WESTPEAK RESEARCH ASSOCIATION

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Advanced Drainage Systems, Inc. (NYSE:WMS)

Consumer Goods – Rubber & Plastics

Dripping with Potential

March 2nd, 2019

Advanced Drainage Solutions, Inc. (ADS) is the largest manufacturer of thermoplastic corrugated pipe in the world, providing its services to all 50 U.S. states and approximately 80 countries worldwide. The only centralized producer and distributor of complete water management solutions in the United States, ADS is renowned for its innovation, product breadth and quality, and sustainability initiatives.

Sustained Success in a Segmented Industry

Despite operating in a highly fragmented industry, ADS has continued to outpace its competitors through its complete water management solutions and large-scale manufacturing and distribution network. The uniqueness of ADS's ability to capture construction and waste water management end markets nationwide is unappreciated in the share price of ADS, and we expect it to increase substantially as the firm's potential is realized.

Plastic Piping is Preferred

The success of ADS's continued growth is contingent on the firm's sustained conversion of incumbent water management projects to its own plastic offerings, as well as the regulatory approval to implement ADS products in new regions. As well, increased investment in storm water management infrastructure ahead of climate-change-spurred weather effects provides considerable market share that ADS is in a position to capture.

Valuation

Through our DCF and comparable company analysis, weighted at 50/50 respectively, we arrived at a fair share price estimate of $28.6 for ADS, representing an 11% upside. As a result, we are initiating a buy rating on ADS.

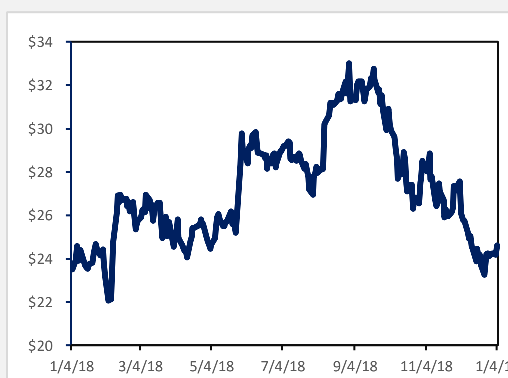
Equity Research	US
Price Target	**USD $28.6**
Rating	Buy
Share Price (Mar. 2nd Close)	USD $25.8
Total Return	11.0%

Key Statistics	
52 Week H/L	$33.5/$23.0
Market Capitalization	$1.49B
Average Daily Trading Volume	281K
Net Debt	$313.8M
Enterprise Value	$2.08B
Net Debt/EBITDA	1.50x
Diluted Shares Outstanding	57.7M
Free Float	66.1%
Dividend Yield	1.22%

WestPeak's Forecast

	2019E	2020E	2021E
Revenue	$1.39B	$1.51B	$1.60B
EBITDA	$213M	$211M	$224M
Net Income	$69.3	$56.5	$72.9
EPS	$1.21	$0.98	$1.27
P/E	20.4x	25.1x	19.4x
EV/EBITDA	6.1x	5.8x	5.0x

1-Year Price Performance



Business Overview/Fundamentals

ADS operates in the waste water management and drainage systems industry, where their products are used to manage storm water and runoff outflows in the non-residential, residential, agricultural, and construction end markets. Through their extensive distribution and manufacturing network, ADS can service clients across the United States and abroad, building relationships with and selling to distributors, retailers, buying groups and co-operative buying groups.

Product Offerings

The product offerings of ADS are diverse and possess a variety of applications throughout the water management supply chain: capture, conveyance, storage, and treatment. An example product from each of these categories can be found below.

Capture – DURASLOT® Surface Drain: This product serves to capture excess water that has accumulated over paved or cleared areas. Serving as a relatively unobtrusive alternative to traditional steel or iron solutions, the combination of dual wall (smooth interior surface and corrugated exterior) piping and aluminium grating provides sustained performance, lower cost, easier installation, and high corrosion resistance.

Source: ADS

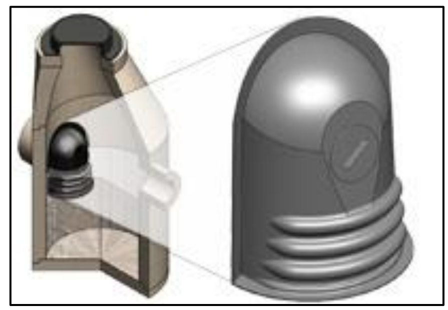
Conveyance - N-12® Pipe: This product is ADS's pioneering dual wall HDPE product offering. Introduced in 1987, N-12® pipe quickly surpassed its traditional material counterparts and became a standard product in the agricultural, mining, turf and recreation, and residential drainage markets. This product has higher abrasion resistance, corrosion resistance, hydraulic efficiency, and service life than concrete and corrugated metal offerings, and is far lighter and more portable. Considering these qualities in combination with the fact that this product has the lowest installed cost out of all presently available drainage pipe solutions , it is clear why the N-12® pipe is preferred in the water management industry.

Source: ADS

Storage - StormTech® Chamber: This subsurface water management product has both water detention and retention applications and serves to either protect existing water resources for later use or manage storm water runoff. StormTech® Chambers meet the most stringent of industry regulations, ensuring continued structural and operational integrity over their useful lives. Thousands of these products are currently in use internationally, a testament to their superior suitability for use in commercial or municipal applications.

Source: Environmental Science & Engineering

Treatment - Nyloplast® EnviroHood™: Affixed to an existing manhole or catch basin, this product serves to prevent the unwanted access of surface oils or debris into adjacent piping segments. This product is lightweight by virtue of its high-density polyethylene (HDPE) composition, low in cost, easy to clean and maintain, and highly corrosion resistant, leading to a long service life once installed.



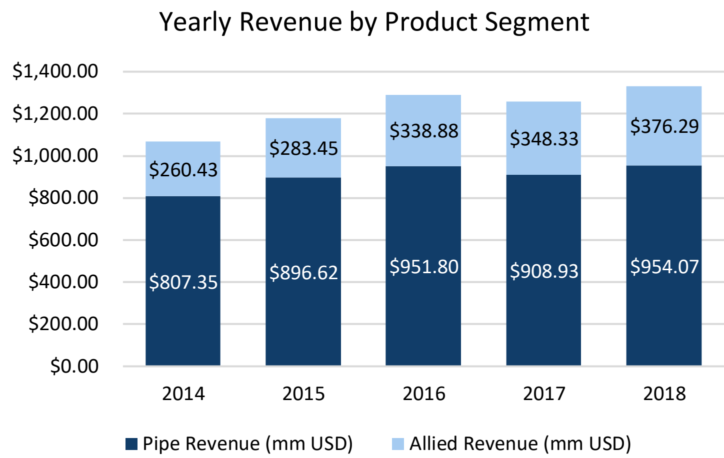
Source: Nyoplast

Product Innovation

While patent protection of ADS's product offerings is crucial to the firm's operation, the firm does not rely upon any single patented product to generate revenue. ADS continues to diversify and update its product portfolio through R&D initiatives and acquisitions, ensuring that it can remain differentiated in a highly saturated market. The most recent R&D incentivized acquisition was in August of 2017, when ADS acquired DURASLOT Inc. at a purchase price of $2.3M, adding the firm's linear surface drains to ADS's Allied product portfolio.

