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# Martin Marietta Materials (MSFT)

*November 15, 2018*

**Materials – Building Materials**

**Stock Rating** HOLD

## Investment Thesis

We recommend a HOLD for Martin Marietta. The heavy construction materials industry is expected to grow at a modest CAGR of 2.8% over our forecast horizon. Martin Marietta has positioned itself in geographic areas with growth potential. However, we believe that the market has effectively priced the growth potential as reflected in its current price. Due to >1% upside we recommend a hold.

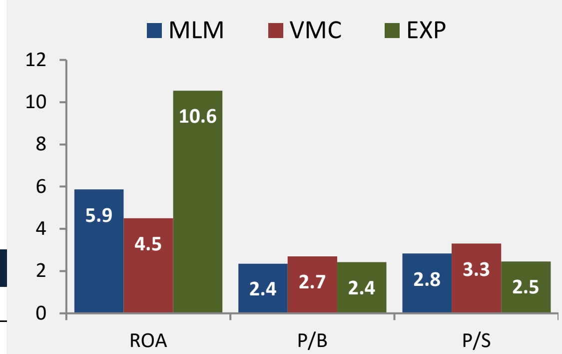
**Drivers of Thesis**

- An uptick in the US construction market will drive growth in the near term. This will positively affect both MLM's aggregates and cement businesses. We expect revenue growth in these segments of 7% and 8% in 2018E and 7.5% and 8% in 2019E, respectively.
- Martin Marietta is the second largest player in the industry. Volume and price growth in the aggregates segment will positively impact top line growth in the near term.
- A head to head comparison with its primary competitor, Vulcan Materials, shows Martin Marietta is the best investment in the industry. Martin Marietta is superior across profitability, valuation, and growth ratios.

**Risks to Thesis**

- Our revenue growth assumptions do not include the potential impact of a large infrastructure spending bill. If a meaningful infrastructure bill were to pass, the firm's revenue growth rate would be greater than modeled.
- As Martin Marietta exists in a cyclical business, an economic downturn would slow the firm's revenue growth.

| Target Price | $188-192 |
|---|---|
| Henry Fund DCF | $191.93 |
| Henry Fund DDM | $173.81 |
| Relative Multiple | $164.42 |
| **Price Data** | |
| Current Price | $188.73 |
| 52wk Range | $150.75 – 241.33 |
| Consensus 1yr Target | $223.00 |
| **Key Statistics** | |
| Market Cap (B) | $11.77 |
| Shares Outstanding (M) | $62.7 |
| Institutional Ownership | 119% |
| Five Year Beta | 1.06 |
| Dividend Yield | 1.03% |
| Est. 5yr Growth | 8.6% |
| Price/Earnings (TTM) | 23.59 |
| Price/Earnings (FY1) | 18.72 |
| Price/Sales (TTM) | 2.83 |
| Price/Book (mrq) | 2.35 |
| **Profitability** | |
| Operating Margin | 17.27% |
| Profit Margin | 12.0% |
| Return on Assets (TTM) | 5.87% |
| Return on Equity (TTM) | 10.82% |

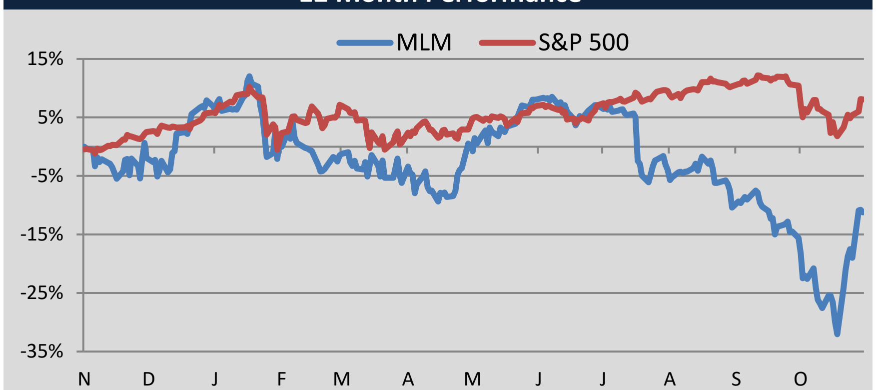



Source: Bloomberg

## Earnings Estimates

| Year | 2015 | 2016 | 2017 | 2018E | 2019E | 2020E |
|---|---|---|---|---|---|---|
| **EPS** | $4.31 | $6.66 | $11.30 | $9.23 | $10.16 | $11.13 |
| **growth** | *57.9%* | *54.5%* | *69.7%* | *-18.3%* | *10.1%* | *9.5%* |

## 12 Month Performance




## Company Description

Martin Marietta Materials (MLM) is a building materials company that supplies crushed stone, sand and gravel as well as cement and down-stream products to consumers primarily in the United States. MLM's business is mature, cyclical and highly dependent on construction activity.

## EXECUTIVE SUMMARY

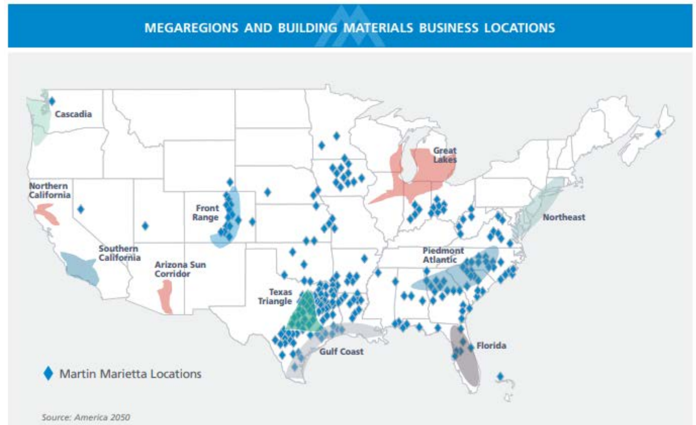
We recommend a HOLD for Martin Marietta. The heavy construction materials industry is expected to grow at a modest CAGR of 2.8% over our forecast horizon. However, we believe that MLM has positioned itself in geographic areas with high demand for its products. This is evidenced by the firm's volume and sales price appreciation over 2018. As such, we expect MLM's revenue to grow at a CAGR of 3.72%, slightly above the industry's projected growth of 2.8%.

There has been a lot of discussion in the U.S. about the need for updating out of date infrastructure. However, we are doubtful that the federal government will pass a meaningful infrastructure bill due to a ballooning federal deficit and recent tax cuts. The economic factors with the greatest impact on Martin Marietta's business show some positive signs for the industry with increasing GDP, increasing industrial and manufacturing production, as well as increasing public infrastructure spending.

We recommend a HOLD rating due to the market effectively pricing Martin Marietta's growth and our model suggesting no upside.

## COMPANY DESCRIPTION

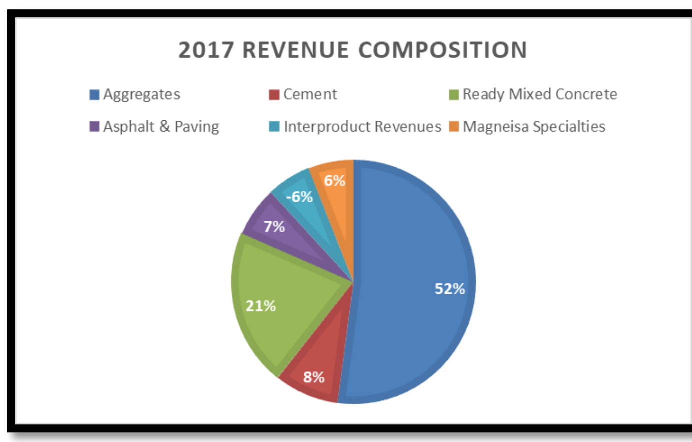
Martin Marietta offers two categories of products: building materials and magnesia specialties. The building materials category is comprised of aggregates, cement, ready mix concrete and asphalt and paving products. The building materials business is reported through three reportable segments which are organized geographically, the three segments are: Mid-America Group, Southeast Group and West Group. The Mid-America and Southeast groups only offer aggregate products. The West Group offers aggregates, cement and downstream products. The Mid-America Group operates in the following states: Indiana, Iowa, northern Kansas, Kentucky, Maryland, Minnesota, Missouri, eastern Nebraska, North Carolina, Ohio, South Carolina, Virginia, Washington and West Virginia. The Southeast Group has operations in the following states: Alabama, Florida, Georgia, and Tennessee. The West Group operates in Arkansas, Colorado, Kansas, Louisiana, Nebraska, Nevada, Oklahoma, Texas, Utah and Wyoming. The number of locations is depicted in the graphic below.




Source: MLM 2017 Annual Report

In 2017 MLM was especially reliant on business from Texas, Colorado, North Carolina, Iowa and Georgia. Sales in these states comprised 74% of the firm's revenue.

Martin Marietta generates revenue from selling aggregates, cement, ready mixed concrete, asphalt & paving, and magnesia specialty products. As discussed above, these products are sold primarily in the United States with less than 1% of total revenues coming from other markets. In 2017 MLM had the following revenue mix:

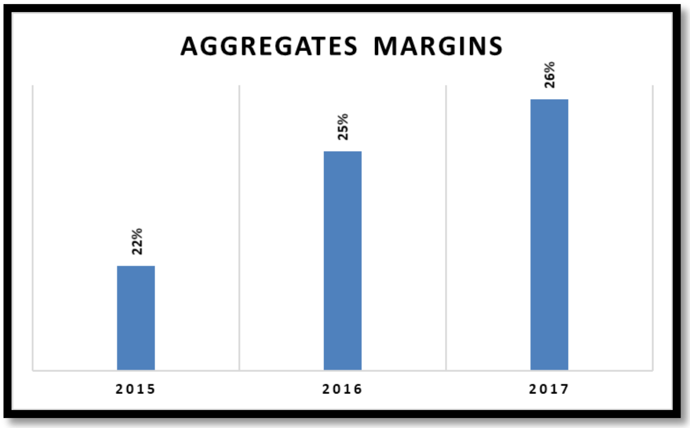



Source: MLM 2017 Annual Report

This section will discuss each of Martin Marietta's products, its historic growth, and our projections for growth during the forecast horizon.

