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Apogee Enterprises, Inc.: Valuation and Investment Decision

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Apogee Enterprises, Inc.

APOG / NASDAQ

Initiating Coverage

Investment Rating: Hold

PRICE:	USD 38.00	S&P 500:	3,066.91	DIJA:	27,347.36	RUSSELL 2000:	1,589.33

- Two large acquisitions; EFCO – USD 190 million and SotaWell – USD 138 million.
- Historically efficient operations with low financial leverage.
- Cash dividends paid each quarter since 1974.

Valuation	2019 A	2020 E	2021 E
EPS	1.60	2.49	3.38
P/E	23.17	15.93	13.46
P/CFPS	12.99	8.46	9.86
P/BVPS	2.01	1.96	2.00
EV/EBITDA	9.50	8.00	7.20

Market and Trading Information

Equity Market Cap (USD):	1,009 million	52-Week Range (USD):	26.38 – 46.70
Enterprise Value (USD):	1,645 million	12-Month Stock Return:	4.06%
Shares Outstanding (M):	26.55	Dividend / Capital Gain Yields:	1.9% /2.2%
Estimated Float (M):	24.18	12-Month Russell 2000 Return:	4.37%
6-mo Avg. Daily Volume (K):	171.22	Beta:	1.67

Company Quick View:

Location: *4400 West 78th Street, Suite 520, Minneapolis, MN 55435, United States*

Industry: *Products of Purchased Glass, SIC: 3231 / Glass Product Manufacturing Made of Purchased Glass, NAICS: 327215*

Description: *Apogee Enterprises, Inc. designs, develops, engineers, manufactures, and installs customized aluminum and glass window systems; curtain wall; storefront; and vestibule/entrance systems. They operate through four business segments: Architectural Framing Systems, Architectural Glass, Architectural Services, and Large-Scale Optical Technologies (LSO). The company's products and services are predominately offered and utilized in commercial building types, such as skyscrapers, office buildings, hotels, retail centers, and institutional and government buildings.*

Key Products & Services: *Architectural Framing: Alumicor, EFCO, Linetec, Sotawall, Tubelite, Wausau; Architectural Glass: Viracon; Architectural Services: Harmon; LSO: Tru Vue.*

Website: *http://www.apog.com*

Analyst: *Dustin S. Rietsema*

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STOCK PRICE PERFORMANCE

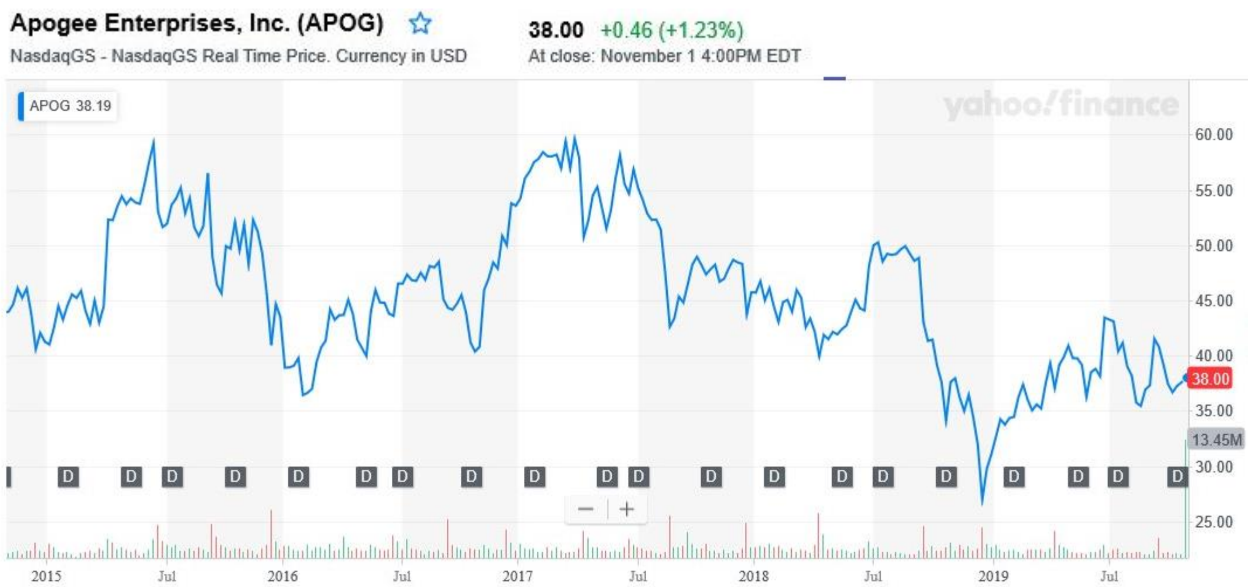

Figure 1: 5-year Stock Price Performance – (Yahoo Finance)

Apogee closed on the NASDAQ at USD 38.00 per share on November 1, 2019. Since the beginning of 2019 the stock has rebounded, however it is approximately 21.0 percent lower than its 52-week high of USD 46.12. The stocks total year-to-date return, assuming dividends are reinvested, is 26.18 percent, which incorporates to an average annual total return of 31.64 percent. Apogee stock outperformed the benchmark index for small-cap companies, the Russell 2000, which recorded a total year to date return of 18.56 percent. However, in comparison to its competitor, Masonite International Corp., which posted a year-to-date return of 34.57 percent, Apogee' return appears to be weak. The primary reason for the significant returns on a year-to-date basis is due to the downward shift in the stock market during December 2018. For example, if we look at the 12-month return for Apogee and the Russell 2000, they depict a total return of 4.06 percent and 4.37 percent, respectively. With that said, Apogee has rebounded back exceptionally well considering it is outperforming the benchmark on a year-to-date basis. Most of this growth in stock value is due to consistent earnings and financial performance, and dividend stability in a stock market horizon that appears to have substantial uncertainty.

INVESTMENT DECISION SUMMARY

The valuation basis uses the corporate valuation model to discount Apogee' future free cash flows at the weighted average cost of capital (WACC). In doing so, I estimate a share price value of USD 38.37 as of November 1, 2019. Current economic conditions within the industry have been in overdrive since the 2008 financial crisis and some might suggest the industry to contract in the near future. However, should this be the case, Apogee is well positioned to weather any potential storm. After analyzing and forecasting, I conclude that Apogee' intrinsic price per share to be relatively similar to its market price, therefore recommending a HOLD position for the stock.

COMPANY DESCRIPTION

In 1949, a single auto glass repair shop (Harmon Glass Company) in Minneapolis, MN was founded on a three-thousand dollar investment and an inspiring vision by a part-time glass installer and truck driver, Harold Burrows. He insisted the market could absorb additional competition since the auto sale businesses he delivered to were too busy to answer their phones. In the early 1950s the company, as an attempt to boost profits, searched and received additional financing from the lawyer that helped initially incorporate the company, Russ Baumgardner. Throughout the 1950s, the company experienced growth expanding into contract glass installation for buildings and had control of 40% of the new windshield supply in Minnesota. In 1963, Burrows retired and Baumgardner invited three experienced executives to join him as principal shareholders in the company. Consistent growth through the 1960s lead to Apogee, Inc. formation in 1968, as a parent holding company for its business operations. During the late 1960s, Apogee expanded its operations by acquiring Wausau Window & Wall Systems and launching Viracon, a glass fabrications plant for the architectural and automotive industry, in Owatonna, MN. By 1971, Apogee, which maintained reputable sale and earning increases, saw significant upside growth opportunities in the market horizon and went public with an initial public offering of 250,000 shares. The company is currently trading on the NASDAQ under the ticker APOG. Throughout the 1970s, 80s, and 90s, the company continued to experience moderate organic growth, and through strategic acquisitions and divestitures, the company grew assets to approximately USD 500 million by the 21st century. As of fiscal 2019, Apogees' market capitalization is USD 1.1 billion, had 7,000 full-time employees, sales surpassed USD 1.4 billion or approximately USD 200,377 per employee, and is the parent operating company of nine primary companies.

Since its inception, Apogee has had a prominent presence and operation within the automotive glass industry, until 2004 with the cash sale of Harmon AutoGlass Company. In 2008 and 2009, Apogee sold strategic manufacturing assets related to its Auto Glass segment and sold its minority interest in PPG Auto Glass, respectively. It has since focused on its four reporting segments: Architectural Framing Systems (51% of net sales – fiscal 2019), Architectural Glass (22% of net sales – fiscal 2019), Architectural Services (21% of net sales – fiscal 2019), and Large-scale Optical Technologies (LSO) (6% of net sales – fiscal 2019). The first three segments provide products and services within the commercial construction market, primarily targeted or serviced towards mid-size to monumental high-profile projects, for example, Viracon glass encloses World Trade Center Tower (One and Seven) in New York, NY and MaRS Discovery Centre West Tower in Toronto, ON, Canada. In its LSO segment, it promotes, manufactures, and distributes valued-added coated glass and acrylic products used in the picture-framing and display application market.