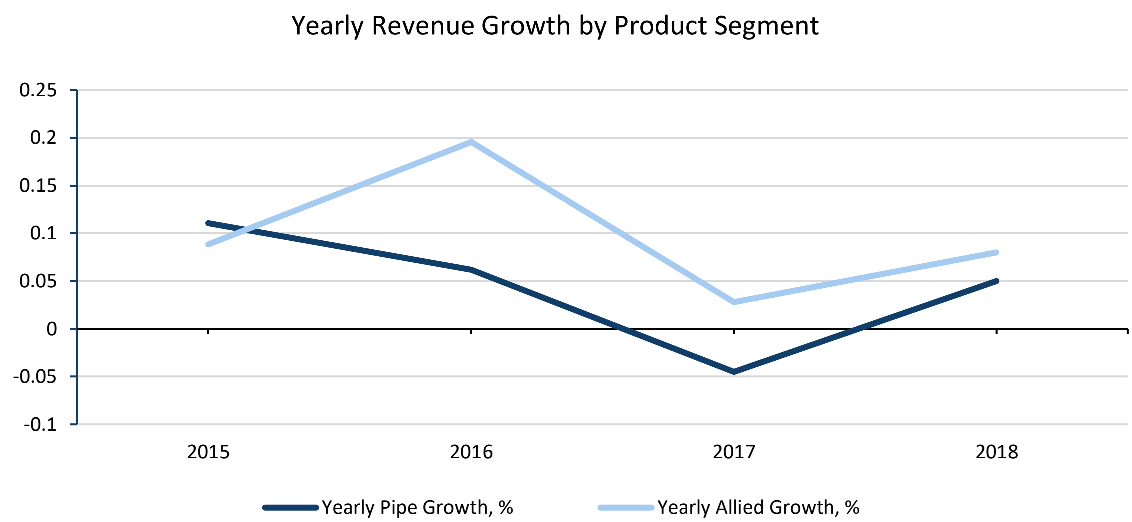
Market Segmentation

Pipe and Allied Products



Source: SEC Filings

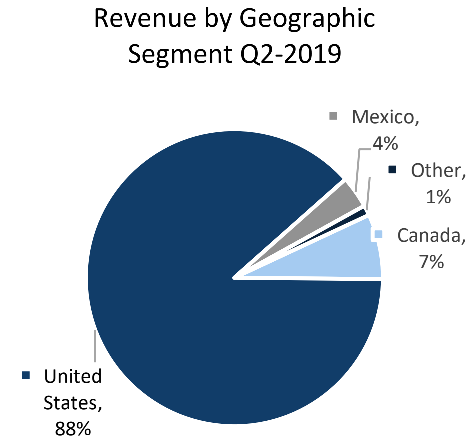
ADS classifies its product offerings into two distinct segments: Pipe and Allied products. The Pipe segment contains all of ADS's HDPE and PP piping products, including the N-12® pipe described above. This segment provides the majority of ADS's revenue, 72.2% as of writing, with a slight reduction from previous numbers on account of the success of ADS's second, Allied product segment. This segment provides the remaining 27.8% of ADS's revenue as of writing, and contains water management products that are used primarily in conjunction with ADS's piping products, including storm and septic chambers, fittings, structures, and catch basins. Efforts made to shift ADS's strategy to favour this segment more heavily (see company strategy) have been historically successful, with yearly growth above that of Pipe as of writing.



Source: SEC Filings

Allied products have grown at 7.64% CAGR since FY-2014, compared to 3.40% for the Pipe segment. Revenues were abnormally sluggish in FY-2017, with yearly growth for Pipe and Allied segments growing at -4.5% and 2.8% respectively. These effects resulted from abnormal weather conditions in the middle and eastern U.S. during the construction season, as well as the landfall of Hurricane Irma. The former decreased construction starts and thus demand for ADS products, and the former caused supply chain disruptions in the southeastern U.S., delaying production and raising input prices.

Geographic Analysis



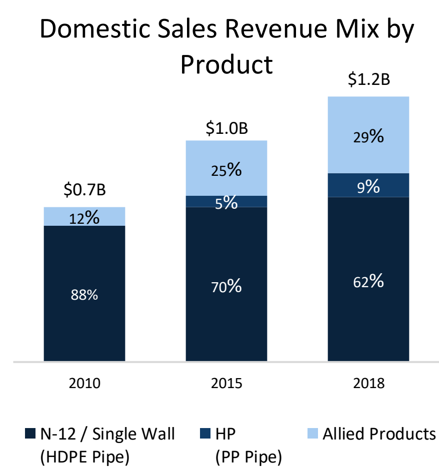
Source: SEC Filings

In combination with Allied and Pipe segmentation, ADS also segments its revenue geographically through its U.S. (domestic) and international segments. Domestic sales form the majority of ADS's revenue base at 88.3% as of FY2018. International sales comprise the remaining 11.7% of ADS's revenue base, the majority of which stem from operations in Canada and Mexico. ADS operates in the international marketplace through a host of subsidiaries, joint ventures, and company owned operations. Canadian operations are carried out by company owned facilities, through which ADS can market both its Pipe and Allied products. ADS's South American operations market primarily Allied products and operate through a series of joint ventures, granting the firm unique access to new local and regional markets. ADS-Mexicana, 51% of which ADS owns through outstanding stock, primarily serves the Mexican and Central American markets. Tigre-ADS, in which ADS has a 50% stake, primarily serves the South American market. Sales to Europe, the Middle East, and elsewhere are carried out by miscellaneous ADS subsidiaries.

As of recent ADS's international segment has been far more volatile than the firm's domestic segment. Quarterly international revenues have varied consistently, with 16.7% and 12.4% year-over-year growth in Q1-2019 and Q2-2019 respectively, followed by a decline of 11.4% in Q3-2019. Strong performance in Q1-2019 and Q2-2019 was due to increased product penetration in Canada, as well as the maturing of ADS's Mexican operations. Dismal results in Q3-2019 can be attributed to lower than expected sales volume in Mexico, as well as weather-spurred volume declines in the Canadian agricultural end market. On a yearly basis, the firm's international top line growth moved from -12.4% in FY-2017 to 0.6% in FY-2018, further evidencing this segment's volatility. As ADS's international operations mature we expect this variability to lessen, as has been the case in the firm's previous interstate expansion initiatives.