## Aggregates

MLM's aggregates product line is the firm's largest revenue driver. In 2017, revenue from aggregates comprised nearly 60% of MLM's total revenue. Over the past five years, this segment has grown at a CAGR of 8.9%.




Source: MLM 2017 Annual Report

Aggregates as defined by MLM are "an engineered granular material consisting of crushed stone, sand and gravel of varying mineralogies manufactured to specific sizes, grades and chemistry for use primarily in construction applications."[1] Aggregates are used in infrastructure, nonresidential and residential construction projects, railroad ballasts and have agricultural, utility and environmental applications. MLM's operations consist primarily of open pit quarries, but the firm also operates 14 underground aggregate mines.[2] The firm also has an enormous reserve of aggregates on hand. MLM's reserves exceed 60 years on normalized production levels and nearly 100 years at current production rates.[3]

| Aggregates | | | |
|---|---|---|---|
| Volume Growth % | | | |
| | *2015* | *2016* | *2017* |
| West Group | -3.0% | -3.2% | -2.2% |
| Mid-America Group | 5.2% | 6.5% | -0.7% |
| South East Group | 6.5% | -0.4% | 5.3% |
| Total | 7.1% | 1.4% | -0.6% |

Source: Bloomberg

Over the last three years, aggregates volume growth has slowed in-line with the industry. However, as discussed below, end-user market strength in 2018 has generated positive volume growth that is expected to remain strong in the near term.

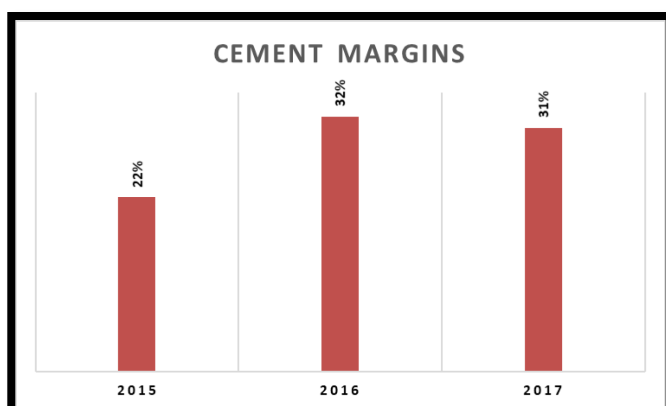
| Aggregates | | | |
|---|---|---|---|
| Average Selling Price Increase % | | | |
| | *2015* | *2016* | *2017* |
| West Group | 13.5% | 10.6% | 1.7% |
| Mid-America Group | 4.7% | 4.3% | 5.0% |
| South East Group | 5.4% | 7.1% | 8.7% |
| Total | 8.0% | 7.3% | 4.5% |

Source: Bloomberg

Over the past five years, the construction aggregates industry in the U.S. has grown at a CAGR of 3.0%, while over the same period MLM's aggregates segment has grown at a CAGR of 8.9%. In the next five years, the US construction aggregates market is expected to grow at a CAGR of 2.8%.[4] Historically, MLM's aggregates segment revenue has followed the trends of the underlying demand from downstream building and infrastructure markets. We expect this pattern to continue and that revenue growth in this segment will be 7% in 2018 (in line with management expectations), 7.5% in 2019 (in line with management expectations), 5% in 2020, 4% in 2020, and 3.5% in 2021.

## Cement

MLM's cement product line is the firm's third largest revenue driver. In 2017, revenue from aggregates comprised nearly 9.7% of MLM's total revenue. Cement has only been a reported segment since 2014. Over the past four years, this segment has grown at a CAGR of 14.7%.




Source: MLM 2017 Annual Report

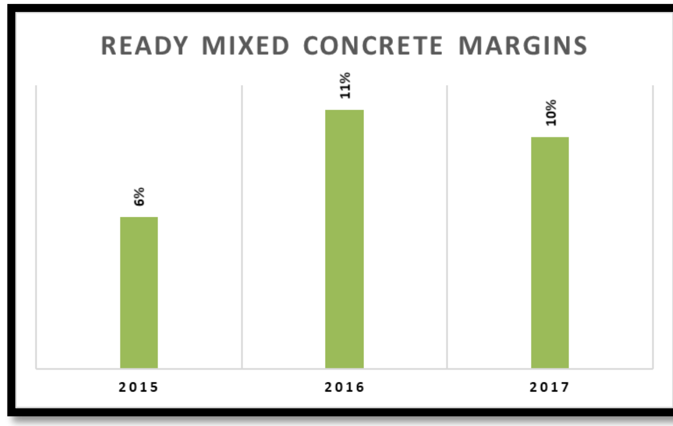
Cement is the binding agent used to "bind water, aggregates and sand, in the production of ready mixed concrete."[5] MLM has two cement facilities, both located in Texas. These plants have an annual capacity of 4.5 million tons and operated at 75% to 80% utilization in 2017, approximately in line with 2016 utilization of 76%.[6] One of MLM's plants has a permit that will allow them to expand production by 800,000 tons. If MLM were to expand production, and operate its facilities at capacity, it would allow them to produce over 2 million tons more than they currently are producing. Additionally, the firm owns more than 600 million tons of limestone reserves located adjacent to its cement production plants.[7]

Over the past five years, the cement industry in the U.S. has grown at a CAGR of 5.7%, while over the same time period MLM's cement segment has grown at a CAGR of 14.7%.[8] The growth in this segment has been driven by government funding for highways, rising value of utilities construction and high demand from residential and commercial construction markets.[9] The cement manufacturing industry is expected to grow at a sluggish CAGR of 1.7% over our forecast horizon.[10]

We expect MLM's cement revenue growth will continue to outpace the market in the near term due to strong end-market demand in markets MLM operates. We expect revenue growth in this segment to be 8% in 2018 (in line with management expectations), 8% in 2019 (in line with management expectations), 5.5% in 2020, 5% in 2020, and 3.5% in 2021.

## Ready Mixed Concrete

MLM's ready mixed concrete product line is the firm's second largest revenue driver. In 2017, revenue from aggregates comprised nearly 23.6% of MLM's total revenue. Over the past five years, this segment has grown at a CAGR of 45.0%, and over the past three years it has grown at a CAGR of 12.5%.




Source: MLM 2017 Annual Report

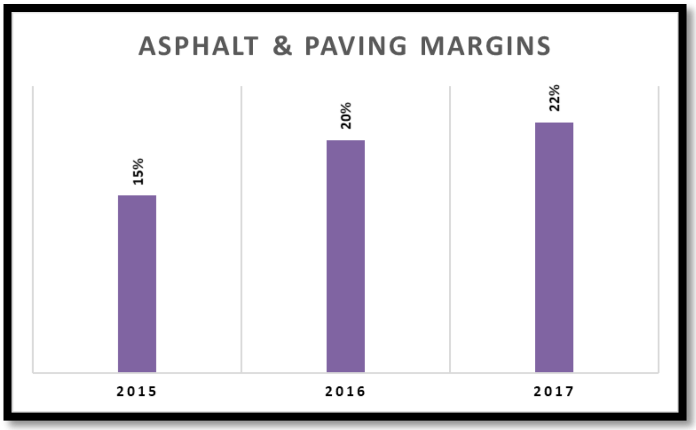
Ready mixed concrete is "a mixture primarily of cement, water and aggregates [and] is . . . batched or produced for customers' construction projects and then transported and poured at the project site."[11] MLM owns and operates 143 ready mix operations in Texas, Colorado, Louisiana and Arkansas.[12]

Over the past five years, the ready mix concrete manufacturing industry in the U.S. has grown at a CAGR of 6.8%, while over the same period MLM's ready mix concrete segment has grown at a CAGR of 45.0%.[13] The growth in this segment has been driven by acquisitions and strong demand from industrial, commercial, and residential construction markets. The ready mix concrete manufacturing industry is expected to grow at a CAGR of 1.3% over our forecast horizon.[14]

We expect revenue growth in this segment to be 5% in 2018 (in line management expectations), 4.5% in 2019 (in line with management expectations), 4% in 2020, 3.75% in 2020, and 3.5% in 2021.

## Asphalt & Paving

MLM's asphalt and paving product line is the firm's fourth largest revenue driver. In 2017, revenue from asphalt and paving comprised nearly 7.5% of MLM's total revenue. Over the past five years, this segment has grown at a CAGR of 4.6%.




Source: MLM 2017 Annual Report

Asphalt is "most commonly used in surfacing roads and parking lots and consists of liquid asphalt, the binding medium, and aggregates."[15] Asphalt, similar to ready mix concrete, is made according to customer specifications. MLM's asphalt and paving business is offered in Colorado. The firm's limited footprint in this segment is due to asphalt and paving being highly competitive with lower barriers to entry than its aggregates and cement businesses.