The company has international operations in Brazil and Canada, however these operations made up only 10 percent of total revenue during fiscal 2019. Operations domestically, its biggest market, made up the other 90 percent of total revenue. According to the company's website, expansion into new geographical markets, such as its recent acquisitions in Canada and Brazil, is a part of the overall business strategy. Apogee's most recent acquisitions of EFCO Corporation for USD 190 million and substantially all assets of Sotawall, Inc. for USD 138 million, in June 2017 and December 2016, respectively. The vertical acquisitions expanded their footprint with the intentions to generate positive revenue and cost synergies, ultimately, increasing profit margins. As of November 1, 2019 Apogee employed

The North American commercial construction market is highly fragmented. There is a vast range of companies varying in size and expertise, from the small local general contractors building turnkey office buildings to large contractors working on hundreds of projects at any one time. Competitive factors driving the market include price, quality, product performance, lead-time delivery, warranty of product and workmanship, and ability to provide professional services such as project management, engineering and design. Additionally, the industry operates in a regulated environment that is continuously changing as products change and disasters occur. Exacerbating this issue, building codes are different at each level of government (city, state, federal) and different by funding allocated to a specific project (public or private). In most cases, multiple building codes apply and conflict with one another that might cause building delays, redesign, and/or value-engineering.

Due to the nature of the products and services offered by Apogee, the Company is classified as serving general contractors, developers, and owners, who influence product and project selections, for relatively mid-to-large size commercial buildings. Furthermore, its products and services are primarily used in commercial buildings such as office towers, hotels and shopping malls, and institutional buildings such as educational facilities, heath care facilities, and governmental buildings. Architectural glass products and installation services are primarily sold through a direct sales force, whereas sales for custom and standard windows, curtainwall, and storefront and entrance systems utilize a combination of direct and indirect sales forces and distributors. Company executives estimate, according to its 2019 10-K filing, total U.S. demand for its three commercial construction products and services is in excess of USD 14.5 billion annually.

Apogee has outlined a strategic shift of operations to better organize stable performance and stimulate organic growth going forward. Growth initiatives revolve around new products, new geographies, and new markets. Through its robust research and development, production has started on a new line of products that Apogee believes differentiates itself from its competitors. New products such as CyberShield, which reduces electronic eavesdropping, DigitalDistinctions that enables building designers inert their artistical expressions, and Custom Window that allows for historic buildings preservation while adding modernized efficient performance capabilities. Apogee is diversifying its operations to other geographical areas, broadening its international presence. Moreover, Apogee continues to explore new markets for horizontal integration, such as large-scale renovation of our crippling 100+ year old building structures and engineered optics, by leveraging its existing products and expertise.

MANAGEMENT AND CORPORATE GOVERNANCE

Apogee key officers as end of Fiscal Year 2019 were as follows:

Joseph F. Puishys – *President and Chief Executive Officer (Board of Directors Member)*

- Total Compensation: USD 4.02M (FY 2017), USD 3.92M (FY 2018), USD 2.25M (FY 2019); 2019 Base Salary – USD 935,000 – remainder equals sum of stock awards, non-equity incentives, and other compensation.
- Age: 60
- Tenure: since August 2011
- Experience: has served in numerous executive leadership roles at Honeywell International for over 32 years. Such roles included, but not limited to, President of Honeywell Environment & Combustion Controls, President of Honeywell Building Solutions, and President of Bendix Friction Materials.
- Education: Bachelor’s degree in Accounting and Finance from Bryant University and MBA from Providence College.

James S. Porter – *Executive Vice President and Chief Financial Officer*

- Total Compensation: USD 1.20M (FY 2017), USD 1.22M (FY 2018), USD 0.79M (FY 2019); 2019 Base Salary – USD 435,000 – remainder equals sum of stock awards, non-equity incentives, and other compensation.
- Age: 57
- Tenure: since 2005, Executive VP since 2015
- Experience: Mr. Porter joined Apogee in 1997 as assistant controller, was promoted to controller in 1998. He has served in numerous management roles within Apogee including serving as Apogee’s VP of Strategy and Planning from 2002 through 2005.
- Education: Bachelor’s degree in Finance from the University of Wisconsin, Madison and MBA from the University of Iowa, Iowa City.

Patricia A. Beithon – *General Counsel and Corporate Secretary (Ethics Officer)*

- Total Compensation: USD 596,625 (FY 2017), USD 954,150 (FY 2018), USD 908,814 (FY 2019); 2019 Base Salary - USD 360,000 – remainder equals sum of stock awards, non-equity incentives, and other compensation.
- Age: 63
- Tenure: since September 1999
- Experience: prior to joining Apogee Ms. Beithon was with Fredrickson and Byron law firm for 9 years, the last 3 were as partner. Ms. Beithon also spent 8 years as the divisional legal counsel for Minneapolis, MN based pharmaceutical company.
- Education: Bachelor's degree in Marketing from University of North Dakota, Grand Forks and law degree from the University of Minnesota Law School, Minneapolis.

Brent C. Jewell – *President, Architectural Framing Systems*

- Total Compensation: USD 639,742 (FY 2019); 2019 Base Salary - USD 267,885 & Bonus Salary - USD 44,560 – remainder equals sum of stock awards, non-equity incentives, and other compensation.
- Age: 44
- Tenure: since August 2019
- Experience: Mr. Jewell joined Apogee in 2018 as VP, Business Development and Strategy to drive top-line growth. Prior to joining the Apogee team he spent 7 years in senior level positions at a leading global coatings manufacturer, Valspar.
- Education: Bachelor's degree in marketing from Miami University, Oxford, OH and an MBA from the University of Michigan, Ann Arbor, MI.

Gary R. Johnson – *Senior Vice President and Treasurer*

- Total Compensation: USD 503,788 (FY 2017), USD 498,792 (FY 2018), USD 420,995 (FY 2019); 2019 Base Salary - USD 257,058 – remainder equals sum of stock awards, non-equity incentives, and other compensation.
- Age: 55
- Tenure: since 2001
- Experience: has held various management roles within Apogee since 1995 such as director of taxation and assistant treasurer. Prior to Apogee Mr. Johnson spent 11 years working as a corporate tax consultant at Arthur Anderson & Co.
- Education: Bachelor's degree in Accounting from the University of Minnesota, Duluth, and holds his CPA (inactive) in Minnesota.

Apogee's Board of Directors and committee designation are shown in *Figure 2* below:

Name	Age	Independence	Board Committees: Audit	Compensation	Corporate Governance & Nominating	Director Since
Bernard P. Aldrich*	69	Independent		Chair		1999
Jerome L. Davis	63	Independent		X	X	2004
Sara L. Hays	54	Independent		X	X	2005
Lloyd E. Johnson	65	Independent	Chair			2017
Donald A. Nolan	58	Independent		X	X	2013
Herbert K. Parker	61	Independent	X		X	2018
Mark A. Pompa	54	Independent	X			2018
Joseph F. Puishys	60	Not Independent				2011
Richard V. Reynolds	70	Independent			Chair	2006
Patricia K. Wagner	56	Independent	X	X		2016

*Non-Executive Chair of the Board

Source: Apogee Enterprises, Inc. Form-10K Fiscal Year End March 2, 2019, (P. 52)

Figure 2: Board of Directors & Committees

The Audit Committee oversees the financial reporting process and is directly responsible for the appointment, compensation, retention and oversight of the independent public accounting firm, Deloitte & Touche, LLP. Total fees paid to Deloitte & Touche for fiscal 2019 was USD 2,186,100. The auditors concluded an unqualified opinion, meaning the financial statements present fairly, in all material respects, the financial position of Apogee, and the results presented within the statements are in conformity with accounting principles generally accepted in the United States of America.

SHAREHOLDER ANALYSIS

According to Nasdaq.com as of October 8, 2019, Apogee had 26.55 million common shares outstanding. Investor mix included 210 institutional shareholders owning 23.82 million common shares, which equites to 89.69 percent of total outstanding shares. *Figure 3* below displays the top ten institutional shareholders, their number of shares owned and estimated value (in USD 1,000s) using share price as of November 1, 2019, USD 38.00 per share.