Company Strategy

Providing Complete Solutions



Source: Investor Presentation

A core tenet of ADS's company strategy is offering a *complete* water management solution to its customers, i.e. products that provide water conveyance with the added functionality of water capture, storage, and treatment. In the residential end market specifically, which provides 21% of ADS's total revenue, 49% of sales are directly related to new construction development carried out by contractors and engineering firms. The ability to provide products in all stages of the water management process lends ADS a strong economic moat over its smaller, regionalized competitors, as buyers are incentivized to avoid switching costs by continuing to purchase from ADS. The fact that ADS holds preferred vendor status with co-ops and buying groups in this market – from whom the majority of domestic construction, plumbing, and associated contractors and firms source their materials – is a direct consequence of this strategy and an advantage unavailable to the firm's smaller competitors.

Conversion of Existing Infrastructure

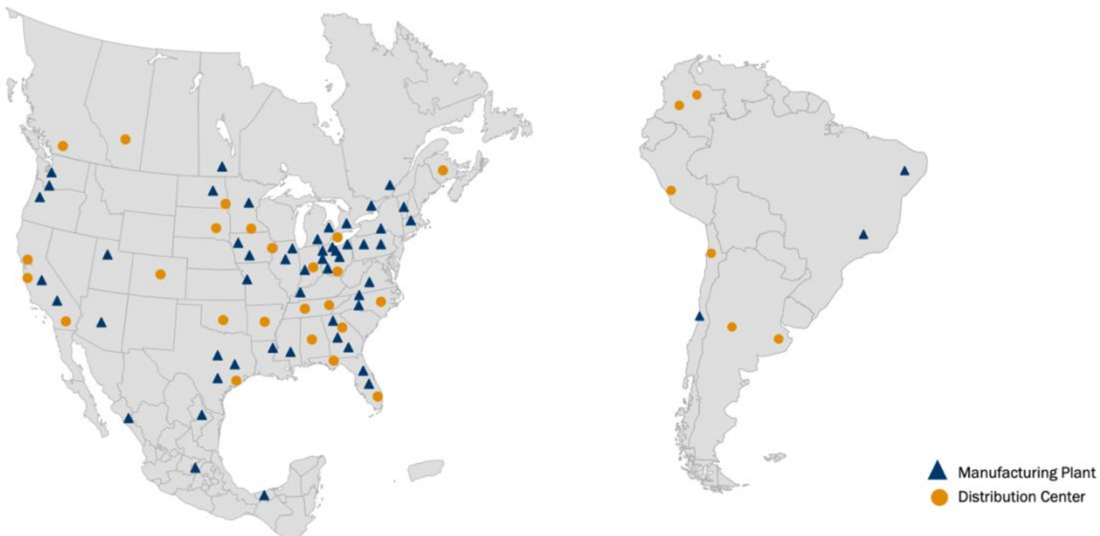
Product offerings in the water management industry have traditionally been tied to the starting of construction projects, where water management solutions are often a necessary inclusion. ADS follows this revenue model to an extent, but a sizeable component of their strategy is the conversion of existing water management infrastructure to plastic piping. The notable advantages of plastic piping over traditional materials (Industry Analysis), i.e. their 20% lower installed cost and 3x faster installation speed in shallow and low load bearing conditions, presents a significant value proposition to ADS's customers in the construction and storm water management end markets, where these conditions are widely met. These attributes, combined with the long product life of plastic piping, make ADS's products an attractive substitute for traditional piping in cases where existing infrastructure is in need of replacement, as well as in newly commissioned projects. Employing both a conversion and traditional sales strategy has allowed ADS to consistently outperform their competitors in relevant end markets.

Lobbying for Approvals

Educating regulatory entities to drive approvals for ADS's HDPE and PP products at the state and local levels is a key growth strategy for ADS. ADS employs a team of over 50 field engineers and another 40 engineers and technicians to achieve this end, as well as working with civil and other private consulting firms to achieve the implementation of ADS's products on non-residential construction and road-building projects. A primary component of this lobbying activity is the education of government agencies as to the viability of plastic piping over its traditional counterparts. State Departments of Transportation are most often approached by ADS in this way, as these agencies supervise the intrastate guidelines surrounding piping material usage. Markets sequestered by red tape present a large growth opportunity for ADS once approvals in these regions have been granted. Working with these groups allows for the implementation of Allied products on top of required piping solutions, and makes ADS a key player in industry regulatory changes and compliance. An example of the success of ADS's lobbying efforts comes in Florida, where in 2012 and 2014 the state's DOT approved a 100-year service life approval for N-12 and HP HDPE piping respectively. Sales have grown at a 20% CAGR in the region since the former approval date. ADS is currently working on employing this same strategy in Texas and California, which represent $330M and $260M market opportunities respectively, according to management estimates. In Texas, projects that use ADS's products have been approved but not specified, and in California they have been specified, but not yet implemented.

Nationwide Sales and Distribution

ADS's Manufacturing and Distribution Network



Source: Investor Presentation

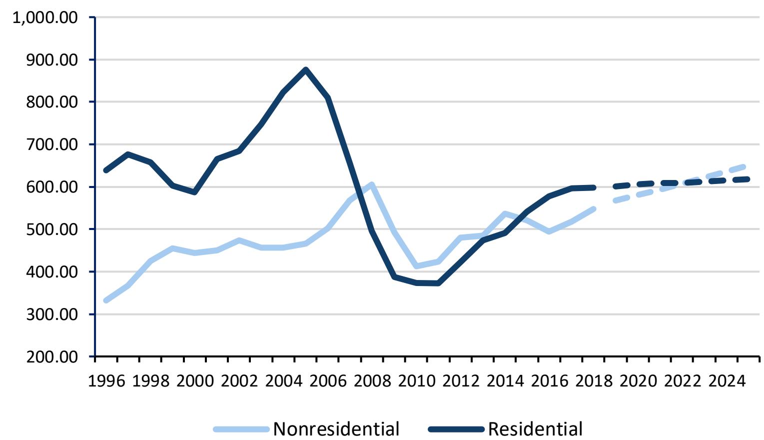
A unique aspect of ADS's business strategy is their extensive manufacturing and distribution network. ADS owns and operates approximately 55 manufacturing plants and 30 distribution facilities internationally, while as of December 2017 the firm's largest competitor in the HDPE piping space owned just 11 distribution centers. This divide shows the national dominance of ADS in the HDPE and PP piping space. With this dominance comes competitive advantages, such as manufacturing economies of scale, brand awareness, and an entrenched distribution network, all of which their competitors lack. This large network also gives ADS a broader view of industry trends between regions, allowing for earlier, better informed decision making compared to their competitors. With the benefits of such an expansive manufacturing and distribution network come disadvantages, however, which ADS has had to address in the past. Redundancy of existing manufacturing centers, for example, had limiting effects on ADS's bottom line growth up until fiscal 2018, when the firm began its "2018 Restructuring Plan", under which four underutilized facilities have been closed. Three of these plants were closed during Q1 and Q2-2018, influencing ADS's strong annual bottom line growth over that period compared to previous years.

