismic dampers find themselves retrofitted into existing buildings without major redesign. At this time Taylor Devices, Inc. holds 13 patents expiring at different times until the year 2032. The interview Taylor had with Buffalo News indicated that more patents are on the way:

"I might go years without going for a patent. Then all of a sudden I'll get into patent mode, which is what I'm in now. We've got five of them that we're working on. Two have been issued and the other three are filed for, so you have to argue with the patent office why they're new and unique.

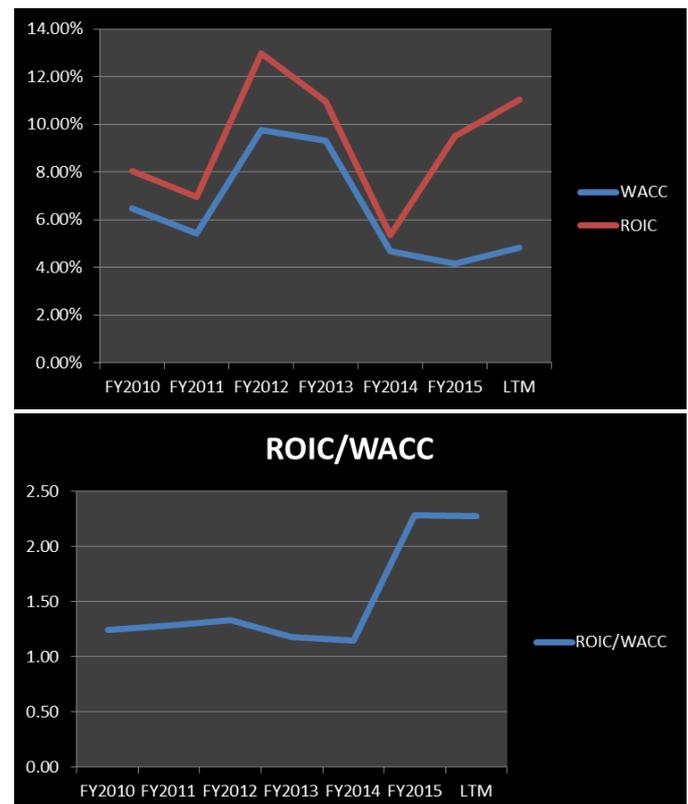
If it's a usable patent, something I can get sales generated from within five or seven years, we'll go for it."

Overall no one real reason exists for Taylor Devices, Inc.'s growth and competitiveness. The diversified advantages help Taylor Devices, Inc. maintain their stake in the industry.

Financials

Taylor Devices, Inc. is a financially conservative corporation. They hold no debt and finance with all equity. This means that their cost of capital is their cost of equity. Year over year they have been able to create value. Looking at ROIC/WACC it is apparent that the management is able to manage this corporation with value creation in mind.

Exhibit 3



The second graph in Exhibit 3 shows that ROIC/WACC has ridden above 1 for the last 5 years, indicating value creation. In the period following the move to the larger facility, ROIC/WACC nearly doubled to well over 2. This represents the ability for Taylor Devices, Inc. to increase their economies of scale to further increase ROIC/WACC by reducing costs. In FY 2014, cost of revenue as a percentage of sales stood at 73% through the LTM they have managed to bring that cost down to 69% and it appears that they still have room to further reduce that number by expanding further; already in plan.

The Market is Undervaluing Taylor Devices, Inc.

I believe the market is unaware of Taylor Devices, Inc. and that belief is due to the low volume. The average 3M volume is only 11,481. Taylor Devices, Inc. is considered a microcap; their market cap is only 55M. The low volume will surely result in an undervaluation of Taylor Devices, Inc. Most of my assumption is based on quantitative data supported by qualitative data. Exhibit 3 above demonstrated that not only is value being created the amount of value creation is increasing.

The continuation of regulation for new and existing construction with an increased awareness for earthquakes will continue to grow the value of Taylor Devices, Inc. and the market's awareness of the corporation. The production of drones and their use in warfare or even civilian matters will also be a great catalyst for the growth and awareness of the corporation.

The question is when will the market become aware of Taylor Devices, Inc. The answer is not easily found but the corporations value is unlikely to drop; rather it is expected to grow into the future.

Valuation

The valuation of Taylor Devices, Inc. is computed by a pro forma using a discounted cash flow model and a main focus on invested capital. At the end of the report is attached a brief overview of assumptions and results of the pro forma.

When valuing Taylor Devices, Inc. a conservative approach has been applied. Because they are a microcap and have potential for growth a 10 year period to convergence was chosen. A fast decay from the LTM revenue growth was used to forecast the revenues into the continuing period where a 3% terminal growth was applied.

I assumed that all other forecast variables, such as operating costs, beta, capital structure, etc. will reflect the company's historical values. Indicative of "what will the company be if they do not change?". The market risk premium used was 7%, adding both a country risk premium as well as a premium for the micro status of Taylor Devices, Inc. Cash will not be reinvested into the business (This information was found in the 10-K) and will be placed into an excess cash account where it will produce interest income. R&D and rent expense were

both capitalized straight-line over 10 years.

The intrinsic value was computed as \$19.25 and the 1 year return will net \$19.77.

Summary

A qualitative and quantitative analysis has led me to believe that Taylor Devices, Inc. will become a cash cow. Value creation into the future is apparent, and the effectiveness of the management to capture the increasing market share in both Construction and Aerospace and Defense will play a large part in their ability to continue the growth of the corporation. I recommend at BUY at the current price of \$16.44.

Other Sources:

- Taylor Devices, Inc. , 10-K
 - Capital IQ
 - Bloomberg
 - SEC
 - www.taylordevices.com
-