Owner Name	Shares Held	% of Total Shares	Value (in 1,000s)	
Blackrock, Inc.	4,056,903	15.28%	USD	154,162
Vanguard Group, Inc.	2,746,420	10.34%	USD	104,364
Engaged Capital, LLC	1,689,332	6.36%	USD	64,195
Dimensional Fund Advisors LP	1,577,256	5.94%	USD	59,936
State Street Corp.	1,224,310	4.61%	USD	46,524
Ceredex Value Advisors, LLC	608,799	2.29%	USD	23,134
Royce & Associates, LP	597,784	2.25%	USD	22,716
NWQ Investment Management Co., LLC	559,092	2.11%	USD	21,245
Norges Bank	500,993	1.89%	USD	19,038
LSV Asset Management	440,525	1.66%	USD	16,740
All Other Institutional Owners	9,816,402	36.97%	USD	373,023
Total Institutional Owners	**23,817,816**	**89.69%**	**USD**	**905,077**

Figure 3: Institutional Shareholders (Information provided by https://www.nasdaq.com/market-activity/stocks/apog/institutional-holdings)

Over the previous 12 months, net insider share transactions totaled 30,919 shares consisting of 32,552 shares sold and 63,471 shares purchased. *Figure 4* below shows a summarized view of insider share activity and the estimated value using share price as of November 1, 2019, USD 38.00 per share, for the preceding 12-month period.

Insider Trade	**# of Shares**	**Value (in 1,000s)**	
Number of Shares Bought	63,471	USD	2,412
Number of Shares Sold	32,552	USD	1,237
Total Shares Traded	96,023	USD	3,649
Net Activity	30,919	USD	1,175

Figure 4: Insider Activity (Information provided by https://www.nasdaq.com/market-activity/stocks/apog/insider-activity)

According to Apogee's annual and quarterly reports, a stock repurchase agreement is available to shareholders and the plan does not have an expiration date. *Figure 5* (right) depicts the date and number of shares authorized by the Board of Directors under the agreement. As of the date of this report, the maximum number of shares remaining to be repurchased under the plan was 1,450,088 and 1,789,980 shares have been repurchased during the last twelve months. *Figure 6* below displays the last twelve months of repurchased stock on a quarterly basis and a cumulative total of shares remaining under the plan.

Date Authorized	**# of Shares**
April 10, 2003	1,500,000
January 24, 2008	750,000
October 8, 2008	1,000,000
January 13, 2016	1,000,000
January 9, 2018	1,000,000
October 3, 2018	2,000,000
Total Authorized	7,250,000
Purchased: Inception	5,799,912
Remaining Shares	1,450,088
Purchased: TTM	1,789,980

Figure 5: Repurchase Plan – Apogee 2019 Form 10-K

Period	**Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (b)**	**Remaining Shares to be Repurchased Under Plan**
September 2, 2018 to September 30, 2018	—	1,240,068
October 1, 2018 to October 28, 2018	500,000	2,740,068
October 29, 2018 to December 1, 2018	100,000	2,640,068
Total	600,000	2,640,068
December 2, 2018 through December 29, 2018	353,747	2,286,321
December 30, 2018 through January 26, 2019	258,257	2,028,064
January 27, 2019 through March 2, 2019	45,979	1,982,085
Total	657,983	1,982,085
March 3, 2019 to March 30, 2019	216,000	1,766,085
March 31, 2019 to April 27, 2019	221,671	1,544,414
April 28, 2019 to June 1, 2019	94,326	1,450,088
Total	531,997	1,450,088
June 2, 2019 to June 29, 2019	—	1,450,088
June 30, 2019 to July 27, 2019	—	1,450,088
July 28, 2019 to August 31, 2019	—	1,450,088
Total	—	1,450,088

Figure 6: Stock Repurchase Agreement (Information provided by Company's Form 10-K year ended March 2, 2019, and Company's Form 10-Q's ending May 31, 2019 & August 31, 2019)

INDUSTRY ANALYSIS

According to *Mergent Online by FTSE Russell* Apogee, Inc classifies within the following:

- Sector: Construction Materials
- Industry SIC: 3231 – Products of Purchased Glass
- Industry NAICS: 327215 – Glass Product Manufacturing Made of Purchased Glass

As of March 2, 2019, Apogee revenues were predominately produced in the United States (90%), with approximately 94 percent of revenue generated from three of the company's four segments. These three segments include Architectural Framing Services (51%), Architectural Glass (22%), and Architectural Services (21%) (Collectively referred to as "Architectural Segments", "Products", and/or "Services"). Therefore, economic conditions in the United States and indicators within the commercial construction industry are of high importance for industry analysis.

Architectural segments are highly dependent on the commercial construction industry, which is cyclical by nature. This industry is impacted directly by macroeconomic trends that, if negatively changed, might significantly reduce the overall commercial construction industry revenue and operating income. Some primary factors include, but are not limited to, employment trends, commodity prices, consumer price index, consumer confidence, and interest rates.

The Conference Board reported in its October 7, 2019 press release that the Employment Trends Index increased in September, up from a slight decrease in August. Moreover, *The Conference Board* expects job creation and growth to continue to tighten the labor market. However, hiring speed might slow into the first quarter of 2020 from the tightening labor market.

The *U.S. Census Bureau*, in August 2019, estimated total construction spending at seasonally adjusted annual rate of USD 1,287.3 billion, an increase of 0.1 percent above the July 2019 estimate of USD 1,285.6 billion. However, this amount is trending 1.9 percent behind last year's mark with August 2018 estimate of USD 1,312.2 billion. The Standard and Poor's 500 Stock Index gained 1.8 percent in September for a year-to-date gain of 18.8 percent. The 10-2 Year Treasury Spread has been flattening since its high of 2.91% in 2011, ending September at 0.09% far below the historic average spread of 0.94%. However, the spread has increased from its inversion in August. Investors perceive the difference between the 10-year treasury and two-year treasury rates as a precursor mark or a mid-leading market indicator for an economic recession.

In 2019, *The Conference Board* reported that the Leading Economic Index remained unchanged in August, following a relatively large increase in July, and no change in June. A weak manufacturing sector and interest rate spread impacted negatively the August index of 112.1, although positively offset by building permits and the Leading Credit Index. *The Conference Board* Consumer Confidence Index declined by nine points in September. The report published September 24, 2019, exemplified moderate decreases in consumers' assessment of current business conditions and short-term horizon for income and labor market conditions. Throughout the year, the index resembled a pattern of uncertainty and it now appears to be plateauing.

INVESTMENT RISK

Non-Residential Construction – Building Materials – Architectural Products and Services

The construction industry is generally fragmented into two broad industry groups, 1) Residential construction and 2) Non-residential construction, which includes commercial (e.g. office towers, hotels and retail centers), industrial (e.g. manufacturing plants and roads and infrastructure) and institutional (e.g. education facilities, dormitories, health care facilities, and government buildings). Apogee competes within a subset of both segments of the industry. Within this niche of the industry, the company provides products and services primarily to the non-residential commercial and institutional construction subcontractors and generals, as well as to the multi-family residential players.

Market participants within the industry evaluate several external indicators to establish risk and the potential demand outlook for its products and services. Various factors include material costs, commercial vacancy rates, product quality, debt costs, and job growth. Labor force pressures are of high importance within the construction industry. It is a necessity to maintain a vast level of talent from manual laborers to senior management. According to the *Wells Fargo Construction Industry Forecast 2019*, the top concern of construction executives surveyed was ability to hire and attain qualified workers. Participants also view non-residential vacancy and absorption rates as a significant importance to industry risk. Overall office vacancy rates in the U.S. hit its lowest level in 18 years dropping 10 basis points to 12.2% during the second quarter of 2019 according to the CBRE – Q2 2019 Office Vacancy Report. Additionally, annual net absorption has been 66.5 million square feet through Q2 2019 with new office completions rising to 14.7 million square feet and gross asking rent has increased 5.1% year-over-year ending the second quarter at USD 34.28 per square foot.

Accordingly, as stated in the 10-K, the company estimates that annual demand for its products and services are as follows: Architectural Glass in excess of USD 1.5 billion, Architectural Framing Systems in excess of USD 3.0 billion, and Architectural Services in excess of USD 10 billion. The future commercial construction industry outlook overall expects continued strong demand with slight slowing of rent increases.