ADS has vertically integrated the manufacturing, sales, and distribution of their product, largely insulating them from external players' ability to affect their plant-to-market supply chain. The extensive sales network of ADS, comprised of over 300 field sales professionals, combined with its strong industry presence allows it to negotiate from a preferential position with its clients and distributors nationwide. This customer base is well diversified, with over 3000 distribution partners that aid ADS in reaching its active consumer base of over 20000. Only two firms, Ferguson Enterprises and Core and Main, represented more than 10% of ADS's customer base, at 13.4% and 12.0% as of March 2018. This diversification shields ADS from volatility that follows a limited customer base, a complication with which many of the firm's regional competitors struggle.

Industry Analysis

ADS operates in the water management solutions industry. This industry addresses the ongoing need for water management solutions embedded in infrastructure and underground construction projects by providing water transportation products, such as piping, and often capture and storage solutions. This industry in the United States presents an approximate market opportunity of $20.6 billion, with steeper estimates being placed on the industry internationally. A burgeoning subsector of this industry, stormwater management, presented a global opportunity of $11.25 billion in 2017 and is projected to grow at a CAGR of 8.8% over the next 5 years, reaching an estimated $18.4 billion by 2023 according to a study by TechSci Research. Although not technically within the water management solutions industry, product sales to the domestic residential and non-residential construction industries support the majority of ADS's domestic revenue, at 21% and 59% respectively as of writing. Industry analysis indicates hesitancy with respect to the residential construction growth rate, resting at 0.5% due to predicted interest rate hikes and the U.S. economic slowdown. The outlook for non-residential construction is brighter at 2.3% due to optimism toward U.S. corporate reinvestment.

Actual and Predicted Yearly Value of Private Construction in the United States (Billions USD)



Source: IBISWorld

Plastic Piping vs. Traditional Materials

To understand the advantages of ADS's plastic (HDPE and polypropylene (PP)) piping products in the water management solutions industry, it is crucial to know the similarities and differences between them and traditional piping offerings, considered here to be reinforced concrete and corrugated steel. We have focused on comparisons between reinforced concrete and plastic piping in the construction and waste water management end markets, as conversion of concrete in these areas presents the largest revenue opportunity for ADS.

The on-site installation speed of plastic piping is 3x quicker than that of reinforced concrete, largely due to the former's reduced weight. Depending on the size of pipe and site soil characteristics, however, the time required for site inspection and planning prior to the installation of plastic piping can diminish this time advantage, as plastic piping has less natural structural integrity compared to reinforced concrete. In shallower projects where less load bearing is required, the time benefits of plastic piping are most significant, but installation time increases as projects become deeper and require increased load bearing.

The manufacturing cost of plastic piping is far lower than that of concrete piping, due to lower input and production cost. The same is generally true for net installed cost, with plastic piping being 20% cheaper on average. This installed cost can vary depending on project scope and location for the same reasons that cause variation in installation time. Generally, as more effort is required in land surveying and stress testing, installed cost increases. In extreme cases, the installed cost of plastic piping can become equal to or greater than that of reinforced concrete.

Overall, plastic piping has increased durability and longevity over reinforced concrete, in that it is highly chemical and abrasion resistant. These numbers are the subject of ongoing testing, as the widescale use of plastic piping is relatively new compared to reinforced concrete.

It is evident that reinforced concrete and plastic piping have different advantages that vary greatly from project to project. Plastic piping is most useful in low load bearing, shallower applications where testing and surveying costs are kept to a minimum and installment speeds are fastest. Concrete piping is widely used in infrastructural applications, where structural loads are significantly higher.

Specific Product Applications

Unlike urban plumbing solutions, which follow strict regulatory frameworks due to their broad civilian impact, the water management solutions industry is more open to specialized and diverse product offerings. Products serving the ultimate purpose of waste water management and drainage but composed of different materials are common, including those mentioned above. This wide array of permitted products gives rise to consumer preference for specific solutions based on cost, unique additions of value, and product viability for a given project. ADS's plastic piping products have advantages that are tailored best to applications in the construction and storm water management end markets, as projects in these spaces are typically localized, near to the surface, and do not require substantial load bearing. These advantages are innate to plastic piping, and cannot be replicated with competing products, providing ADS with somewhat of a monopoly over these industries compared to traditional piping manufacturers. This fact describes how durable, sustainable, low-cost HDPE and PP products have gained considerable market share in the $6 billion storm sewer market, rising from <1% to 32% market share since 1990. As consumer and regulatory attitudes toward plastic piping improve through continued implementation of these products, this revenue opportunity will continue to realize.

Industry Barriers to Large-Scale Growth

Due to the regionalization of buying groups in the U.S., varying piping legislation between states and regions, and the high capital requirements of installing a national manufacturing and distribution network, the domestic water management solutions industry is highly fragmented and regionalized. As a result, the recognition and nationwide presence that an established firm such as ADS possesses is invaluable. ADS's entrenchment provides economies of scale in distribution and manufacturing, allowing it to operate at a 27% gross margin compared to 20% in the case of regional competitors. The ability to negotiate in bulk and form relationships with nationwide retailers like The Home Depot, Lowe's, Ace Hardware and Do it Best provides ADS with more stable demand than its regional competitors. Due to the vast number of local and regional players in the industry, however, ADS's growth potential is limited to an extent, but we are optimistic in the ability of the firm to gain considerable market share above its current 5.4% in the future.

Catalysts

Prospective M&A Activity

ADS has expressed intent to pursue acquisition activity in the near future. A key facet of ADS's long term growth strategy is innovation and R&D regarding their Pipe and Allied product offerings, which a potential acquisition would help to accelerate. The firm has had success pursuing acquisitions in the past, most recently with their 2017 acquisition of DURASLOT, Inc. Such acquisitions serve primarily to add new offerings to ADS's product portfolio, which then drive organic top line growth and increase differentiation and synergies between the Piping and Allied segments. Larger scale acquisitions, such as the $45M USD acquisition of Ideal Pipe Ltd. in February of 2015, have been curated to expand ADS's manufacturing and distribution networks, also driving top line growth. The fact that ADS has been aggressively paying down their long-term debt obligations since Q1-2018, decreasing 47% from $377.7M to $200.8M as of writing, instills confidence in their ability to pursue this growth strategy without significantly impacting their operational or financial position. ADS has alluded to pursuing acquisitions in their Allied products space, whose quarterly year-over-year revenues have grown at or above 3.3% since Q2-2018. Specific interest has been displayed at the stormwater management solutions space in particular, whose strong growth and large revenue opportunity combined with ADS's aforementioned Allied product growth would bolster the success of any potential acquisition therein.