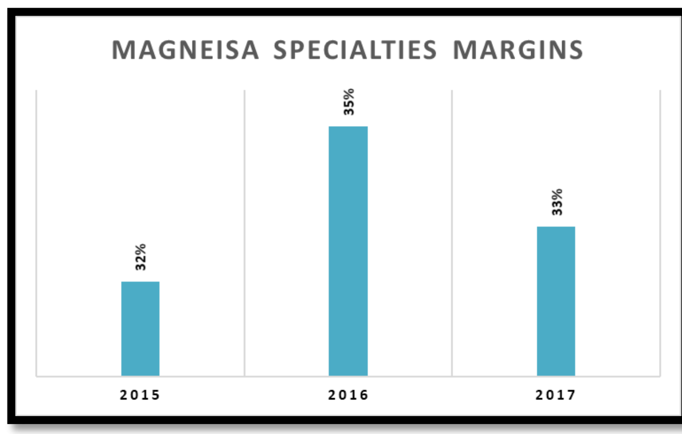
The need for better roads in Colorado is especially acute. A study done in 2018 found that "[c]ongested and deteriorating roads are costing Colorado drivers $7.1 billion a year in lost time and productivity [and] needed repairs and crash-related expenses."[16] Colorado Department of Transportation estimated that the total cost to update infrastructure will be $9 billion.[17] Colorado state republican and democrat officials agree that road and highway improvements are needed, but they differ in their proposed methods to pay for the improvements. The above-mentioned study articulated the following compelling reasons for investment in Colorado state roads: "1) The $7.1 billion annual cost is broken down into $3.1 billion in congestion-related costs, $2.1 billion in costs related to crashes and other safety issues and $1.9 billion in vehicle-operating costs. 2) The average motorist will lose $2,306 per year to car repairs and to time lost in congestion. 3) Those same motorists will spend 52 hours per year stuck in traffic jams. 4) A full 40 percent of Denver-area roads are in poor condition."[18]

Colorado residents rejected two propositions that would have helped pay for road repairs and other transportation needs on Nov. 6th, 2018. Proposition 109, which would have required the state to borrow $3.5 billion to finance 66 highway projects, was rejected by 61% of Colorado voters.[19] Proposition 110, which would have increased the state sales tax to help repair roads, was rejected as well.[20]

Thus, despite the acute need for improved roads and highway, Colorado residents seem content to maintain the status quo in the near term. For this reason, we expect Colorado government spending to remain in line with historic spending in the near term. We expect revenue growth in this segment to be 5% in 2018 (in line with management expectations), 4.5% in 2019 (in line with management expectations), 4% in 2020, 3.75% in 2020, and 3.5% in 2021.

## Magnesia Specialties

MLM's magnesia specialties product line is the firm's smallest revenue driver. In 2017, revenue from magnesia specialties comprised nearly 6.8% of MLM's total revenue. Over the past five years, this segment has grown at a CAGR of 2.0%.




Magnesia specialties segment includes its magnesia-based chemicals and dolomitic lime businesses. This segment's products are manufactured in MLM's Woodville, Ohio and Manistee, Michigan's facilities. These specialty products have a number of end uses, including "flame retardants, wastewater treatment, pulp and paper production and other environmental applications."[21]

We expect revenue growth in this segment to be 5% in 2018 (in line with management expectations), 4.5% in 2019 (in line with management expectations), 4% in 2020, 3.75% in 2020, and 3.5% in 2021.

## RECENT DEVELOPMENTS

### Q3 Earnings Call

Management reported a mixed bag in its 2018 Q3 earnings call. MLM beat revenue expectations by 8.4%, representing a 12% YOY increase. The firm also beat earnings expectations by 10% representing a 19.2% YOY increase.[22] MLM attributed the strong quarter to higher shipments, pricing improvements, and increased public-sector activity.[23]

However, management lowered its 2018 guidance due to record rainfall in Texas as well as devastation from Hurricane Florence, mostly in the Carolinas, which impacted its third-quarter revenues.[24] The weather affecting these two states was especially impactful as Texas is MLM's largest state in terms of revenue and North Carolina is the firm's third-largest state in terms of revenue. Management lowered its 2018 revenue expectations from $4.3-$4.5 billion to $4.135-$4.255 billion, capital expenditures expectations from $450-$500 million to $375 million, and gross profit from $1.08-$1.19 to $960-$1,000 million.[25]

### Bluegrass Materials Acquisition

On April 30, 2018 MLM completed its previously announced acquisition of Bluegrass Materials. MLM paid $1.625 billion in cash to acquire Bluegrass Materials, which was the largest privately-held, pure-play aggregates company in the United States. The acquisition will increase MLM's aggregate reserves in Georgia, South Carolina, Maryland, Kentucky, and Tennessee. MLM is expecting to realize synergies of $15 million within the 12 months following the acquisition close.

## INDUSTRY TRENDS

### Infrastructure Spending

The need to update infrastructure alone has not been sufficient to generate investment over the last several years in the U.S. However, the Trump administration will push the legislature to produce a bill that is supposed to generate $1.5 trillion in new infrastructure investment. President Trump said in his state of the union address "I am asking both parties to come together to give us the safe, fast, reliable, and modern infrastructure our economy needs and our people deserve."

Improving U.S. infrastructure is a focal point of the administration and is something that is expected to receive a push in 2019. The plan has been heralded as a $1.5 trillion investment in infrastructure but is largely an incentive package in hopes to get states to invest in infrastructure projects.[26] The plan will offer $200 billion in federal funding over 10 years, used as incentives for cities, counties, and states to raise at least 80% of infrastructure costs themselves.[27] This will likely only lead to projects that can generate revenue such as toll roads or bridges.

The current funding for federal-aid highways is usually 80-20 federal-state split.[28] This program would flip that funding burden to 20-80 federal-state. This may have a negative impact on the industry if states are unable to come up with the revenue needed to complete such projects.

The proposed infrastructure plan also proposes streamlining the federal environmental review and permit process to less than 21 months, which would allow for construction to begin more quickly. It is uncertain whether this plan would pass the newly elected split congress, despite legislators from both sides of the isle recognizing the need for infrastructure improvements. Finding funding for such a large undertaking after just cutting taxes seems to be a sticking point among certain legislators. Another reason that legislators may opt to kick the can down the road is the current strength of the economy. In a weak economy, investing in infrastructure provides an enormous boost to the economy. It both improves U.S. transit systems as well as provides work for the unemployed. The current unemployment rate is at a historic low of 3.7% and we predict that it remains below 4% over the next six months before jumping slightly higher to 4.5% over the next 2 years. Low unemployment means that an infrastructure deal would not have the same economic impact it would have if it were providing jobs for a depressed job market.[29] This is another potential reason legislatures may opt to hold off on rallying around a new infrastructure bill.

If the proposed deal were to happen, it would likely provide a boost to the building materials industry. However, the size of the boost is uncertain as it would depend on local governments' ability to generate the revenue necessary to qualify for federal contribution.

## Natural Disasters

Natural disasters and inclement weather have been a headwind for the industry in 2018. In September, Hurricane Florence hit the Carolina's and effected 15 of September's 19 selling days. Texas had its wettest month in 124 years with Tropical Storm Gordon, with most regions having 14 inches above normal rain levels. Weather negatively impacted MLM's Q3 profitability by $40-$45 million. Vulcan estimated that their pre-tax loss due to weather was approximately $27 million in the quarter. Martin Marietta, Vulcan Materials, and Eagle Materials all reported negative effects from weather in their Q3 earnings calls.

# MARKETS AND COMPETITION

## Peer Comparisons

Martin Marietta competes with a number of private cement & aggregate firms as well as Vulcan Materials Company (VMC) and Eagle Materials (EXP), its two primary public competitors.

Vulcan is the largest pure play aggregates company in the industry with a market cap of $13.83 billion. 85% of Vulcan's revenue is derived from sales from California, Texas, Virginia, Tennessee, Florida, North Carolina, South Carolina, and Illinois.

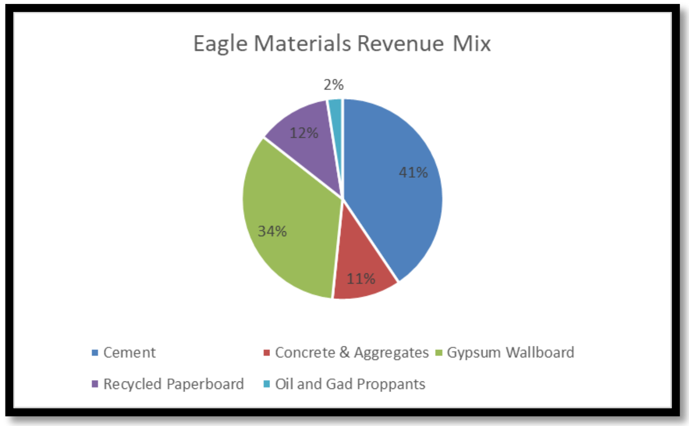
Eagle Materials is the smallest of the three companies with a market cap of $3.49B. EXP is a more diverse materials company than either Martin Marietta or Vulcan and competes with MLM and VMC in aggregates and cement which combined accounted for 52% of its revenue in 2017.