The construction commercial industry was a mature industry with significant product pricing and wage labor pressures, ultimately resulting in profit pressure. Manufacturing processes for some building products use hazardous chemicals that, dependent on the regulatory environment, are subject to strict storage, handling, and disposal activities. Regulatory constraints are high and failure of compliance with current and future regulations impose substantial fines, suspension to production, and resultant profit performance. Local, state, and federal regulatory agencies regulate commercial construction players to ensure safe, efficient, and structurally sound building products and buildings. Moreover, building codes such as energy efficiency, window-to-wall ratios, and installation procedures are continuously adapting as technologies improve and companies introduce new products. Regulatory compliance is of significant importance, resulting in high legal and professional costs tightening profit margins.

A major competitive issue facing large national building product manufacturers and construction service providers is direct competition from regional and local establishments that have long-lived relationships with developers. Larger national competitors offset these competitive factors by providing best-in-class quality products, better project lead times, and competitive pricing structures resultant of effective economies of scale.

Given these trends, large national building product manufacturers and construction service providers that are longstanding have substantial upside growth opportunities. Well-managed and healthy capitalized players should continue to remain viable and venture strong growth through acquisition of vertical and horizontal integrated firms. However, the competitive nature of the industry and aforementioned risk factors are significant, which can adversely affect sales, capital costs, and resultant profit performance.

PEER ANALYSIS

I provide comparable financial information for companies in the construction materials sector with annual net sales between USD 1 billion and USD 4 billion in *Figure 7* below. I used summarized financial statement information and comparative industry peers financial information to analyze Apogees' historic financial performance. Numerous private and/or public players in an industry that experiences significant horizontal and vertical integration makes a pure side-by-side peer group selection difficult. For this reason, the financial valuation assessment I propose hereinafter, assigns limited weight to comparable peer valuation analysis through multiples.

Company	Ticker	Annual Sales (Millions)	Market Cap (Millions)	PE Ratio	EV / EBITDA	Debt / Assets	ROA (%)	ROE (%)
Apogee, Inc.	APOG	1,403	1,009	23.17	11.52	0.14	4.4%	9.1%
Masonite International Corp.	Masonite	2,170	1,578	18.66	9.73	0.48	5.4%	14.0%
Gibraltar Industries, Inc.	ROCK	1,002	1,800	27.15	12.88	0.02	6.2%	11.3%
BMC Stock Holdings, Inc.	BMCH	3,682	1,871	15.76	9.10	0.26	7.9%	14.8%

Figure 7: Peer Group Financial Metric Summary (Information provided by Mergent Online database – Calculations completed by analyst) https://www-mergentonline-com.trmproxy.mnpals.net/companydetail

I chose the three competitors by narrowing the search to: players within the construction industry and limited size of operations per sales level (USD 1 billion – USD 4 billion). This first tier selection criteria narrowed the scope of competitors and provided better results than using the SIC and NAICS codes depicted by Mergent Online exclusively. Once narrowing the pool of players in the space, I further defined comparable players by proceeding to evaluate the identified players product mix and services offered. The only financial numbers reviewed prior to selection of the peer group was net annual sales. This eliminated any "cherry picking" of competitors in an attempt to either make Apogee appear better or worse than its peers. Brief descriptions of the chosen peers are provided below.

1.) Masonite International Corporation

Masonite operates primarily in the residential construction sector as an industry leader to supplying interior, exterior, and architectural doors. The company ended its most recent fiscal year with USD 2.2 billion in sales and construction services. Headquarters are located in Tampa Bay, Florida and was founded in 1924, which it has since grown to more than 10,000 employees, distributing doors across the world. Annual sales equates to approximately USD 217,000 per employee.

2.) Gibraltar Industries, Inc.

Gibraltar Industries manufactures, distributes, and services a product mix for the commercial and residential construction industry. Product segments include industrial and infrastructure, residential, and solar mounting and commercial greenhouses. The company has a leading position in production of expanded and perforated metals and a renounced manufacturer in the ventilation, air management, and rain dispersion market. The company was incorporated in 1993 and its corporate office is located in Buffalo, NY. Most recent fiscal year ended with USD 1.0 billion in sales and has an average 1,900 employees. This equates to approximately USD 528,000 sales per employee.

3.) BMC Stock Holdings, Inc.

BMC is headquartered in Raleigh, NC, and has a portfolio of products spanning multiple industries and services. Products include building materials such as millwork, doors, windows, glass fabrication, and structural manufacturing components. Services include consultative showrooms, design centers, value-added installation management services, and eBusiness platform configuration and operation. The company has approximately 9,500 full-time employees and predominately serves 45 US metropolitan areas across the South and West regions. Most recent year-end sales hit a milestone USD 3.7 billion or approximately USD 380,000 per employee.

HISTORICAL FINANCIAL ANALYSIS

The purpose of this section is to gather the historical financial performance of Apogee and analyze the data in comparison to its peers, as applicable. Specifically, I will provide analysis of the key elements for each financial statement (i.e. Income Statement, Balance Sheet, and Statement of Cash Flows) and relate Apogee's performance to its peer group member Masonite International Corporation. I chose Masonite to compare Apogee's performance against because Masonite's product mix better resembled the products and services offered by Apogee than the other two companies.

Income Statement Analysis

Apogee, through its four reporting segments, offers a unique competitive advantage over industry competitors. The segments Architectural Framing Systems and Architectural Glass participate in the traditional manufacturing phases of the value chain to design, fabricate, enhance and strengthen building façade components such as windows, doors, curtainwalls, storefront and entrance systems. Whereas, the third segment, Architectural Services, integrates technical capacities, project management skills, and field installation services. Apogee is one of a select few companies in the U.S. with a national presence that incorporate architectural glass installation capabilities. In the 2019 Form 10-K management estimates U.S. demand for installation services for commercial projects to be in excess of USD 10 billion.

The following are significant items in relation to Apogee's income statements for the March 2, 2015 through March 2, 2019 time period.

1. Total sales increased from USD 933,936,000 for the year ending February 28, 2015 to USD 1,402,637,000 for the year ending March 2, 2019. This equates to an average annual compound sales growth of 10.7 percent for the time period. Sales growth and average annual compound growth rate for Apogee and Masonite is provided in *Table 1* below.

	March 2, 2019	March 3, 2018	March 4, 2017	Feb. 27, 2016	Feb. 28, 2015	Compound Growth Rate
Apogee Sales Growth Rate	5.8%	19.0%	13.6%	5.1%	21.1%	10.7%
Masonite Sales Growth Rate	6.7%	3.0%	5.4%	1.9%	6.2%	4.2%

Table 1: Apogee & Masonite 5-Year Sales Growth

During this period, Apogee acquired two business in its Architectural Framing segments: 1.) EFCO, acquisition date June 2017, and 2.) SotaWall, acquisition date December 2016. Apogee seemed to benefit from the integration of acquisitions, an established U.S. market position, and an excellent economic environment. As can be gleaned from *Table 1*, Apogee experienced superior sales growth relative to its peer Masonite achieving an average annual compound growth rate 6.5 percent higher for the time period. Apogee sales information by reporting segment, depicted in *Table 2* below, is as follows.

a. Architectural Framing Systems sales increased from USD 298,395,000 for the fiscal year end 2015 to USD 720,829,000 for the fiscal year end 2019, an average annual growth rate of 24.7 percent. Segment sales as a percentage of total sales increased from 31.0 percent to 49.3 percent for the time period.

b. Architectural Glass sales increased from USD 346,471,000 for the fiscal year end 2015 to USD 367,203,000 for the fiscal year end 2019, an average annual growth rate of 1.5 percent. Segment sales as a percentage of total sales decreased from 36.0 percent to 25.1 percent for the time period.

c. Architectural Services sales increased from USD 230,650,000 for the fiscal year end 2015 to USD 286,314,000 for the fiscal year end 2019, an average annual growth rate of 5.6 percent. Segment sales as a percentage of total sales decreased from 23.9 percent to 19.6 percent for the time period.

d. Large-Scale Optical Technologies (LSO) sales increased from USD 87,693,000 for the fiscal year end 2015 to USD 88,493,000 for the fiscal year end 2019, an average annual growth rate of 0.2 percent. Segment sales as a percentage of total sales decreased from 9.1 percent to 6.0 percent for the time period.

	March 2, 2019	**March 3, 2018**	**March 4, 2017**	**Feb. 27, 2016**	**Feb. 28, 2015**	**Compound Growth Rate**
Architectural Framing Syst.	49.3%	49.7%	33.3%	30.2%	31.0%	24.7%
Architectural Glass	25.1%	28.2%	35.6%	37.0%	36.0%	1.5%
Architectural Services	19.6%	15.7%	23.4%	24.1%	23.9%	5.6%
Large-Scale Optical	6.0%	6.5%	7.7%	8.7%	9.1%	0.2%

Table 2: Apogee Percentage of Sales by Reporting Segment

2. As previously discussed, Apogee has four reporting segments as of the date of this report. The following, *Table 3*, depicts segment performance for the year ended March 2, 2019.