Infrastructure Refurbishment Motivated by Weather Events

The increased frequency of potent weather events worldwide is increasingly becoming a crisis. Globally, the number of floods and other hydrological events have quadrupled since 1980 and doubled since 2004, and meteorological events generally have doubled since 1980, according to a 2018 study from the European Academies' Science Advisory Council. Associated with this heightened weather activity comes a necessary preventative and remedial financial burden. The estimated capital investment needs for publicly owned water management solutions in the United States have been estimated at $271.0B over the next 20 years, according to a 2012 survey conducted by the EPA. ADS both directly and indirectly targets sectors most needing this investment, and thus can expect to capitalize on these public infrastructure needs into the future. Erratic and frequent weather events are also bringing the necessity of proper private water management solutions into the public discourse. We can reasonably expect private industry to follow a similar trend due to consumer interest in installing personal water management solutions, as well as industry stimulation by virtue of government backed subsidies.

Management Team

Donald Scott Barbour – President and CEO

Following a 25-year history in the industrials sector, Donald Barbour was appointed President and CEO of ADS on September 1st, 2017. Prior to joining ADS Mr. Barbour was most recently President and CEO of Emerson Electric's $4.5B Network Power sector and has previously held positions in such firms as the Veritiv Group Corporation and Colt Industries. Mr. Barbour's base compensation is in line with that of companies in ADS's peer group, with 80% of annual incentive compensation defined by specific financial based measures, namely net sales and adjusted EBITDA.

Shareholder Base, Liquidity, Market Depth

Shareholder Composition

The shareholder base of ADS is constituted largely of institutional investors who own 74.6% of shares outstanding. The largest private ownership of ADS stock belongs to ADS's former President and Chief Executive Officer Joseph A. Chlapaty at 13.15% of shares outstanding. ADS's high level of institutional ownership reassures us that the stock is of institutional quality. A specific breakdown of the largest holders of ADS's 57.1M shares outstanding are outlined below.

Top 10 WMS Shareholders

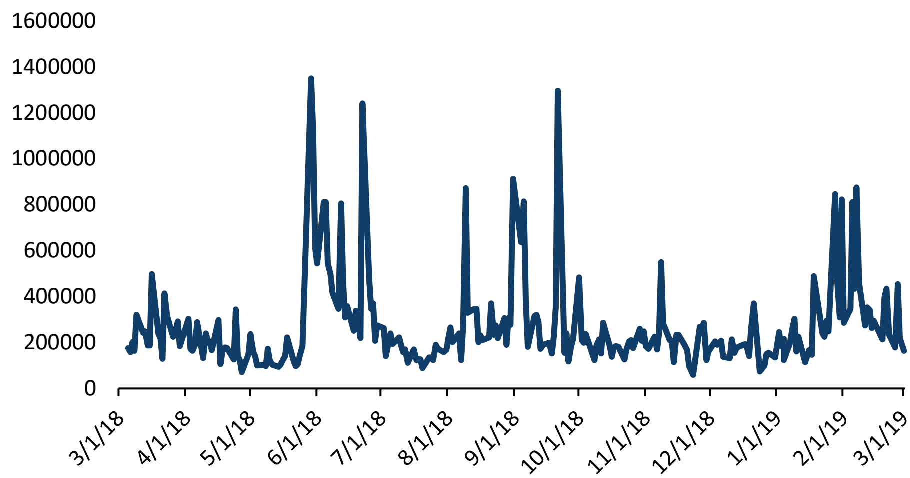
Shareholder	Stock Held	Shares Outstanding	Filing Date
Joseph A. Chlapaty	7,530,081	13.15%	08/28/18
Berkshire Partners LLC	6,757,355	11.80%	12/31/18
Wellington Management Company LLP	5,080,591	8.87%	12/31/18
StockBridge Partners	3,756,420	6.56%	12/31/18
The Vanguard Group, Inc.	3,629,159	6.34%	01/31/19
BNP Paribas S.A.	3,185,958	5.56%	12/31/18
Pictet Funds SA	3,131,306	5.47%	12/31/18
PAR Capital Management	2,737,000	4.78%	12/31/18
BlackRock Inc.	2,689,041	4.69%	12/31/18
Impax Asset Management Group PLC	2,298,159	4.01%	12/31/18
Top 10 Shareholders	**40,795,070**	**71.2%**	

Source: Bloomberg

Liquidity

As of March 2nd, 2018, ADS has an average daily trading volume of 281.2K shares. We believe that this number is healthy relative to other firms that serve the same industry as ADS.

Share Volume



Source: Yahoo Finance

Capital Structure

ADS does have significant debt, currently holding $313.8M with a net debt/EBITDA ratio of 1.50x. However, the firm has been consistent in meeting their current maturities, paying down approximately 26.5M in long term debt maturity and 22M in capital lease maturity quarterly. ADS has $19.8M in cash, and a further $75M in debt in the form of senior notes. As well as the firm's debt ADS has a revolving credit facility of $550M with PNC, of which $426.9M is unused. ADS pays a 2.61% benchmark interest rate on its revolving credit and a 3.53% interest rate on its senior notes payable.

Valuation

Discounted Cash Flow Analysis Assumptions

Pipe Revenue: We have segmented projected revenue growth into the Pipe and Allied products segments, and then further into the Domestic and International geographic regions. In the short term, we anticipate Domestic Pipe revenues to increase slightly in the first half of FY-2020, recapturing revenue lost due to delayed construction starts in the first half of FY-2019 which resulted from inclement weather. We anticipate this revenue to grow at 5% CAGR thereafter, driven by increased private and public infrastructure reinvestment and the continued success of ADS's conversion strategy, primarily in the residential and nonresidential construction end markets and especially in Texas and Florida. Internationally, we anticipate that Pipe sales will grow at 8% CAGR in the near and medium term as these operations mature and the advantages of plastic products in local transportation and installation, especially in Mexico and South America, are realized.

Allied Revenue: Domestically, we expect Allied products to grow at 9.5% CAGR over FY-2019 and FY-2020, supplemented by anticipated gains in the Pipe segment. We anticipate growth to be at 8% thereafter, as ADS continues to capture more of the domestic storm water management market, in which Allied products enjoy wide scale application. Internationally, we expect Allied revenue to grow at 10% CAGR, gaining similar momentum as the Pipe segment.

COGS & SG&A: We anticipate that COGS will increment slightly in Q3-2019 due to lingering effects from Q2-2019's supply chain difficulties, but it and SG&A should return to past values of 72% and 14% respectively thereafter, as management has not provided any information to the contrary. We have priced the volatility of input prices into our annual COGS estimates, accounting for ADS's commodity hedging measures and resiliency due to its wide use of non-virgin plastics.

Capex: We have taken the lower bound of ADS management's predicted capital expenditures for FY-2019 ($50M-$60M). We believe this estimate better reflects predicted YTD changes, on account of ongoing plant closures as part of the "2018 Restructuring Plan", offset by reallocation of capital to the refurbishment of current facilities in Texas and Florida ahead of continued expansion into these areas. We anticipate that capex will level out thereafter to be in line with historical levels.