Below is a comparison of the three firms as of 2017:

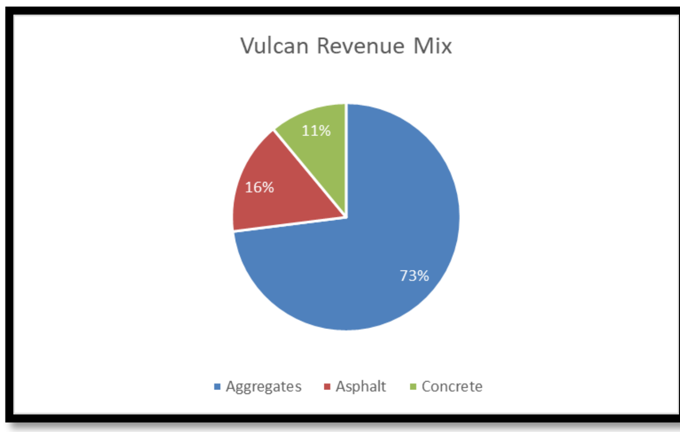
| Valuation Multiples | | | |
|---|---|---|---|
| | MLM | VMC | EXP |
| P/E | 23.59 | 33.12 | 16.41 |
| Forward P/E | 18.72 | 21.17 | 11.74 |
| P/S | 2.83 | 3.31 | 2.46 |
| P/B | 2.35 | 2.7 | 2.42 |

Source: Bloomberg

On a multiples basis, MLM looks cheap across all metrics compared to VMC and expensive compared to EXP. MLM may look expensive compared to EXP but it is likely because EXP is not a pure play competitor, as VMC is. MLM and VMC both generate most of their revenue from aggregates while EXP only generates 11% of its revenue from aggregates. The graphics below provide the revenue composition of both EXP and VMC.




Source: Eagle Materials 2017 Annual Report




Source: Vulcan 2017 Annual Report

The graph below compares MLM, VMC, and EXP across profitability metrics. We see the same trend among profitability metrics that we did with the multiples above. MLM beats VMC and trails EXP in every profitability metric. Again, we would attribute the difference between MLM and EXP to the fact that they participate in different businesses. For example, EXP's gypsum board segment, which accounts for 34% of its revenue, had an operating margin of 32% in 2017. Thus, EXP's profitability ratios are higher than MLM and VMC primarily because they participate in higher margin businesses that their competitors do not.

| 2017 Profitability | | | |
|---|---|---|---|
| | MLM | VMC | EXP |
| ROA | 5.87% | 4.51% | 10.55% |
| ROE | 10.82% | 8.85% | 18.06% |
| ROI | 8.34% | 7.82% | 11.6% |
| EBITA Margin | 25.11% | 24.82% | 29.97% |
| Oper. Margin | 17.27% | 16.98% | 21.74% |
| Profit Margin | 12.0% | 10.18% | 17.47% |

Source: Bloomberg

As mentioned above, all three firms compete in the aggregates business. Below are metrics that compare how the three firms stack up across important industry metrics. Aggregates volume growth in the industry have been stagnant over the last two years. However, volume levels have picked up through three quarters in 2018. In Q3 aggregates volume for MLM ticked up 3.8% from Q3 2017. VMC also mentioned aggregates volume being up but did not specify the percentage.

| Aggregates | | | | |
|---|---|---|---|---|
| Volume Growth % | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| MLM | 7.6% | 2.9% | 1.0% | 0.8% |
| VMC | 11.3% | 9.8% | 1.7% | 1.0% |
| EXP | -6.3% | -0.6% | 21.3% | -4.0% |

Source: Bloomberg

| Aggregates | | | | |
|---|---|---|---|---|
| Avg. Price/Ton Aggregates | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| MLM | $ 12.20 | $ 13.10 | $ 14.20 | $ 14.80 |
| VMC | $ 12.20 | $ 13.10 | $ 13.90 | $ 14.40 |
| EXP | $ 8.30 | $ 9.10 | $ 9.50 | $ 10.40 |
| Aggregates Price Growth Ratio (%) | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| MLM | 5.1% | 7.0% | 7.3% | 5.1% |
| VMC | 2.3% | 7.2% | 6.8% | 3.2% |
| EXP | 10.9% | 10.4% | 4.5% | 8.6% |

Source: Bloomberg

The above data shows some interesting trends over the last four years. One pertinent fact is that aggregates are expensive to ship and because of this firms typically only serve a 50-mile radius around the quarry/mine. This indicates to us that pricing trends are likely tied with local demand and competition. In 2014 and 2015 MLM and VMC average price/ton were lock step with EXP significantly lagging the other two. However, over the last two years MLM's price growth has exceeded that of VMC (2016 – 7.3% vs 6.8%, 2017 – 5.1% vs. 3.2%). This may indicate that demand in the markets that MLM serves is outpacing demand in the markets VMC serves.

| Aggregates | | | | |
|---|---|---|---|---|
| Number of Quaries | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| MLM | 184 | 196 | 190 | 190 |
| VMC | 335 | 335 | 335 | 335 |
| EXP | 3 | 3 | 3 | 3 |

Source: Bloomberg

Overall, we believe that MLM is the best investment in its industry. In a head to head with MLM's only pure play competitor VMC, MLM is superior across every important metric. We believe that this pattern will continue in the near term.

## ECONOMIC OUTLOOK

Martin Marietta exists in a cyclical industry which follows the general trend line of the U.S. economy. The most important economic indicators for the industry are U.S. GDP, industrial production levels, and public construction spending.

### GDP Growth

In quarter three of 2018, U.S. real gross domestic product increased at an annual rate of 3.5% beating market expectations of 3.3%. This reflected a decline in the growth rate following a reported 4.2% GDP in quarter two. The graphic below illustrates the percentage of growth or decline in GDP over the last four years:


Source: U.S. Bureau of Economic Analysis

Though GDP on the whole reported a strong number, the components most affecting MLM were not as positive.

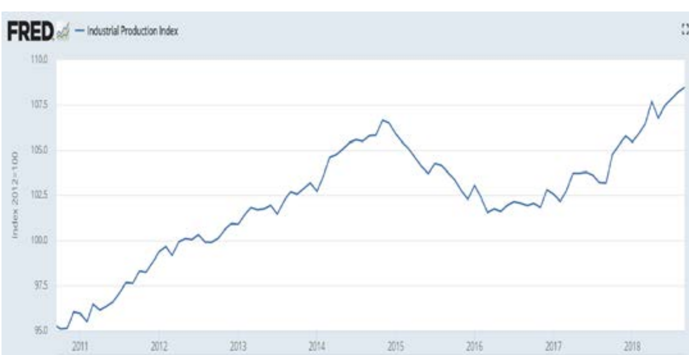
Fixed investment made a negative contribution, -0.04 percentage points compared to +1.1 percentage points in Q2. Investment in structures fell 7.9% after rising 14.5% percent in Q2. Additionally, residential investment fell for the fourth straight quarter. Government spending and investment added 0.56 percentage points to growth which was up from the 0.43 points contributed to Q2 GDP.[30]

We predict that real GDP will continue to grow at an annualized rate of approximately 2.9% over the next six months. We predict further that the two-year annualized growth rate will decelerate to 2.72%. These estimates reflect our confidence in the low chance of recession in the near term due to a strong global economy, recent U.S. tax cuts, and a belief that a full fledge trade war will not transpire.

A growing U.S. economy will positively impact MLM as its growth tends to follow the growth or decline of the general economy.

## Industrial Production Index

Demand for MLM's products is closely tied to manufacturing activity. The rise and fall of industrial production is typically a good indicator of demand for MLM's products. Growth in the industrial and manufacturing industries is measured by the industrial production index. As seen below, the industrial production index fell from 2015 to 2016, remained flat between 2016 to 2017, and has been steadily climbing since mid-year 2017.

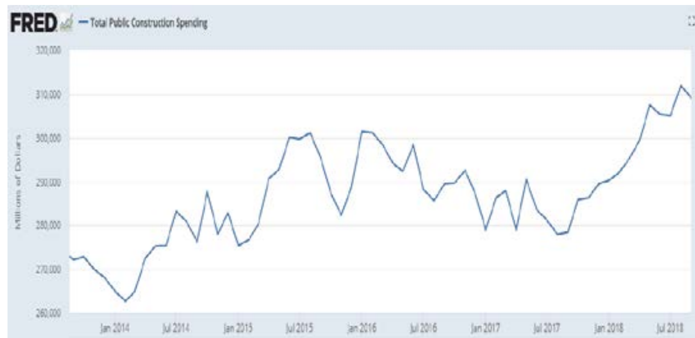



Source: Fred

We expect that industrial production will continue to increase in the near term as U.S. tax cuts coupled with protectionist trade policies will cause the U.S. to increase its manufacturing and industrial output. The expected increase in industrial production levels should increase demand for MLM's products.

## Public Construction Spending

Public construction spending, as depicted below, reflects the money spent by federal and local governments. While the general trend line over the last four years has been erratic, spending has increased over the last year. Public spending is up 11% from 2017.




Source: Fred

If the federal government can put together an infrastructure spending package, government public construction will increase. As 40% of MLM's sales in 2017 were from public infrastructure, an increase in public construction spending will directly benefit the firm's topline growth.

## CATALYSTS FOR GROWTH

- If an infrastructure bill were to pass, it would provide a boost to the industry. As 40% of MLM's revenues come from government contracts, it would positively impact the firm's top line growth.
- If the Trump administration were able to build a wall along the U.S.-Mexican border, demand for MLM's product would increase. With a split congress this seems unlikely to happen.
- An increase in local government infrastructure spending in Texas, Colorado, North Carolina, Iowa and/or Georgia where the firm captures 74% of its revenue would generate revenue growth.

## INVESTMENT POSITIVES

- Increasing GDP growth, production in infrastructure and manufacturing, and an uptick in public spending will all contribute to near term top line growth.

- On a relative basis, MLM beats its primary competitor VMC across most profitability, valuation, and growth ratios.

## INVESTMENT NEGATIVES

- The market has effectively priced MLM and no upside exists per our valuation.
- Mortgage rates are currently at a seven-year high which may further dampen an already down housing market.