	Architectural Framing Systems	**% of Sales**	**Architectural Glass**	**% of Sales**	**Architectural Services**	**% of Sales**	**LSO**	**% of Sales**
Net Sales	720,829	100.0%	367,203	100.0%	286,314	100.0%	88,493	100.0%
Operating Exp.	(671,169)	(93.1%)	(350,700)	(95.5%)	(255,805)	(89.3%)	(65,490)	(74.0%)
Segment Margin	49,660	6.9%	16,503	4.5%	30,509	10.7%	23,003	26.0%

Table 3: Apogee Reporting Segment Performance

As depicted from the above table, segment margins were relatively comparable for architectural framing systems and architectural glass ranging from 4.5 percent to 6.9 percent of sales. Architectural services and LSO segments were higher margin segments, however these segments only represented 25.6 percent of total sales. LSO segment sales are predominately within the North American picture framing and acrylics market, where sales typically tend to increase in the September-to-December months of the year.

3. The following *Table 4* depicts Apogee's income statements as a percentage of sales basis for the February 28, 2015 through March 2, 2019 time period. Averages for Apogee and Masonite for the time period are included for comparability purposes.

		March 2, 2019	March 3, 2018	March 4, 2017	Feb. 27, 2016	Feb. 28, 2015	Apogee Average	Masonite Average
	Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
-	Cost of Goods Sold	(75.5%)	(70.7%)	(70.6%)	(72.0%)	(74.5%)	(72.7%)	(77.0%)
=	Gross Profit Margin	24.5%	29.3%	29.4%	28.0%	25.5%	27.3%	23.0%
-	Sales, General & Admin.	(16.1%)	(15.9%)	(15.2%)	(14.9%)	(15.5%)	(15.5%)	(12.5%)
=	EBITDA Margin	8.3%	13.4%	14.2%	13.1%	10.0%	11.8%	10.5%
-	Depreciation	(3.6%)	(4.1%)	(3.2%)	(3.2%)	(3.2%)	(3.4%)	(3.0%)
=	Operating Profit Margin	4.8%	9.2%	11.0%	9.9%	6.8%	8.4%	7.6%
-	Interest Expense	(0.6%)	(0.4%)	(0.1%)	(0.1%)	(0.1%)	(0.3%)	(1.7%)
+	Other Inc. and Exp.	0.0%	0.1%	0.1%	0.1%	0.3%	0.1%	(0.2%)
=	Net Income Before Taxes	4.2%	8.9%	11.1%	9.9%	7.0%	8.2%	5.6%

Table 4: Income Statements as a % of Sales

As can be gleaned from the above table, Apogee's gross profit margin increased from USD 237,967,000 for the year ending February 28, 2015 to USD 343,363,000 for the year ending March 2, 2019. This equates to an average annual compound growth rate of 9.6 percent for the time period. Gross profit margin varied modestly over the time period with the largest single year change of 480 basis points occurring from 2018 to 2019. Management reported in the Form 10-K the decline was driven by USD 40.9 million of project-related charges on certain contracts acquired with the purchase of EFCO. Additionally, higher costs of goods sold in the Architectural Glass segment and negative leverage on reduced volumes and mix in the Architectural Framing segment. Architectural services segment, on the other hand, positively offset the gross profit margin decrease somewhat through volume leveraging and good project performance. Note: *Table 5 (Left)* normalizes the March 2, 2019 income statement by removing the USD 40.9 million one-time charge from cost of goods sold. The effects are significant, decreasing cost of revenues by 2.9 percent and increasing operating profit margin by 2.0 percent.

		March 2, 2019
	Sales	100.00%
-	Cost of Goods Sold	(72.60%)
=	Gross Profit Margin	27.40%
-	Sales, General & Admin.	(16.10%)
=	EBITDA Margin	11.30%
-	Depreciation	(3.60%)
=	Operating Profit Margin	7.70%
-	Interest Expense	(0.60%)
+	Other Inc. and Exp.	0.00%
=	Net Income Before Taxes	7.10%

Table 5: Normalized Income Statement as a % of Sales

Management expects future improvement to gross profit margin as material contracts from the EFCO acquisition expire and new negotiations take place. Should this hold true, cost of goods sold shall reduce in proportion to sales volume of expected units driving potential gross profit margin growth, and consequentially pretax earnings margin. In comparison with Masonite, Apogee's gross profit margin, on average, outperformed by 4.3 percent over the time period.

Operating expenses were relatively stable for the time period, varying between 18.1 percent and 20.0 percent of sales. The increase during 2018 of 1.6 percent as a percentage of sales resulted from the acquisition activity. The decrease in 2019 resulted from the 5.8 percent increase in sales. Sales increase in 2018 and 2019 were primarily resultant from the acquisitions of EFCO and SotaWall, whereas organic sales growth was the main driver in years 2015, 2016, and 2017. Relatively flat operating expenses with significant sales growth over the time period is a strong indicator for substantial fixed expenses in selling, general and administration expense category relative to its industry competitors. Therefore, in high sale years, operating leverage will favor Apogee and derive good profitability. Depreciation expense remained flat in relation to sales over the time period. The slight increase in 2018 was primarily due to EFCO acquisition. Capital expenditures were USD 60,717,000, USD 53,196,000, and USD 68,061,000 in fiscal year 2019, 2018, and 2017 respectively. With this level of capital expenditures, Apogee's fixed asset base was sufficient to support the annual sales growth.

Therefore, pretax earnings margin, or net income before taxes as a percentage of sales, varied substantially over the time period. The variation was primarily driven by cost of goods sold, which is generally the case for manufactures. To reiterate, management expects costs to decline over the short term horizon as stated above. Generally speaking, small to mid-size manufacturing and project management service businesses in the construction materials industry have a typical 3.5 percent to 8.0 percent pretax earnings margin (*Mergent Online Construction Materials August 2019 Industry Report*). During the time period Apogee was within this range, and in most cases, surpassed the ranged with an average pretax earnings margin of 8.1%. It should be noted that custom products and services generally should have slightly higher profit margins than traditional stock products that require little, if any, value-engineering from specialized project engineers.

<u>Balance Sheet Analysis</u>

The following are significant items in relation to Apogee's balance sheets for the February 28, 2015 through March 2, 2019 time period.

1. Cash conversion cycle and its components are depicted in the table as follows.

		March 2, 2019	March 3, 2018	March 4, 2017	Feb. 27, 2016	Feb. 28, 2015	Optimal	Masonite Average
	Days A/R	51 days	59 days	61 days	64 days	67 days	60 days	47 days
+	Days Inventories	20 days	22 days	22 days	21 days	22 days	22 days	42 days
=	Operating Cycle	71 days	81 days	83 days	85 days	89 days	82 days	89 days
-	Days A/P	19 days	19 days	18 days	15 days	17 days	18 days	21 days
=	Cash Cycle	52 days	62 days	63 days	61 days	67 days	64 days	68 days

Considering a large portion Apogee's revenue is classified to be recognized over time, as is common within the industry, its favorable to see days accounts receivable continue to decrease over the time period. This might suggest conservative accounting practices regarding revenue recognition and supports that management recognized revenue as established under GAAP.

Inventory requirements mainly relates to raw materials, which are most significant in the architectural framing systems and architectural glass segments. For reasons already discussed above, inventory is not as substantial of a component in permanent working capital than accounts receivable. In its trade and business, Apogee vigorously takes advantage of leveraging its size to negotiate pricing of materials. The optimal days accounts payable of 18 days is reflective of their contract negotiations. In years 2019 and 2018 days accounts payable increased by one day due to acquisitions of EFCO and SotaWall. It is expected to return to a range of 15 – 18 days after current contracts expire and are renegotiated.

2. Apogee's capital structure became more leveraged, and therefore more risky, during the February 28, 2015 through March 2, 2019 time period. The following schedule depicts Apogee's debt-to-equity ratio during the time period.