WACC: After computation, we found our weighted average cost of capital (WACC) to be 8.6%. This calculation incorporated a risk-free rate of 2.46% based on the 5-year US treasury rate, an equity beta of 1.00, and an expected market return of 10.0% based on the normalized S&P 500 return. Further included is ADS's effective tax rate of 21%, as well as their pre-tax cost of debt of 2.1%.

Terminal Growth Rate: In our analysis we employed a terminal growth rate of 2%, in line with predicted perpetual GDP growth.

Terminal Value: In our model we employed a terminal EV/EBITDA multiple of 9.0x. This value is higher that our selected peer group's median of 7.5x, and reflects our expectation that ADS's unique strategy of infrastructure conversion will allow them to outpace competitors as well as the water management industry as a whole, as they have done consistently in the past.

Comparable Companies Analysis Group

Because the water management solutions industry is comprised of many small, regional firms that are privately held, our comparable companies analysis group primarily contains firms whose products and services are used in the residential and non-residential construction industries. ADS's operations in these industries comprise the bulk of the firm's revenue, and companies operating within are exposed to similar market trends, opportunities, and risks and thus are worthy of comparison.

NCI Building Systems, Inc.: NCI designs, manufacturers, and marketers of metal products for use in the non-residential construction industry throughout North America.

Polypipe Group plc: Polypipe manufacturers piping and water management systems in Europe, serving both the UK and international market. The firm's operations span the residential commercial, civils and infrastructure, and public non-housing sectors.

Mueller Water Products, Inc.: Mueller Water manufactures and markets products and services to be used in the transmission, distribution, and measurement of water in the United States, Canada, and internationally. The company targets three primary segments: municipalities, residential, and non-residential.

Continental Building Products, Inc.: Continental Building Products manufactures gypsum wallboard and complementary finishing products for use in the new residential, repair and remodel, and commercial construction markets in the eastern United States and eastern Canada.

Watts Water Technologies, Inc.: Watts Water engineers, manufactures, and markets products and solutions that serve to manage the flow of fluids and energy into, through, and out of buildings in the residential and commercial sectors. The firm operates primarily in the Americas, as well as in Europe and in the APMEA region.

Masonite International Corporation: Masonite International designs, manufactures, and distributes interior and exterior doors and associated products for use in new construction and repair, renovation, and remodeling. The company primarily serves the residential and non-residential building construction markets in North America and abroad.

Recommendation

As a result of our qualitative analysis, discounted cash flow (DCF), and comparable companies analysis, we believe that ADS is undervalued as of writing and presents strong potential as an investment. Global acknowledgement of the looming impacts of climate change continues to manifest in private and governmental spending on water management solutions, providing an ongoing revenue opportunity for ADS. The competitive landscape in the water management solutions industry is highly fragmented, with ADS providing the sole centralized, nationwide business offerings in the HDPE and PP piping space. Combined with their strategy of infrastructure conversion and their continued Allied segment growth, we believe ADS can continue to outpace competitors, as well as the water management solutions industry for the foreseeable future. From an intrinsic perspective ADS continues to display sound financial planning and forethought, while allocating room for expansion through acquisitions and its international and Allied segments. Considering together the industry landscape, extrinsic catalysts, and ADS's financial and operational position, we have chosen to initiate a **buy** rating on Advanced Drainage Systems, Inc. with a target share price of $29, reflecting an 11% upside. This valuation stems from an equal 50/50 rating of our DCF and comparable company analysis.

Risks

Pipe Segment Becoming Limiting Factor

Pipe revenue comprises the bulk of ADS's revenue base, and any product that the firm chooses to sell is usually marketed as an accessory to their piping offerings. ADS's Allied products fit this description, and should pipe revenue continue to grow modestly or even slow in the future there is a risk that Allied revenue will be stunted as well. Seeing as Allied revenues are currently contributing a large component of ADS's revenue growth, a decline in this segment would impact the firm's performance and ability to expand into new markets going forward.

Climate Impact on End Markets

Despite posing a promising revenue catalyst, inclement weather and increased precipitation have an immediate industry impact by delaying construction starts, which we have seen routinely occur in the domestic market. Such delays have represented the most significant stalls in ADS's revenue growth in the past, as was the case in FY-2017 where YOY Pipe revenue decreased 4.5% due in large part to heavy rainfall in the middle and eastern U.S. during construction season. Additionally, inconsistent and severe weather in the American Midwest and Canadian prairies has stalled agricultural development in these areas, causing ADS's revenues from this end market to fall dramatically. In the past, ADS has been able to recapture a portion of this lost revenue in following quarters, but ongoing climate disruption to their end markets could have substantial impacts on their top line growth going forward.

Input Price Inconsistencies

Seeing as ADS is reliant on its network of suppliers to provide raw inputs for use in its products, weather effects impacting large geographic regions could interfere with ADS's supply chain, and thus their ability to produce products. Such a series of events occurred recently when sales grew by only 1.4% in Q2-2019, due largely to disruptions in the regional resin supply chain resulting from the landfall of Hurricane Irma, which consequently raised raw material prices. ADS does limit its exposure to these fluctuations by means of commodity price hedging and using a majority of non-virgin plastics as product inputs, but they should be cognizant of this risk nonetheless.

Interest Rates and Infrastructure Investment

The water management solutions industry rests heavily on construction investment in the private sector. Should interest rates fluctuate above current levels, the ensuing dissuasion of consumer spending would disincentivize capital investment in infrastructure, shrinking ADS's end market as a result.