## VALUATION

**Revenue:**

Our model forecasts revenue based on the individual revenue drivers unique to each business segment. The company description section of this report gives a detailed account of the individual drivers of each business segment. Overall revenue growth is forecasted to be 7.1% in 2018, 6.5% in 2019, 4.7% in 2020, 4.0% in 2021, and 3.5% in 2022.

**COGS:**

We forecasted COGS to continue to improve over our forecast horizon. We forecasted COGS based on management expectations for gross margin as well as expected future cost savings programs. We expect COGS (as a percentage of sales) to be 75.0% in 2018, 74.5% in 2019, 74.0% in 2020, 73.5% in 2021, and 73.0% in 2022.

**SG&A Expense:**

Our model projects SG&A expense as a percentage of sales based on a three-year average. Our model estimates SG&A expense as a constant 6.4% of sales throughout our forecast horizon.

**Cap Ex:**

MLM had capital expenditures of $410 million in 2017. Management expects cap ex to be south of $400 million in 2018. We expect cap ex in line with management expectations of $375 million in 2018. Further we expect capital ex to be $400 million in 2019, $500 million in 2019, $550 million in 2020, and $600 million in 2021.

**Cost of Debt:**

We used a cost of debt of 4.25% which is the rate of MLM's senior notes due 2047.

**Cost of Equity:**

We used the CAPM formula to derive the cost of equity. The inputs used were a 30-year treasury bond as the risk-free rate at 3.38%, beta of 1.06, multiplied by an equity risk premium of 4.8%. These inputs generated a cost of equity of 8.47%.

**Model Outputs:**

Based on the above assumptions our DCF model produced a target price of $191.93, which is below the one-year consensus estimates of $223. Some analysts predicted higher long-term revenue growth, but we feel our assumptions are appropriate given our industry and economic outlook.

The DDM model produced a value of $173.81. We modeled dividend growth based on historic dividend growth. We find this model reliable, but rely more heavily on the DCF output.

Our relative valuation produced a target price of $164.42. We find this model to be imprecise as MLM only has one publicly traded, pure play competitor. The other companies participate in other businesses that may impact the relative valuation.

## KEYS TO MONITOR

Going forward it will be important to monitor the strength of MLM's end markets. This is important as optimism about end market strength is driving our revenue growth assumptions.

It will also be important to monitor aggregate price and volume growth or depression over the next five years. It will be important to compare price growth to volume growth as a measure of company health.

## REFERENCES

1. MLM 2017 Annual Report.
2. *Id.*
3. *Id.*
4. US Constructions Aggregates Market Report 2018 – Forecast to 2020.

5. *See* reference 1.
6. MLM 2017 Annual Report, MLM 2016 Annual Report.
7. *See* reference 1.
8. IBIS World, *Cement Manufacturing in the US*, June 2018.
9. *Id.*
10. *Id.*
11. *See* reference 1.
12. *Id.*
13. IBIS World, *Ready Mix Concrete Manufacturing in the US*, June 2018.
14. *See* reference 8.
15. *See* reference 1.
16. Sealover, Ed, *Study: Congestion, Poor Roads Cost Colorado Drivers $7.1 Billion Annually.* Denver Business Journal 2018.
17. *Id.*
18. *Id.*
19. Crossley, Kolby, *Paying for Road Repairs not a Priority for Colorado Voters*. KRDO 2018.
20. *Id.*
21. *See* report 1.
22. MLM 2018 Q3 Earnings Call.
23. *Id.*
24. *Id.*
25. *Id.*
26. NPR.org.
27. *Id.*
28. *Id.*
29. *Id.*
30. U.S. Bureau of Economic Analysis.

## IMPORTANT DISCLAIMER

**Martin Marietta Materials, Inc.**

*Revenue Decomposition*

| *Fiscal Years Ending Dec. 31* | 2015 | 2016 | 2017 | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|---|---|---|
| Aggregates | 2120 | 2268 | 2342 | 2505.45 | 2693.36 | 2828.02 | 2941.15 | 3044.09 |
| *growth* | 17.4% | 6.9% | 3.3% | 7.0% | 7.5% | 5.0% | 4.0% | 3.5% |
| Cement | 476 | 376 | 384 | 414.84 | 448.03 | 472.67 | 496.30 | 513.67 |
| *growth* | 114.5% | -21.0% | 2.2% | 8.0% | 8.0% | 5.5% | 5.0% | 3.5% |
| Ready Mixed Concrete | 658 | 904 | 937 | 983.83 | 1028.10 | 1069.22 | 1109.32 | 1148.15 |
| *growth* | 52.8% | 37.4% | 3.7% | 5.0% | 4.5% | 4.0% | 3.8% | 3.5% |
| Asphalt & Paving | 230 | 262 | 297 | 311.80 | 325.83 | 338.87 | 351.58 | 363.88 |
| *growth* | -5.3% | 14.0% | 13.5% | 5.0% | 4.5% | 4.0% | 3.8% | 3.5% |
| Interproduct Revenues | -190 | -247 | -264 | -252.96 | -269.72 | -282.53 | -293.90 | -304.19 |
| *growth* | 17.0% | 30.3% | 6.8% | -4.2% | 6.6% | 4.7% | 4.0% | 3.5% |
| Magnesia Specialties | 246 | 257 | 270 | 283.49 | 296.25 | 308.10 | 319.65 | 330.84 |
| *growth* | -4.2% | 4.5% | 5.0% | 5.0% | 4.5% | 4.0% | 3.8% | 3.5% |
| **Total** | 3540 | 3819 | 3966 | 4246.46 | 4521.85 | 4734.36 | 4924.10 | 5096.44 |
| growth | 26.6% | 7.9% | 3.8% | 7.1% | 6.5% | 4.7% | 4.0% | 3.5% |

**Martin Marietta Materials, Inc.**

*Income Statement*

| *Fiscal Years Ending Dec. 31* | Q1-17 | Q2-17 | Q3-17 | 2017 | Q1-18 | Q2-18 | Q3-18 | 2018E | Q1-19E | Q2-19E | Q3-19E | 2019E | Q1-20E | Q2-20E | Q3-20E | 2020E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total revenues | 843.859 | 1063.524 | 1087.732 | 3965.594 | 812.62 | 1108.42 | 1286.43 | 4246.46 | 865.32 | 1180.31 | 1369.86 | 4521.85 | 905.98 | 1235.78 | 1434.24 | 4734.36 |
| Total cost of revenues | 696.792 | 789.43 | 796.054 | 2993.654 | 609.46 | 831.32 | 964.82 | 3184.84 | 644.66 | 879.33 | 1020.54 | 3368.78 | 670.43 | 914.47 | 1061.33 | 3503.42 |
| **Gross profit** | 147.067 | 274.094 | 291.678 | 971.94 | 203.15 | 277.11 | 321.61 | 1061.61 | 220.66 | 300.98 | 349.31 | 1153.07 | 235.56 | 321.30 | 372.90 | 1230.93 |
| Selling, general & administrative expenses | 69.535 | 68.373 | 57.219 | 262.128 | 51.93 | 70.84 | 82.22 | 271.39 | 55.30 | 75.43 | 87.55 | 288.99 | 57.90 | 78.98 | 91.66 | 302.57 |
| Acquisition-related expenses, net | - | - | - | 8.638 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other operating expenses & (income), net | 0.02 | 1.98 | 1.31 | 0.79 | 0.68 | 0.93 | 1.08 | 3.56 | 0.73 | 0.99 | 1.15 | 3.79 | 0.76 | 1.04 | 1.20 | 3.97 |
| **Earnings from operations** | - | - | - | 700.381 | 150.54 | 205.34 | 238.31 | 786.66 | 164.63 | 224.56 | 260.62 | 860.29 | 176.89 | 241.29 | 280.04 | 924.39 |
| Interest expense | 0.36 | -9.113 | 6.181 | 91.487 | 4.42 | 6.03 | 7.00 | 23.12 | 4.60 | 6.28 | 7.29 | 24.05 | 2.43 | 3.31 | 3.84 | 12.68 |
| Other nonoperating income (expenses), net | 77.15 | 212.852 | 226.964 | 10.034 | | | | 15.78 | 3.21 | 4.38 | 5.09 | 16.80 | 3.37 | 4.59 | 5.33 | 17.59 |
| **Earnings from continuing operations before taxes on income** | 20.851 | 24.045 | 23.141 | 618.928 | 146.11 | 199.30 | 231.31 | 747.77 | 156.81 | 213.89 | 248.24 | 819.44 | 171.10 | 233.39 | 270.87 | 894.13 |
| Income tax (benefit) expense | - | - | - | -94.457 | 0.00 | 0.00 | 0.00 | 168.25 | 0.00 | 0.00 | 0.00 | 184.37 | 0.00 | 0.00 | 0.00 | 201.18 |
| **Consolidated net earnings (loss)** | 62.778 | 62.84 | 62.859 | 713.385 | 146.11 | 199.30 | 231.31 | 579.52 | 156.81 | 213.89 | 248.24 | 635.06 | 171.10 | 233.39 | 270.87 | 692.95 |
| Less: net earnings (loss) attributable to noncontrolling | - | - | - | -0.043 | 0 | 0 | 0 | -0.10 | 0 | 0 | 0 | -0.10 | 0 | 0 | 0 | -0.11 |
| **Net earnings attributable to Martin Marietta Materials, Inc.** | - | - | - | 713.342 | 0.00 | 0 | 0 | 579.62 | 0 | 0 | 0 | 635.17 | 0 | 0 | 0 | 693.05 |
| Year end shares outstanding | - | - | - | 62.873 | | | | 62.78 | | | | 62.49 | | | | 62.25 |
| EPS | | | | 11.3 | | | | 9.23 | | | | 10.16 | | | | 11.13 |
| Cash dividends per common share | | | | 1.72 | | | | 1.77 | | | | 1.82 | | | | 1.87 |