	March 2, 2019	**March 3, 2018**	**March 4, 2017**	**Feb. 27, 2016**	**Feb. 28, 2015**
Apogee Debt-to-Equity Ratio	1.16	1.00	0.66	0.61	0.60
Masonite Debt-to-Equity Ratio	1.54	1.12	1.15	1.20	1.23
Apogee Interest Coverage Ratio	7.96	22.22	126.42	164.24	68.81
Masonite Interest Coverage Ratio	5.13	6.16	6.24	4.02	1.53

Generally, Apogee's debt-to-equity is low for well-capitalized firms within the space. With the recent acquisitions, debt has increased; however, it is still well below its peers on a debt-to-equity basis. In high growth years, Apogee has great potential to fund capital expenditures with its remaining credit facilities and retain high returns on investment. Interest coverage is far superior to its peers and with its ample cash flow from operations, creditworthiness is of no concern for Apogee.

3. The following table depicts pretax return on assets, or pretax return on investment, and pretax return on stockholder's equity.

		March 2, 2019	**March 3, 2018**	**March 4, 2017**	**Feb. 27, 2016**	**Feb. 28, 2015**	**Apogee Total**	**Masonite Total**
	Pretax Profit Margin	4.18%	8.90%	11.07%	9.92%	6.96%	8.00%	5.70%
x	Sales to Assets	1.32	1.30	1.43	1.50	1.53	1.39	1.19
=	Pretax Return on Assets	5.51%	11.56%	15.80%	14.84%	10.64%	11.12%	6.78%
x	Assets to Equity	2.16	2.00	1.66	1.61	1.60	1.83	2.25
=	Pretax Return on Equity	11.89%	23.08%	26.21%	23.96%	16.99%	20.35%	15.26%

Apogee's cumulative pretax return on assets and pretax return on equity bested its competitor's performance over the time period. These results reflect the fact that Apogee has been able to exploit its fixed asset base more effectively than its peers to produce sales. Apogee's relatively small asset to equity ratios resembles efficiency in its operations and the upward trend is reflective of a capital structure, which became increasingly leveraged during the February 28, 2015 through March 2, 2019 time period.

4. The following schedule depicts net operating profit after tax (commonly known as NOPAT), after-tax return on assets, or after-tax return on investment, and after-tax return on stockholder's equity. When after-tax return on equity is less than a firm's cost of equity the firm's investments are perceived as non-value added activities.

		March 2, 2019	March 3, 2018	March 4, 2017	Feb. 27, 2016	Feb. 28, 2015	Apogee Total
	EBIT Margin	4.80%	9.23%	11.01%	9.93%	6.81%	8.22%
x	1 - Actual Tax Rate	77.89%	72.34%	69.86%	67.14%	77.72%	72.04%
=	NOPAT Margin	3.74%	6.68%	7.69%	6.66%	5.29%	5.92%
x	Sales to Assets	1.32	1.30	1.43	1.50	1.53	1.39
=	After-Tax Return on Assets	4.18%	9.05%	5.20%	5.82%	1.56%	8.25%
x	Assets to Equity	2.16	2.00	1.66	1.61	1.60	1.83
=	After -Tax Return on Equity	9.03%	18.08%	8.63%	9.40%	2.49%	15.07%
	Equity (Ret. – Cost) Spread	(3.93%)	2.76%	3.67%	1.54%	(1.63%)	0.51%

As can be gleaned from the schedule above, Apogee's cumulative equity spread over the time period was positive. To calculate the cumulative equity spread (Apogee Total) I take the sum of all years when preforming the calculation. For example, in calculating Apogee Total assets to equity I took the sum of each years asset balance divided by the sum of each years equity balance. Yielding the actual cumulative total over the time period rather than an average. The schedule uses net operating profit after taxes to eliminate the use of debt financing. Equity spread was calculated by taking the after-tax return on equity minus the estimated cost of equity determined to be 14.56 percent. The cost of equity estimated in this report was determined using the Capital Asset Pricing Model (CAPM), which is Cost of Equity = Risk-free Rate + beta x Market Risk Premium. Specifically, components are 1.67 beta (provided by Yahoo Finance), 2.03 percent as the risk-free rate (20-yr treasury yield), and 7.5 percent as the market risk premium (5.0 percent risk premium plus 2.5 percent small cap premium) yields 14.56 percent cost of equity. Moreover, fiscal year 2019 and 2015 yield a negative spread suggesting poor investments perceived by investors. However, cumulatively the spread is positive, meeting the perceived required return of investors. In addition, Apogee continued paying dividends to its investors and even increased dividend payout ratio in negative years. Dividend payout ratio is subsequently discussed.

5. The following schedule depicts Apogee's dividend payout ratios for the time period.

	March 2, 2019	March 3, 2018	March 4, 2017	Feb. 27, 2016	Feb. 28, 2015
Apogee Dividend Payout Ratio	42.0%	20.6%	17.1%	20.2%	23.9%

Apogee's dividend payout ratio has significantly increased during 2019. The board elected to increase the cash dividend per share in the fourth quarter of the preceding three fiscal years. The dividend increase was 12 percent, 12.5 percent, and 11.1 percent in 2017, 2018, and 2019 respectively. Cash dividends have been paid each quarter since 1974. Currently, the quarterly cash dividend is 0.1750 cents per share, or 0.70 cents per share annually. The dividend yield at a price of USD 38.00 per share is 1.84 percent.

Statements of Cash Flows Analysis

The following schedule depicts summarized statements of cash flows for the February 28, 2015 through March 2, 2019 time period.

	(In Thousands)	**March 2, 2019**	**March 3, 2018**	**March 4, 2017**	**Feb. 27, 2016**	**Feb. 28, 2015**	**Total**
	Net Income	42,553	79,488	85,790	65,342	50,516	323,689
+	Non-Cash Expenses	41,927	58,734	31,994	25,071	34,085	191,811
=	Gross Cash Flow	84,480	138,222	117,784	90,413	84,601	515,500
+	Changes in Operating Assets and Liabilities	(6,801)	(24,786)	(16,102)	29,679	(22,311)	(40,321)
=	Cash Flow from Operations	77,679	113,436	101,682	120,092	62,290	475,179
+	Cash Flow from Investing Activities	(66,869)	(256,770)	(201,610)	(36,949)	(23,098)	(585,296)
+	Cash Flow from Financing Activities	(928)	135,396	66,755	(74,858)	(15,472)	110,893
=	Change in Cash Balance	9,882	(7,938)	(33,173)	8,285	23,720	776
+	Beginning of Year Cash Balance	19,359	27,297	60,470	52,185	28,465	
=	End of Year Cash Balance	29,241	19,359	27,297	60,470	52,185	

1. Net income generated during this time period was USD 323,689,000. The average pretax profit margin, or earnings before taxes margin, for Apogee was 8.2 percent. Normalized average pretax profit margin, as previously discussed above, was 8.8 percent.

2. Adding the USD 191,811,000 rather considerable amount of total non-cash expenses, which consists of depreciation and amortization, to net income derives USD 515,500,000 of gross cash flow for the February 28, 2015 through March 2, 2019 time period.

3. Subtracting the USD 40,321,000 increase in operating assets over operating liabilities, or increase in working capital, from the gross cash flow, results in USD 475,179,000 of cash flow from operations.

    i. Dividing the USD 475,179,000 of cash flow from operations by the USD 323,689,000 in net income yields a 1.47 quality of earnings ratio. Suggesting earnings reported over the period were supported by strong operating cash flows rather than creative accounting policies.

4. The entire cash flow from operations combined with USD 110,893,000 of cash from increased borrowing on its credit line was utilized to finance the USD 585,296,000 of net fixed asset expenditures and pay its cash dividends. A significant amount of the fixed assets purchased were the EFCO and SotaWall acquisitions costing USD 190.4 million and USD 138.0 million respectively.

5. Considering all of the above factors, cash management was relatively strong during the time period. Operations were profitable and Apogee was able to experience moderate organic growth. A relatively small component of gross cash, USD 40,321,000, was used to finance working capital requirements to support the 10.7 percent average annual compound sales growth over the time period. Net fixed asset purchases were significant, however were satisfied by using cash flow from

operations and a portion of its available credit line funds. Cash dividends were paid and increased year-over-year since 2017. As of March 2, 2019, Apogee was in good financial position and capable of taking on moderate growth ventures, should they choose.