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Appendix 1: Model Summary

	Mar-27	Mar-28	Mar-29	Mar-30	Mar-31	Mar-32	Mar-33	Mar-34	Mar-35	Mar-36
(Figures in mm USD)	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**	**FY2021**	**FY2022**	**FY2023**	**FY2024**
Income Statement										
Revenue	**1,180.1**	**1,290.7**	**1,257.3**	**1,330.4**	**1,385.7**	**1,487.3**	**1,580.1**	**1,679.1**	**1,784.6**	**1,897.2**
EBITDA	**104.5**	**166.2**	**157.2**	**178.3**	**210.3**	**209.5**	**221.2**	**235.1**	**249.8**	**265.6**
Net Income	**(3.7)**	**30.6**	**35.9**	**64.8**	**86.1**	**89.9**	**101.6**	**116.4**	**131.6**	**147.4**
Earnings Per Share	**$ (0.07)**	**$ 0.56**	**$ 0.59**	**$ 1.10**	**$ 1.50**	**$ 1.56**	**$ 1.76**	**$ 2.02**	**$ 2.28**	**$ 2.55**
Cash Flow Statement										
Capital Expenditures	**(32.1)**	**(44.9)**	**(51.3)**	**(41.7)**	**(46.2)**	**(42.8)**	**(40.9)**	**(37.9)**	**(35.2)**	**(32.7)**
Acquisitions	**(36.4)**	**(3.2)**	**(8.6)**	**(2.0)**	**-**	**-**	**-**	**-**	**-**	**-**
Divestitures	**0.5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Dividend Payment	**(7.9)**	**(16.2)**	**(16.8)**	**(18.5)**	**(25.7)**	**(20.8)**	**(23.1)**	**(25.4)**	**(27.7)**	**(30.0)**
Dividend Per Share	**$ 0.08**	**$ 0.20**	**$ 0.24**	**$ 0.28**	**$ 0.32**	**$ 0.36**	**$ 0.40**	**$ 0.44**	**$ 0.48**	**$ 0.52**
Dividend Payout to Earnings	**-212.9%**	**53.1%**	**46.8%**	**28.5%**	**29.9%**	**23.1%**	**22.7%**	**21.8%**	**21.0%**	**20.4%**
Dividend Payout to Core FCF	**6.4%**	**9.1%**	**10.3%**	**9.2%**	**11.5%**	**10.2%**	**11.0%**	**11.7%**	**12.3%**	**12.8%**
Dividend Yield	**0.4%**	**0.8%**	**1.0%**	**1.2%**	**1.2%**	**1.4%**	**1.6%**	**1.7%**	**1.9%**	**2.0%**
Balance Sheet										
Current Assets	444.4	439.6	440.6	458.5	532.5	592.7	711.5	843.7	988.0	1,145.4
Non-Current Assets	593.7	600.9	605.7	584.8	577.4	549.5	522.8	498.0	475.0	453.7
Assets	**1,038.1**	**1,040.4**	**1,046.3**	**1,043.2**	**1,109.9**	**1,142.2**	**1,234.3**	**1,341.7**	**1,463.1**	**1,599.1**
Current Liabilities	215.5	252.2	255.8	221.2	291.1	304.3	317.8	334.2	351.7	370.4
Non-Current Liabilities	537.5	474.0	440.1	388.2	322.0	272.0	272.0	272.0	272.0	272.0
Liabilities	**753.0**	**726.2**	**695.9**	**609.4**	**613.1**	**576.2**	**589.8**	**606.2**	**623.7**	**642.4**
Shareholders' Equity	**160.7**	**187.5**	**222.7**	**307.6**	**381.8**	**450.9**	**529.5**	**620.4**	**724.3**	**841.7**
Cash	**3.6**	**6.6**	**6.5**	**17.6**	**54.9**	**88.8**	**179.4**	**278.7**	**388.1**	**508.0**
Debt	**461.1**	**427.3**	**428.8**	**379.7**	**313.8**	**263.8**	**263.8**	**263.8**	**263.8**	**263.8**
Net Debt	**457.5**	**420.7**	**422.3**	**362.1**	**258.9**	**175.0**	**84.4**	**(14.9)**	**(124.2)**	**(244.2)**
Minority Interests	**16.4**	**15.0**	**14.9**	**16.7**	**12.9**	**12.9**	**12.9**	**12.9**	**12.9**	**12.9**
Debt/EBITDA	**4.4 x**	**2.5 x**	**2.7 x**	**2.0 x**	**1.2 x**	**0.8 x**	**0.4 x**	**n/a**	**n/a**	**n/a**
Operating Metrics										
Return on Equity (ROE)	**-4.4%**	**12.4%**	**13.9%**	**19.1%**	**20.9%**	**18.7%**	**18.2%**	**17.9%**	**17.4%**	**16.9%**
Return on Assets (ROA)	**-0.8%**	**2.4%**	**3.1%**	**5.9%**	**7.4%**	**7.6%**	**8.0%**	**8.4%**	**8.8%**	**9.0%**
Return on Invested Capital (ROIC)	**12.9%**	**2.8%**	**3.4%**	**10.6%**	**11.7%**	**13.5%**	**15.2%**	**17.2%**	**19.3%**	**21.4%**
Valuation Metrics										
Stock Price (High)	$ 30.00	$ 33.28	$ 28.49	$ 28.15	$ 25.78	$ 25.78	$ 25.78	$ 25.78	$ 25.78	$ 25.78
Stock Price (Low)	$ 14.74	$ 17.72	$ 18.60	$ 17.90	$ 25.78	$ 25.78	$ 25.78	$ 25.78	$ 25.78	$ 25.78
Stock Price (Average)	$ 22.37	$ 25.50	$ 23.55	$ 23.03	$ 25.78	$ 25.78	$ 25.78	$ 25.78	$ 25.78	$ 25.78
Diluted Shares Outstanding (Average)	51.3	55.1	55.6	56.3	57.5	57.7	57.7	57.7	57.7	57.7
Market Capitalization (Average)	1,148.6	1,403.8	1,309.7	1,297.1	1,482.9	1,487.1	1,487.1	1,487.1	1,487.1	1,487.1
Enterprise Value (Average)	1,622.5	1,839.6	1,746.9	1,675.9	1,754.7	1,675.0	1,584.4	1,485.1	1,375.8	1,255.8
P/E	**n/a**	**45.9 x**	**39.7 x**	**20.9 x**	**17.2 x**	**16.5 x**	**14.6 x**	**12.8 x**	**11.3 x**	**10.1 x**
EV/EBITDA	**15.5 x**	**11.1 x**	**11.1 x**	**9.4 x**	**8.3 x**	**8.0 x**	**7.2 x**	**6.3 x**	**5.5 x**	**4.7 x**
FCF Yield to Market Capitalization	**4.3%**	**7.1%**	**5.6%**	**7.9%**	**10.9%**	**8.4%**	**9.0%**	**9.7%**	**10.5%**	**11.4%**
FCF Yield to Enterprise Value	**3.0%**	**5.4%**	**4.2%**	**6.1%**	**9.2%**	**7.4%**	**8.4%**	**9.7%**	**11.4%**	**13.5%**
Free Cash Flow										
EBIT	39.0	95.1	84.8	103.3	138.8	138.8	153.6	172.3	191.6	211.6
Tax Expense	(6.3)	(23.5)	(24.6)	(11.4)	(29.1)	(29.2)	(32.3)	(36.2)	(40.2)	(44.4)
D&A	65.5	71.0	72.4	75.0	71.5	70.7	67.6	62.7	58.2	54.0
Capital Expenditures	(32.1)	(44.9)	(51.3)	(41.7)	(46.2)	(42.8)	(40.9)	(37.9)	(35.2)	(32.7)
Changes in NWC	(16.8)	1.3	(8.6)	(22.4)	26.3	(13.2)	(14.6)	(16.5)	(17.6)	(18.7)
Unlevered Free Cash Flow	**49.3**	**99.1**	**72.7**	**102.8**	**161.2**	**124.4**	**133.5**	**144.5**	**156.8**	**169.8**