**Martin Marietta Materials, Inc.**

*Income Statement*

| *Fiscal Years Ending Dec. 31* | 2015 | 2016 | 2017 | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|---|---|---|
| Total revenues | 3539.57 | 3818.75 | 3965.59 | 4246.46 | 4521.85 | 4734.36 | 4924.10 | 5096.44 |
| Total cost of revenues | 2817.80 | 2909.78 | 2993.65 | 3184.84 | 3368.78 | 3503.42 | 3619.21 | 3720.40 |
| **Gross profit** | 721.77 | 908.97 | 971.94 | 1061.61 | 1153.07 | 1230.93 | 1304.89 | 1376.04 |
| Selling, general & administrative expenses | 218.23 | 248.01 | 262.13 | 271.39 | 288.99 | 302.57 | 314.70 | 325.71 |
| Acquisition-related expenses, net | 8.46 | 1.68 | 8.64 | 0 | 0 | 0 | 0 | 0 |
| Other operating expenses & (income), net | 15.65 | -8.04 | 0.79 | 3.56 | 3.79 | 3.97 | 4.13 | 4.27 |
| **Earnings from operations** | 479.42 | 667.32 | 700.38 | 786.66 | 860.29 | 924.39 | 986.06 | 1046.05 |
| Interest expense | 76.29 | 81.68 | 91.49 | 23.12 | 24.05 | 12.68 | 2.76 | 3.83 |
| Other nonoperating income (expenses), net | 10.67 | 21.38 | 10.03 | 15.78 | 16.80 | 17.59 | 18.29 | 18.93 |
| **Earnings from continuing operations before taxes on income** | 413.80 | 607.03 | 618.93 | 747.77 | 819.44 | 894.13 | 965.00 | 1023.30 |
| Income tax (benefit) expense | 124.86 | 181.58 | -94.46 | 168.25 | 184.37 | 201.18 | 217.13 | 230.24 |
| **Consolidated net earnings (loss)** | 288.94 | 425.44 | 713.39 | 579.52 | 635.06 | 692.95 | 747.88 | 793.05 |
| Less: net earnings (loss) attributable to noncontrolling i | -0.15 | -0.06 | -0.04 | -0.10 | -0.10 | -0.11 | -0.11 | -0.11 |
| **Net earnings attributable to Martin Marietta Materials, Inc.** | 288.79 | 425.39 | 713.34 | 579.62 | 635.17 | 693.05 | 747.99 | 793.17 |
| Year end shares outstanding | 64.479 | 63.176 | 62.873 | 62.78 | 62.49 | 62.25 | 61.86 | 61.34 |
| EPS | 4.31 | 6.66 | 11.3 | 9.23 | 10.16 | 11.13 | 12.09 | 12.93 |
| Cash dividends per common share | 1.6 | 1.64 | 1.72 | 1.77 | 1.82 | 1.87 | 1.92 | 1.97 |

**Martin Marietta Materials, Inc.**
*Balance Sheet*

| *Fiscal Years Ending Dec. 31* | 2015 | 2016 | 2017 | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|---|---|---|
| Cash & cash equivalents | 168.41 | 50.04 | 1446.36 | 1850.21 | 1266.50 | 1486.40 | 1780.45 | 2264.94 |
| Accounts receivable, net | 410.92 | 457.91 | 487.24 | 507.98 | 540.92 | 566.34 | 589.04 | 609.66 |
| Inventories, net | 469.14 | 521.62 | 600.59 | 595.34 | 633.94 | 663.74 | 690.34 | 714.50 |
| Current deferred income tax benefits | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other current assets | 33.70 | 56.81 | 96.97 | 69.15 | 73.63 | 77.09 | 80.18 | 82.99 |
| **Total current assets** | 1082.17 | 1086.39 | 2631.16 | 3022.67 | 2514.99 | 2793.57 | 3140.01 | 3672.08 |
| Property, plant & equipment, gross | 5613.20 | 6115.53 | 6498.07 | 6873.07 | 7273.07 | 7773.07 | 8323.07 | 8923.07 |
| Less: allowances for depreciation, depletion & amortization | 2457.20 | 2692.14 | 2905.25 | 3338.69 | 3468.78 | 3376.81 | 3695.85 | 3906.04 |
| Property, plant & equipment, net | 3156.00 | 3423.40 | 3592.81 | 3534.37 | 3804.29 | 4396.25 | 4627.22 | 5017.03 |
| Goodwill | 2068.24 | 2159.34 | 2160.29 | 2160.29 | 2160.29 | 2160.29 | 2160.29 | 2160.29 |
| Operating permits, net | 444.73 | 442.20 | 439.12 | 421.22 | 404.05 | 387.58 | 371.78 | 356.62 |
| Other intangibles, net | 65.83 | 69.11 | 67.23 | 65.41 | 63.63 | 61.90 | 60.22 | 58.59 |
| Other noncurrent assets | 144.78 | 120.48 | 101.90 | 138.93 | 147.93 | 154.89 | 161.09 | 166.73 |
| **Total assets** | 6961.73 | 7300.91 | 8992.51 | 9342.88 | 9095.19 | 9954.48 | 10520.61 | 11431.34 |
| Accounts payable | 164.72 | 178.60 | 183.64 | 197.62 | 210.44 | 220.33 | 229.16 | 237.18 |
| Accrued salaries, benefits & payroll taxes | 30.94 | 47.43 | 44.26 | 45.75 | 48.72 | 51.01 | 53.05 | 54.91 |
| Pension & postretirement benefits | 8.17 | 9.29 | 13.65 | 15.00 | 16.49 | 18.12 | 19.91 | 21.88 |
| Accrued insurance & other taxes | 62.78 | 60.09 | 64.96 | 65.87 | 66.79 | 67.72 | 68.67 | 69.63 |
| Current maturities of long-term debt & short-term facilities | 19.25 | 180.04 | 299.91 | 299.91 | 298.16 | 298.29 | 65.00 | 90.00 |
| Other current liabilities | 71.10 | 71.14 | 87.80 | 86.14 | 91.73 | 96.04 | 99.89 | 103.39 |
| **Total current liabilities** | 367.19 | 546.59 | 694.22 | 710.29 | 732.32 | 751.50 | 535.68 | 576.98 |
| Long-term debt | 1553.65 | 1506.15 | 2727.29 | 2226.19 | 2326.03 | 2516.00 | 2596.84 | 2723.49 |
| Pension, postretirement & postemployment benefits | 224.54 | 248.09 | 244.04 | 267.79 | 0.00 | 0.00 | 0.00 | 0.00 |
| Deferred income taxes, net | 583.46 | 663.02 | 410.72 | 700.26 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other noncurrent liabilities | 172.72 | 194.47 | 233.76 | 224.59 | 239.16 | 250.40 | 260.43 | 269.55 |
| **Total liabilities** | 2901.56 | 3158.32 | 4310.03 | 4129.13 | 3297.51 | 3517.91 | 3392.95 | 3570.02 |
| Common stock | 3288.28 | 3334.92 | 3368.64 | 3431.42 | 3493.90 | 3556.15 | 3618.01 | 3679.35 |
| Accumulated other comprehensive income (loss) | -105.62 | -130.69 | -129.10 | -129.10 | -129.10 | -129.10 | -129.10 | -129.10 |
| Retained earnings (accumulated deficit) | 874.44 | 935.57 | 1440.07 | 1908.56 | 2430.00 | 3006.65 | 3635.87 | 4308.20 |
| **Total shareholders' equity (deficit)** | 4057.28 | 4139.98 | 4679.60 | 5210.88 | 5794.80 | 6433.70 | 7124.78 | 7858.45 |
| Noncontrolling interests | 2.89 | 2.61 | 2.88 | 2.88 | 2.88 | 2.88 | 2.88 | 2.88 |
| **Total equity** | 4060.18 | 4142.59 | 4682.48 | 5213.75 | 5797.68 | 6436.58 | 7127.66 | 7861.33 |
| **Total liabilities & shareholders equity** | 6961.73 | 7300.91 | 8992.51 | 9342.88 | 9095.19 | 9954.48 | 10520.61 | 11431.34 |