PROSPECTIVE FINANCIAL ANALYSIS

As previously discussed, Apogee's historical performance has positioned them for continued organic growth. Strong operational performance complimented with a strong balance sheet and efficient operating environment, I conclude year-over-year sales growth to average around 9.0 – 11.0 percent in fiscal years 2021 through 2027. Fiscal year 2020, I kept sales on track with quarterly data of approximately 4.5 percent. The increase in sales growth starting in year two of the forecasted period relates primarily to the significant increase in Architectural Services segment. Recent quarterly report mentioned "backlog" for this segment hit a record high of USD 502 million. Backlog is a non-GAAP number used to track and evaluate Apogee's revenue of their long lead-time projects. This aligns with the company's strategic transition towards offering specialized services to its clients. For the remaining years (2028 – 2039) in the forecasted period, I project sales to grow at an annual rate of 4.0 percent. The projection is conservative and accounts for the projected organic growth from operations. Should the company continue growing through merger and acquisition activity, this will likely increase sales growth projections.

With recent acquisitions, I estimate for Apogee's costs of sales to remain relatively high, projected for the next two fiscal years and slowly decrease to its average margin over the historical period analyzed. I expect contract negotiations to be renewed within two years which should reduce cost of sales considerably. I project cost of goods sold to be 73.5 percent in 2020 of the forecast period and to decrease by 1.0 percent in years 2021 (72.5 percent) and 2022 (71.5 percent), then holding at this level for years 2023 through 2027. The remaining years (2028 through 2039) of the model, I forecasted cost of goods sold at 70.5 percent. The primary reason for the decrease in costs relate to Apogee's plan to continuously improve its margins. Over the last two years Apogee's capital expenditures have been focused around implementing new manufacturing techniques designed to decrease the costs to manufacture goods in its Architectural Glass and Architectural Framing segments, such as lean manufacturing and just-in-time processes.

Over the past decade, Apogee has been positioning themselves to strategically focus on its niche in the industry by divesting its automobile glass company, Harmon Glass, and most recently investing substantially more capital in research and development to improve current products. Specifically, it is developing new technology that improves sound quality within glass atriums and retrofit solutions to be applied in historical building rehabilitation projects. This will reinvent how society views historic buildings, as one primary reason to demolish and rebuild is due to high energy costs caused by material inefficiencies and functional obsolescence. These strategic focus initiatives generates substantial growth opportunities within the industry such as, but not limited to, restoration services, green energy building, and project management and engineering services.

As depicted in the following sensitivity analysis for Apogee, the stock is significantly sensitive to fluctuations in sales growth projections and beta estimates. Since the beta is a key driver in calculating the cost of equity, decreases to the beta will yield a lower cost of equity and WACC. Ultimately, this Will increase the price per share, and vice versa if the beta increases.

Current USD 38.00

Sales Growth	Beta 1.00	1.25	1.50	1.75	2.00
5.0%	65.74	49.14	38.16	31.03	25.76
6.0%	72.02	52.88	40.04	32.01	26.15
7.0%	79.39	57.25	42.42	33.16	26.62
8.0%	N/A	62.36	45.35	34.51	27.18
9.0%	N/A	68.34	48.78	36.1	27.86
10.0%	N/A	N/A	52.81	37.97	28.68

Sensitivity Analysis:
Green: Undervalued
Orange: Hold
Grey: Overvalued
N/A: WACC < Sales Growth

VALUATION AND INVESTMENT DECISION

The current estimated stock price of USD 38.37 uses the corporate valuation model, which discounts expected free cash flows using the WACC as the discount rate. To calculate WACC (11.7 percent), I use the cost of equity (14.6 percent), previously discussed above, times the estimate proportion of equity to total capital deployed (75.0 percent), yielding 10.9 percent weighted cost of equity. Next, I add the weighted cost of debt (0.8 percent), which is calculated by taking the after-tax cost of debt (3.2 percent) times the estimate proportion of debt to total capital (25.0 percent). In comparison, according to the company's 2019 Form 10-K, managements WACC estimate used for impairment testing of assets and liabilities was 10.9 percent. In that regard, my estimate is more conservative based on the evidence gathered and previously mentioned.

The following schedule includes valuation metrics of multiple players within the commercial construction industry that compete or impose a direct threat to compete with Apogee.

Company Name	Ticker	Security Price	Industry	EV / Revenue	P/E (TTM)	EV / EBITDA	Price / Sales
Apogee Enterprises Inc	**APOG**	**38.00**	**Building Products**	**0.94**	**23.03**	**11.52**	0.71
BMC Stock Hldg. Inc	BMCH	28.05	Trading Co. & Distributors	0.63	15.94	9.10	0.52
Masonite Intl. Corp.	DOOR	63.06	Building Products	1.19	28.98	9.73	0.73
Griffon Corp.	GFF	21.59	Building Products	0.90	23.91	10.14	0.43
GMS Inc	GMS	39.60	Trading Companies & Distributors	0.73	22.89	7.97	0.36
Herc Holdings Inc	HRI	45.75	Trading Companies & Distributors	1.89	29.14	5.34	0.66
Gibraltar Industries Inc	ROCK	54.30	Building Products	1.54	27.42	12.88	1.69
Averages				**1.15**	**24.71**	**9.20**	**0.73**

Using the multiple averages from the schedule above, which do not include multiples for Apogee, I calculate the relative valuation for Apogee in the schedule below. As the schedule depicts, using multiples yields an relative valuation of approximately USD 39.21 per share, which is calculated by averaging the four multiples.

	Industry Ave. Metric	Relative Price/Share Apogee		Valuation	Investment Decision
EV to Revenue	1.15	USD	49.14	Undervalued	Buy
Price to Earnings (TTM)	24.71	USD	40.78	Undervalued	Hold
EV to EBITDA	9.20	USD	27.91	Overvalued	Sell
Price to Sales	0.73	USD	39.00	Undervalued	Hold
Average Value per Share	N/A	USD	39.21	Undervalued	Hold

In summary, I estimate the stock price for Apogee as of November 1, 2019 at USD 38.37 per share. This suggests the intrinsic or perceived value is slightly higher than the current market price of USD 38.00 per share. The difference between the price calculated using discounted cash flows at an estimated WACC and the market price is approximately 1.0 percent. Additionally, it is estimated that positive future free cash flow generation will boost stock price in the near future and estimate the 12-month projected target price at USD 43.47 per share. With that, I propose an opinion to hold the stock.

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Apogee Inc (NMS: Apogee) *In thousands of USD*	**ACTUAL**	**ACTUAL**	**ACTUAL**	**PROJECTED**	**PROJECTED**	**PROJECTED**	**PROJECTED**	**PROJECTED**
Income Statement	**03/04/2017**	**03/03/2018**	**03/02/2019**	**3/2/2020**	**3/2/2021**	**3/2/2022**	**3/2/2023**	**3/2/2024**
Sales	1,114,533	1,326,173	1,402,637	1,465,756	1,612,331	1,773,564	1,950,921	2,146,013
Costs of goods sold (COGS)	786,903	937,812	1,059,274	1,077,330	1,168,940	1,268,099	1,394,908	1,534,399
Sales, general and administrative expense (SGA)	169,267	211,110	226,281	236,464	253,942	279,336	302,393	332,632
Depreciation	35,607	54,843	49,798	58,630	64,493	73,780	84,280	92,708
Operating profit	**122,756**	**122,408**	**67,284**	**93,331**	**124,956**	**152,349**	**169,340**	**186,274**
Interest expense	971	5,508	8,449	9,522	11,497	12,889	12,821	17,403
Interest income	1,008	538	355	0	0	0	0	0
Nonoperating income (Expense)	543	566	(528)	0	0	0	0	0
Earnings before taxes (EBT)	123,336	118,004	58,662	83,809	113,458	139,460	156,519	168,871
Tax expense	37,175	32,639	12,968	17,600	23,826	29,287	32,869	35,463
Net income before extraordinary items	86,161	85,365	45,694	66,209	89,632	110,174	123,650	133,408
After-tax extraordinary income (Expense)	(371)	(5,877)	(3,141)	0	0	0	0	0
Net Income (NI)	**85,790**	**79,488**	**42,553**	**66,209**	**89,632**	**110,174**	**123,650**	**133,408**
Dividends-- preferred	0	0	0	0	0	0	0	0
Dividends-- common	14,667	16,393	17,864	20,544	23,625	27,169	31,244	35,931
Additions to RE	71,123	63,095	24,689	45,666	66,007	83,005	92,406	97,477