Appendix 2: Discounted Cash Flow Analysis

(Figures in mm USD)	*Mar-26* FY2014	*Mar-27* FY2015	*Mar-28* FY2016	*Mar-29* FY2017	*Mar-30* FY2018	*Jun-30* Q1-2019	*Sep-30* Q2-2019	*Dec-30* Q3-2019	*Mar-31* Q4-2019	*Mar-31* FY2019	*Mar-32* FY2020	*Mar-33* FY2021	*Mar-34* FY2022	*Mar-35* FY2023	*Mar-36* FY2024
Free Cash Flow															
EBIT	45.5	39.0	95.1	84.8	103.3	52.2	47.1	25.0	14.5	138.8	138.8	153.6	172.3	191.6	211.6
Less: Tax expense	(19.6)	(6.3)	(23.5)	(24.6)	(11.4)	(14.3)	(12.2)	(2.5)	(3.0)	(29.1)	(29.2)	(32.3)	(36.2)	(40.2)	(44.4)
Add: Depreciation and amortization	63.7	65.5	71.0	72.4	75.0	17.8	17.5	17.8	18.3	71.5	70.7	67.6	62.7	58.2	54.0
Less: Capital expenditures	(40.9)	(32.1)	(44.9)	(51.3)	(41.7)	(6.9)	(12.4)	(11.8)	(15.1)	(46.2)	(42.8)	(40.9)	(37.9)	(35.2)	(32.7)
Less: Change in net working capital	(36.4)	(16.8)	1.3	(8.6)	(22.4)	(48.7)	(6.7)	51.7	30.1	26.3	(13.2)	(14.6)	(16.5)	(17.6)	(18.7)
Unlevered Free Cash Flow	**12.2**	**49.3**	**99.1**	**72.7**	**102.8**	**0.1**	**33.3**	**80.3**	**44.7**	**161.2**	**124.4**	**133.5**	**144.5**	**156.8**	**169.8**
Discount factor						-	-		0.25	0.25	1.25	2.25	3.25	4.25	5.25
Present Value of Unlevered Free Cash Flow						**-**	**-**	**-**	**43.8**	**43.8**	**114.6**	**110.8**	**110.4**	**110.4**	**110.0**

WACC Calculations

Cost of Equity	
Risk-free rate	2.5%
Expected market return	10.0%
Market Risk Premium	**7.5%**
Beta	1.00
Cost of Equity	**10.0%**

Cost of Debt	
Pre-tax cost of debt	2.6%
Effective tax rate	21.0%
Cost of Debt	**2.1%**

WACC	
Market value of equity	1,487.1
Market value of debt	313.8
Total Capitalization	**1,800.9**
Cost of equity	10.0%
Cost of debt	2.1%
WACC	**8.6%**

Discounted Cash Flow Valuations

Perpetuity Growth Method	
Perpetuity Growth Rate	**2.0%**
PV sum of unlevered FCF	600.1
Terminal value	1,696.1
Enterprise Value	**2,296.2**
Add: Cash	19.8
Less: Debt	313.8
Less: Other EV adjustments	298.0
Equity Value	**1,704.1**
Shares outstanding	57.7
Implied Share Price	**$ 29.54**

Current Price	$ 25.78
Implied Price	**$ 29.54**
Total Return	**14.6%**

Exit Multiple Method	
Terminal EV/EBITDA Multiple	**9.0 x**
PV sum of unlevered FCF	600.1
Terminal value	1,549.0
Enterprise Value	**2,149.1**
Add: Cash	19.8
Less: Debt	313.8
Less: Other EV adjustments	298.0
Equity Value	**1,557.0**
Shares outstanding	57.7
Implied Share Price	**$ 26.99**

Current Price	$ 25.78
Implied Price	**$ 26.99**
Total Return	**4.7%**

Perpetuity Growth Rate \ WACC	9.60%	9.10%	8.60%	8.10%	7.60%
1.00%	$ 21.22	$ 23.23	$ 25.50	$ 28.10	$ 31.09
1.50%	$ 22.66	$ 24.88	$ 27.43	$ 30.36	$ 33.77
2.00%	$ 24.27	$ 26.77	$ 29.64	$ 32.98	$ 36.92
2.50%	$ 26.12	$ 28.93	$ 32.21	$ 36.07	$ 40.70
3.00%	$ 28.25	$ 31.46	$ 35.24	$ 39.77	$ 45.29

Terminal EV/EBITDA Multiple \ WACC	9.60%	9.10%	8.60%	8.10%	7.60%
7.0 x	$ 19.78	$ 20.41	$ 21.04	$ 21.70	$ 22.38
8.0 x	$ 22.63	$ 23.32	$ 24.03	$ 24.76	$ 25.51
9.0 x	$ 25.48	$ 26.24	$ 27.02	$ 27.82	$ 28.64
10.0 x	$ 28.32	$ 29.15	$ 30.00	$ 30.88	$ 31.78
11.0 x	$ 31.17	$ 32.06	$ 32.99	$ 33.94	$ 34.91

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Appendix 3: Comparable Company Analysis

(Figures in mm USD)

Company	Ticker	Equity Value	Enterprise Value	EV/EBITDA Multiple			P/E Multiple		
				2018A EV/EBITDA	2019E EV/EBITDA	2020E EV/EBITDA	2018A P/E	2019E P/E	2020E P/E
NCI Building Systems, Inc.	(NYSE:NCS)	893.4	1,241.5	6.8 x	5.3 x	5.1 x	7.6 x	4.1 x	3.6 x
Polypipe Group plc	(LSE:PLP)	833.5	979.3	8.8 x	8.4 x	7.6 x	14.4 x	11.9 x	10.7 x
Mueller Water Products, Inc.	(NYSE:MWA)	1,669.1	1,917.6	12.2 x	9.1 x	8.5 x	16.0 x	17.0 x	14.2 x
Continental Building Products, Inc	(NYSE:CBPX)	1,024.6	1,185.6	8.7 x	7.7 x	7.3 x	18.7 x	14.0 x	12.3 x
Watts Water Technologies, Inc.	(NYSE:WTS)	2,736.9	2,887.8	13.0 x	12.0 x	11.3 x	38.0 x	21.6 x	19.6 x
Masonite International Corporatior	(NYSE:DOOR)	1,467.4	2,160.0	9.1 x	7.7 x	7.0 x	10.8 x	13.7 x	11.9 x
NYSE:WMS	**NYSE: WMS**	**1,487.1**	**2,079.2**	**11.6 x**	**8.9 x**	**8.1 x**	**23.4 x**	**19.7 x**	**18.6 x**
Median					**8.0 x**	**7.5 x**		**13.8 x**	**12.1 x**
Mean					**8.4 x**	**7.8 x**		**13.7 x**	**12.1 x**
High					**12.0 x**	**11.3 x**		**21.6 x**	**19.6 x**
Low					**5.3 x**	**5.1 x**		**4.1 x**	**3.6 x**

	EV/EBITDA Implied Price		P/E Implied Price	
Median	$ 22.24	$ 22.90	$ 18.06	$ 16.76
Mean	**$ 23.58**	**$ 24.46**	**$ 17.91**	**$ 16.68**
High	$ 38.44	$ 40.07	$ 28.22	$ 27.11
Low	$ 11.07	$ 12.27	$ 5.41	$ 5.03

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