**Martin Marietta Materials, Inc.**
*Cash Flow Statement*

| *Fiscal Years Ending Dec. 31* | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| Consolidated net earnings (loss) | 119.43 | 154.29 | 288.94 | 425.44 | 713.39 |
| Depreciation, depletion & amortization | 173.76 | 222.75 | 263.59 | 285.25 | 297.16 |
| Stock-based compensation expense | 7.01 | 8.99 | 13.59 | 20.48 | 30.46 |
| Losses (gains) on divestitures & sales of assets | -2.27 | -52.30 | 14.09 | 0.41 | -19.37 |
| Deferred income taxes | 24.11 | 50.29 | 85.23 | 67.05 | -239.06 |
| Excess tax benefits from stock-based compensation transactions | -2.37 | -2.51 | - | -6.79 | - |
| Other items, net | -0.43 | 4.80 | -5.97 | -17.73 | -13.16 |
| Accounts receivable, net | -22.52 | -16.65 | 12.31 | -25.07 | -29.33 |
| Inventories, net | -11.64 | -12.02 | -21.53 | -47.38 | -78.97 |
| Accounts payable | 20.06 | 5.30 | -40.05 | -8.12 | -17.87 |
| Other current & noncurrent assets | 1.19 | 8.07 | -3.63 | 9.17 | -19.42 |
| Accrued salaries, benefits & payroll taxes | -4.28 | 10.14 | -12.30 | 13.16 | 0.14 |
| Accrued insurance & other taxes | 0.42 | -17.64 | 4.43 | -2.69 | 4.87 |
| Accrued income taxes | 3.89 | 27.68 | -4.36 | -12.52 | -11.04 |
| Accrued pensions, postretirement & postemployment benefits | -4.80 | 1.15 | -18.15 | -15.96 | 1.98 |
| Other current & noncurrent liabilities | 7.37 | -10.68 | -3.01 | -6.05 | 38.11 |
| Other assets & liabilities, net | 3.80 | 18.71 | -37.04 | -14.89 | -14.62 |
| **Net cash flows from operating activities** | **308.95** | **381.66** | **573.15** | **678.65** | **657.88** |
| Additions to property, plant & equipment | -155.23 | -232.18 | -318.23 | -387.27 | -410.33 |
| Acquisitions, net | -64.48 | -0.19 | -43.22 | -178.77 | -12.10 |
| Cash received in acquisition | - | 59.89 | 0.06 | 4.25 | - |
| Proceeds from divestitures & sales of assets | 8.56 | 121.99 | 448.12 | 6.48 | 35.94 |
| Payment of railcar construction advances | - | -14.51 | -25.23 | -82.91 | -43.59 |
| Reimbursement of railcar construction advances | - | 14.51 | 25.23 | 82.91 | 43.59 |
| Repayments from affiliate | - | 1.18 | 1.81 | - | - |
| Loan to affiliate | -3.40 | - | - | - | - |
| **Net cash flows from investing activities** | **-214.55** | **-49.33** | **88.55** | **-555.31** | **-386.48** |
| Borrowings of long-term debt | 604.42 | 868.76 | 230.00 | 560.00 | 2408.83 |
| Repayments of long-term debt | -621.14 | -1057.29 | -244.70 | -449.31 | -1065.05 |
| Payments of deferred acquisition consideration | - | - | - | - | -2.77 |
| Debt issuance costs | -2.15 | -2.78 | - | -2.30 | -2.20 |
| Change in bank overdraft | 2.56 | -2.37 | 10.05 | -10.24 | - |
| Payments on capital lease obligations | -0.03 | -3.08 | -6.62 | -3.36 | -3.54 |
| Dividends paid | -74.20 | -91.30 | -107.46 | -105.04 | -108.85 |
| Distributions to owners of noncontrolling interests | -0.88 | -0.80 | -0.33 | -0.40 | - |
| Contributions by noncontrolling interests to joint venture | - | - | - | 0.04 | 0.21 |
| Repurchases of common stock | - | - | -519.96 | -259.23 | -100.00 |
| Purchase of remaining interest in existing subsidiaries | - | -19.48 | - | - | - |
| Proceeds from exercise of stock options | - | - | - | - | 10.11 |
| Shares witheld for employees' income tax obligations | - | - | - | - | -11.81 |
| Issuances of common stock | 11.69 | 39.71 | 37.08 | 21.32 | - |
| Excess tax benefits from stock-based compensation transactions | 2.37 | 2.51 | - | 6.79 | - |
| **Net cash flows from financing activities** | **-77.36** | **-266.12** | **-601.94** | **-241.71** | **1124.93** |
| Net increase (decrease) in cash & cash equivalents | 17.04 | 66.21 | 59.76 | -118.37 | 1396.33 |
| Cash & cash equivalents, beginning of year | 25.39 | 42.44 | 108.65 | 168.41 | 50.04 |
| Cash & cash equivalents, end of year | 42.44 | 108.65 | 168.41 | 50.04 | 1446.36 |
| Cash paid for interest | 52.03 | 81.30 | 71.01 | 73.66 | 78.90 |
| Cash paid for income taxes | 23.49 | 15.96 | 46.77 | 124.34 | 155.77 |

**Martin Marietta Materials, Inc.**
*Cash Flow Statement*

| *Fiscal Years Ending Dec. 31* | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|
| Net income (loss) | 579.6 | 635.2 | 693.1 | 748.0 | 793.2 |
| Depreciation | 433.4 | 130.1 | -92.0 | 319.0 | 210.2 |
| Accounts receivable, net | -20.7 | -32.9 | -25.4 | -22.7 | -20.6 |
| Inventories | 5.3 | -38.6 | -29.8 | -26.6 | -24.2 |
| Other current assets | 27.8 | -4.5 | -3.5 | -3.1 | -2.8 |
| Accounts payable | 14.0 | 12.8 | 9.9 | 8.8 | 8.0 |
| Accrued salaries, benefits & payroll taxes | 1.5 | 3.0 | 2.3 | 2.0 | 1.9 |
| Pension & postretirement benefits | 1.4 | 1.5 | 1.6 | 1.8 | 2.0 |
| LT Pension & postretirement benefits | 23.7 | -267.8 | 0.0 | 0.0 | 0.0 |
| Accrued insurance & other taxes | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 |
| Deferred income taxes | 289.5 | -700.3 | 0.0 | 0.0 | 0.0 |
| Other current liabilities | -1.7 | 5.6 | 4.3 | 3.8 | 3.5 |
| Net operating cash flow | 1354.8 | -255.1 | 561.5 | 1032.1 | 972.1 |
| | | | | | |
| Capital Expenditures | -375.00 | -400.00 | -500.00 | -550.00 | -600.00 |
| Goodwill | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Operating permits, net | 17.90 | 17.17 | 16.47 | 15.80 | 15.15 |
| Other intangibles, net | 1.83 | 1.78 | 1.73 | 1.68 | 1.64 |
| Other assets | -37.0 | -9.0 | -7.0 | -6.2 | -5.6 |
| Net investing cash flow | -392.3 | -390.1 | -488.8 | -538.7 | -588.8 |
| | | | | | |
| Current portion of long term debt | 0.00 | -1.75 | 0.13 | -233.29 | 25.00 |
| Long term debt | -501.10 | 99.84 | 189.97 | 80.84 | 126.64 |
| Other noncurrent liabilities | -9.2 | 14.6 | 11.2 | 10.0 | 9.1 |
| Accumulated other comprehensive income ( | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Proceeds from issuance of common stock | 62.78 | 62.49 | 62.25 | 61.86 | 61.34 |
| Dividends Paid | -111.12 | -113.73 | -116.41 | -118.77 | -120.84 |
| Net financing cash flow | -558.61 | 61.41 | 147.19 | -199.32 | 101.26 |
| | | | | | |
| Net change in cash | 403.8 | -583.7 | 219.9 | 294.0 | 484.5 |
| | | | | | |
| Beginning year cash | 1446.36 | 1850.21 | 1266.50 | 1486.40 | 1780.45 |
| Ending year cash | 1850.21 | 1266.50 | 1486.40 | 1780.45 | 2264.94 |

**Martin Marietta Materials, Inc.**

*Common Size Income Statement*

| *Fiscal Years Ending Dec. 31* | 2015 | 2016 | 2017 | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|---|---|---|
| Total revenues | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Total cost of revenues | 79.61% | 76.20% | 75.49% | 75.00% | 74.50% | 74.00% | 73.50% | 73.00% |
| **Gross profit** | 20.39% | 23.80% | 24.51% | 25.00% | 25.50% | 26.00% | 26.50% | 27.00% |
| Selling, general & administrative expenses | 6.17% | 6.49% | 6.61% | 6.39% | 6.39% | 6.39% | 6.39% | 6.39% |
| Other operating expenses & (income), net | 0.44% | -0.21% | 0.02% | 0.08% | 0.08% | 0.08% | 0.08% | 0.08% |
| **Earnings from operations** | 13.54% | 17.47% | 17.66% | 18.53% | 19.03% | 19.53% | 20.03% | 20.53% |
| Interest expense | 2.16% | 2.14% | 2.31% | 0.54% | 0.53% | 0.27% | 0.06% | 0.08% |
| Other nonoperating income (expenses), net | 0.30% | 0.56% | 0.25% | 0.37% | 0.37% | 0.37% | 0.37% | 0.37% |
| **Earnings from continuing operations before taxes on income** | 11.69% | 15.90% | 15.61% | 17.61% | 18.12% | 18.89% | 19.60% | 20.08% |
| Income tax (benefit) expense | 3.53% | 4.76% | -2.38% | 3.96% | 4.08% | 4.25% | 4.41% | 4.52% |
| **Consolidated net earnings (loss)** | 8.16% | 11.14% | 17.99% | 13.65% | 14.04% | 14.64% | 15.19% | 15.56% |
| Less: net earnings (loss) attributable to noncontrolling interests | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| **Net earnings attributable to Martin Marietta Materials, Inc.** | 8.16% | 11.14% | 17.99% | 13.65% | 14.05% | 14.64% | 15.19% | 15.56% |