Apogee Inc (NMS: Apogee)								
In thousands of USD	**ACTUAL**	**ACTUAL**	**ACTUAL**	**PROJECTED**	**PROJECTED**	**PROJECTED**	**PROJECTED**	**PROJECTED**
Balance Sheet	**03/04/2017**	**03/03/2018**	**03/02/2019**	**3/2/2020**	**3/2/2021**	**3/2/2022**	**3/2/2023**	**3/2/2024**
Assets								
Cash	27,297	19,359	29,241	29,315	32,247	44,339	48,773	53,650
Inventory	68,287	80,908	78,344	82,082	90,291	99,320	117,055	128,761
Accounts receivable	185,740	211,852	192,767	205,206	241,850	274,902	302,393	332,632
Other short-term operating assets	15,589	23,736	71,546	73,288	80,617	70,943	78,037	64,380
Short-term investments	548	423	0	0	0	0	0	8,377
Total current assets	297,461	336,278	371,898	389,891	445,003	489,504	546,258	587,801
Net plant, property, & equipment (PPE)	246,748	304,063	315,823	366,439	403,083	461,127	526,749	579,423
Other long-term operating assets	227,383	371,995	377,306	366,439	403,083	425,655	468,221	515,043
Long-term investments	9,041	8,630	0	10,993	12,092	13,302	14,632	16,095
Total assets	**780,633**	**1,020,966**	**1,065,027**	**1,133,762**	**1,263,262**	**1,389,588**	**1,555,859**	**1,698,363**
Liabilities and Equity								
Accounts payable (AP)	63,182	68,416	72,219	84,281	92,709	101,980	112,178	123,396
Accruals	85,371	78,690	108,242	109,932	116,894	128,583	141,442	155,586
Other operating current liabilities	37,505	61,046	47,051	49,168	54,085	59,494	65,443	71,987
All short-term debt	0	0	0	41,406	43,529	25,259	25,612	0
Total current liabilities	186,058	208,152	227,512	284,787	307,217	315,316	344,675	350,969
Long-term debt	82,498	235,587	263,765	249,670	284,687	313,170	350,255	380,920
Deferred taxes	3,980	7,871	0	1,832	2,015	2,306	2,634	2,897
Preferred stock	0	0	0	0	0	0	0	0
Other long-term liabilities	37,520	58,001	80,574	58,630	64,493	70,943	78,037	85,841
Total liabilities	310,056	509,611	571,851	594,920	658,413	701,734	775,600	820,626
Par plus PIC Less treasury (and other adjustments)	291,629	269,312	226,444	226,444	226,444	226,444	226,444	226,444
Retained earnings (RE)	178,948	242,043	266,732	312,398	378,405	461,409	553,815	651,292
Total common equity	470,577	511,355	493,176	538,842	604,849	687,853	780,259	877,736
Total liabilities and equity	**780,633**	**1,020,966**	**1,065,027**	**1,133,762**	**1,263,262**	**1,389,588**	**1,555,859**	**1,698,363**

Apogee Inc (NMS: Apogee)

In thousands of USD	ACTUAL	ACTUAL	ACTUAL	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED
Statement of Cash Flows	**03/04/2017**	**03/03/2018**	**03/02/2019**	**3/2/2020**	**3/2/2021**	**3/2/2022**	**3/2/2023**	**3/2/2024**
Operating Activities								
Net income	85,790	79,488	42,553	66,209	89,632	110,174	123,650	133,408
Depreciation	35,607	54,843	49,798	58,630	64,493	73,780	84,280	92,708
Change in deferred tax	(3,613)	3,891	(7,871)	1,832	183	290	328	263
Change in inventory	(11,439)	(12,621)	2,564	(3,738)	(8,208)	(9,029)	(17,736)	(11,706)
Change in accounts receivable	(12,908)	(26,112)	19,085	(12,439)	(36,644)	(33,053)	(27,490)	(30,239)
Change in other short-term operating assets	(939)	(8,147)	(47,810)	(1,742)	(7,329)	9,674	(7,094)	13,656
Change in accounts payable	(1,580)	5,234	3,803	12,062	8,428	9,271	10,198	11,218
Change in accruals	13,724	(6,681)	29,552	1,690	6,962	11,689	12,858	14,144
Change in other current liabilities	(2,960)	23,541	(13,995)	2,117	4,917	5,409	5,949	6,544
Net cash from operating activities	**101,682**	**113,436**	**77,679**	**124,622**	**122,435**	**178,205**	**184,943**	**229,997**
Investing Activities								
Investment in PPE	(79,893)	(112,158)	(61,558)	(109,246)	(101,137)	(131,824)	(149,902)	(145,383)
Investment in other long-term oper. ass.	(121,717)	(144,612)	(5,311)	10,867	(36,644)	(22,573)	(42,566)	(46,822)
Net cash from investing activities	**(201,610)**	**(256,770)**	**(66,869)**	**(98,379)**	**(137,781)**	**(154,397)**	**(192,467)**	**(192,205)**
Financing Activities								
Change in short-term investments	29,625	125	423	0	0	0	0	(8,377)
Change in long-term investments	3,478	411	8,630	(10,993)	(1,099)	(1,209)	(1,330)	(1,463)
Change in short-term debt	0	0	0	41,406	2,122	(18,270)	353	(25,612)
Change in long-term debt	47,292	153,089	28,178	(14,095)	35,017	28,483	37,085	30,665
Preferred dividends	0	0	0	0	0	0	0	0
Change in preferred stock	0	0	0	0	0	0	0	0
Change in other long-term liabilities	7,768	20,481	22,573	(21,944)	5,863	6,449	7,094	7,804
Change in common stock (Par + PIC)	(6,741)	(22,317)	(42,868)	0	0	0	0	0
Common dividends	(14,667)	(16,393)	(17,864)	(20,544)	(23,625)	(27,169)	(31,244)	(35,931)
Net cash from financing activities	**66,755**	**135,396**	**(928)**	**(26,169)**	**18,278**	**(11,716)**	**11,958**	**(32,915)**
Net cash flow	(33,173)	(7,938)	9,882	74	2,932	12,092	4,434	4,877
Starting cash	60,470	27,297	19,359	29,241	29,315	32,247	44,339	48,773
Ending cash	**27,297**	**19,359**	**29,241**	**29,315**	**32,247**	**44,339**	**48,773**	**53,650**

Ratios	03/02/2019	03/03/2018	03/04/2017	02/27/2016	02/28/2015
Productivity Ratios					
Growth in sales	5.8%	19.0%	13.6%	5.1%	21.1%
Receivables turnover	7.28	6.26	6.00	5.68	5.44
Inventory turnover	17.90	16.39	16.32	17.26	16.32
Operating working capital turnover	9.71	10.38	10.05	7.67	6.25
Net fixed asset turnover	2.02	1.96	2.35	3.18	3.09
Total asset turnover	1.32	1.30	1.43	1.50	1.53
Invested capital turnover	1.67	1.65	1.91	2.25	2.07
Liquidity Ratios					
Current ratio	1.63	1.62	1.60	1.89	2.01
Quick ratio	1.29	1.23	1.23	1.57	1.62
Cash ratio	0.13	0.10	0.15	0.51	0.35
Short-term investments over invested capital	0.00	0.00	0.00	0.07	0.00
Operating Cycle	71	81	83	85	89
Cash Cycle	52	62	63	61	67
Financial Risk (Leverage) Ratios					
Total debt-to-equity ratio	1.16	1.00	0.66	0.61	0.60
Total debt-to-equity ratio (excluding deferred taxes)	1.16	0.98	0.65	0.60	0.56
Total financial debt-to-equity ratio	0.53	0.46	0.18	0.09	0.05
Interest coverage ratio (accounting-based)	7.96	22.22	126.42	164.24	68.81
Interest coverage ratio (cash-based)	13.86	32.18	163.09	216.93	100.66
Total debt-to-assets ratio	0.54	0.50	0.40	0.38	0.37
Total financial debt over total assets	0.25	0.23	0.11	0.05	0.03
Long-term financial debt over invested capital	0.31	0.29	0.14	0.08	0.05
Profitability/Valuation Ratios					
Gross profit margin	24.5%	29.3%	29.4%	28.0%	25.5%
EBITDA margin	8.3%	13.4%	14.2%	13.1%	10.0%
Operating profit margin	4.8%	9.2%	11.0%	9.9%	6.8%
NOPAT margin	3.2%	7.0%	7.4%	6.0%	5.8%
Earnings before taxes margin	4.2%	8.9%	11.1%	9.9%	7.0%
Net margin	3.0%	6.0%	7.7%	6.7%	5.4%
Return on Assets	6.32%	11.99%	15.73%	14.86%	10.41%
Net investment rate	81.54%	252.73%	182.13%	-26.50%	73.42%
Dividend payout ratio	41.98%	20.62%	17.10%	20.18%	23.90%
ROIC	5.54%	15.80%	18.84%	13.11%	13.12%