**Martin Marietta Materials, Inc.**

*Common Size Balance Sheet*

| *Fiscal Years Ending Dec. 31* | 2015 | 2016 | 2017 | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|---|---|---|
| Cash & cash equivalents | 4.76% | 1.31% | 36.47% | 43.57% | 28.01% | 31.40% | 36.16% | 44.44% |
| Accounts receivable, net | 11.61% | 11.99% | 12.29% | 11.96% | 11.96% | 11.96% | 11.96% | 11.96% |
| Inventories, net | 13.25% | 13.66% | 15.15% | 14.02% | 14.02% | 14.02% | 14.02% | 14.02% |
| Current deferred income tax benefits | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Other current assets | 0.95% | 1.49% | 2.45% | 1.63% | 1.63% | 1.63% | 1.63% | 1.63% |
| **Total current assets** | 30.57% | 28.45% | 66.35% | 71.18% | 55.62% | 59.01% | 63.77% | 72.05% |
| Property, plant & equipment, net | 89.16% | 89.65% | 90.60% | 83.23% | 84.13% | 92.86% | 93.97% | 98.44% |
| Goodwill | 58.43% | 56.55% | 54.48% | 50.87% | 47.77% | 45.63% | 43.87% | 42.39% |
| Operating permits, net | 12.56% | 11.58% | 11.07% | 9.92% | 8.94% | 8.19% | 7.55% | 7.00% |
| Other intangibles, net | 1.86% | 1.81% | 1.70% | 0.02% | 1.41% | 1.31% | 1.22% | 1.15% |
| Other noncurrent assets | 4.09% | 3.15% | 2.57% | 3.27% | 3.27% | 3.27% | 3.27% | 3.27% |
| **Total assets** | 196.68% | 191.19% | 226.76% | 220.02% | 201.14% | 210.26% | 213.66% | 224.30% |
| Accounts payable | 4.65% | 4.68% | 4.63% | 4.65% | 4.65% | 4.65% | 4.65% | 4.65% |
| Accrued salaries, benefits & payroll taxes | 0.87% | 1.24% | 1.12% | 1.08% | 1.08% | 1.08% | 1.08% | 1.08% |
| Pension & postretirement benefits | 0.23% | 0.24% | 0.34% | 0.35% | 0.36% | 0.38% | 0.40% | 0.43% |
| Accrued insurance & other taxes | 1.77% | 1.57% | 1.64% | 1.55% | 1.48% | 1.43% | 1.39% | 1.37% |
| Current maturities of long-term debt & short-term facilities | 0.54% | 4.71% | 7.56% | 7.02% | 6.60% | 1.37% | 1.83% | 1.77% |
| Other current liabilities | 2.01% | 1.86% | 2.21% | 2.03% | 2.03% | 2.03% | 2.03% | 2.03% |
| **Total current liabilities** | 10.37% | 14.31% | 17.51% | 16.73% | 16.20% | 15.87% | 10.88% | 11.32% |
| Long-term debt | 43.89% | 39.44% | 68.77% | 52.42% | 51.44% | 53.14% | 52.74% | 53.44% |
| Pension, postretirement & postemployment benefits | 6.34% | 6.50% | 6.15% | 6.31% | 0.00% | 0.00% | 0.00% | 0.00% |
| Deferred income taxes, net | 16.48% | 17.36% | 10.36% | 16.49% | 0.00% | 0.00% | 0.00% | 0.00% |
| Other noncurrent liabilities | 4.88% | 5.09% | 5.89% | 5.29% | 5.29% | 5.29% | 5.29% | 5.29% |
| **Total liabilities** | 81.97% | 82.71% | 108.69% | 97.24% | 72.92% | 74.31% | 68.91% | 70.05% |
| Common stock | 92.90% | 87.33% | 84.95% | 80.81% | 77.27% | 75.11% | 73.48% | 72.19% |
| Accumulated other comprehensive income (loss) | -2.98% | -3.42% | -3.26% | -3.04% | -2.86% | -2.73% | -2.62% | -2.53% |
| Retained earnings (accumulated deficit) | 24.70% | 24.50% | 36.31% | 44.94% | 53.74% | 63.51% | 73.84% | 84.53% |
| **Total shareholders' equity (deficit)** | 114.63% | 108.41% | 118.01% | 122.71% | 128.15% | 135.89% | 144.69% | 154.19% |
| Noncontrolling interests | 0.08% | 0.07% | 0.07% | 0.07% | 0.06% | 0.06% | 0.06% | 0.06% |
| **Total equity** | 114.71% | 108.48% | 118.08% | 122.78% | 128.21% | 135.95% | 144.75% | 154.25% |
| **Total liabilities & shareholders equity** | 196.68% | 191.19% | 226.76% | 220.02% | 201.14% | 210.26% | 213.66% | 224.30% |

**Martin Marietta Materials, Inc.**
*Value Driver Estimation*

| *Fiscal Years Ending Dec. 31* | 2015 | 2016 | 2017 | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|---|---|---|
| **Marginal Tax Rate** | | | | | | | | |
| Statutory U.S. Federal Income Tax Rate | 35% | 35% | 35% | 21% | 21% | 21% | 21% | 21% |
| U.S. State & Local Income Taxes | 5% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| **Marginal Tax Rate** | 40% | 37% | 37% | 23% | 23% | 23% | 23% | 23% |
| | | | | | | | | |
| **NOPLAT Calculation** | | | | | | | | |
| Net Sales | 3268 | 3577 | 3721 | 4246.46 | 4521.85 | 4734.36 | 4924.10 | 5096.44 |
| -Cost of Sales | 2546 | 2668 | 2749 | 3184.84 | 3368.78 | 3503.42 | 3619.21 | 3720.40 |
| -Selling, General & Administrative | 218 | 248 | 262 | 271.39 | 288.99 | 302.57 | 314.70 | 325.71 |
| +Implied Interest on Operating Leases | 114 | 146 | 140 | 23.71 | 23.33 | 25.11 | 29.01 | 30.54 |
| **EBITA** | 617 | 807 | 850 | 814 | 887 | 953 | 1019 | 1081 |
| | | | | | | | | |
| **Less: Adjusted Taxes** | | | | | | | | |
| Income Tax Provision | 125 | 182 | -94 | 168.25 | 184.37 | 201.18 | 217.13 | 230.24 |
| +Tax Shield on Interest Expense | 30 | 30 | 34 | 5.20 | 5.41 | 2.85 | 0.62 | 0.86 |
| +Tax Shield on Implied Interest on Op Leases | 45 | 54 | 52 | 5.33 | 5.25 | 5.65 | 6.53 | 6.87 |
| **Adjusted Taxes** | 200 | 266 | -8 | 179 | 195 | 210 | 224 | 238 |
| | | | | | | | | |
| **Plus: Change in Deffered Tax Liabilities** | 85 | 67 | -239 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | |
| **NOPLAT** | 502 | 607 | 619 | 635 | 692 | 744 | 795 | 843 |
| | | | | | | | | |
| **Invested Capital Computation** | | | | | | | | |
| | | | | | | | | |
| Operating Current Assets: | | | | | | | | |
| Normal Cash (lesser of actual or %) | 65 | 50 | 74 | 84.93 | 90.44 | 94.69 | 98.48 | 101.93 |
| Accounts Receivable, Net | 411 | 458 | 487 | 507.98 | 540.92 | 566.34 | 589.04 | 609.66 |
| Inventory | 469 | 522 | 601 | 595.34 | 633.94 | 663.74 | 690.34 | 714.50 |
| Deffered Tax Assets | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Current Assets | 34 | 57 | 97 | 69.15 | 73.63 | 77.09 | 80.18 | 82.99 |
| Operating Current Assets | 979 | 1086 | 1259 | 1257 | 1339 | 1402 | 1458 | 1509 |
| | | | | | | | | |
| Operating Current Liabilities: | | | | | | | | |
| Accounts Payable | 164.718 | 178.598 | 183.638 | 197.62 | 210.44 | 220.33 | 229.16 | 237.18 |
| Accrued Expenses | 31 | 47 | 44 | 45.75 | 48.72 | 51.01 | 53.05 | 54.91 |
| Pension and Post Retirement Benefits | 8 | 9 | 14 | 15.00 | 16.49 | 18.12 | 19.91 | 21.88 |
| Accrued Insurance & Other Taxes | 63 | 60 | 65 | 65.87 | 66.79 | 67.72 | 68.67 | 69.63 |
| Net Operating Working Capital | 712 | 791 | 952 | 933 | 997 | 1045 | 1087 | 1125 |
| + PP&E, Net | 3156 | 3423 | 3593 | 3534.37 | 3804.29 | 4396.25 | 4627.22 | 5017.03 |
| + Capitalized PV of Operating Leases | 488 | 570 | 558 | 548.83 | 590.74 | 682.66 | 718.53 | 779.06 |
| + Misc. Assets | 145 | 120 | 102 | 138.93 | 147.93 | 154.89 | 161.09 | 166.73 |
| - Other LT Liabilities | 173 | 194 | 234 | 224.59 | 239.16 | 250.40 | 260.43 | 269.55 |
| **Invested Capital** | 3616 | 3920 | 4019 | 3997.54 | 4303.81 | 4983.41 | 5246.41 | 5693.28 |
| | | | | | | | | |
| **ROIC Calculation:** | | | | | | | | |
| NOPLAT | 502 | 607 | 619 | 635 | 692 | 744 | 795 | 843 |
| /Prior Year Invested Capital | 3718 | 3616 | 3920 | 4019 | 3998 | 4304 | 4983 | 5246 |
| **ROIC** | 14% | 17% | 16% | 16% | 17% | 17% | 16% | 16% |
| | | | | | | | | |
| **Economic Profit Calculation:** | | | | | | | | |
| ROIC | 14% | 17% | 16% | 16% | 17% | 17% | 16% | 16% |
| -WACC | 7.23% | 7.23% | 7.23% | 7.23% | 7.23% | 7.23% | 7.23% | 7.23% |
| Diff | 6.3% | 9.6% | 8.6% | 8.6% | 10.1% | 10.0% | 8.7% | 8.8% |
| x Prior Year IC | 3718 | 3616 | 3920 | 4019 | 3998 | 4304 | 4983 | 5246 |
| **Economic Profit** | 233.37 | 345.77 | 335.79 | 344.49 | 403.25 | 432.52 | 434.50 | 463.45 |
| | | | | | | | | |
| **Free Cash Flow Calculation:** | | | | | | | | |
| NOPLAT | 502 | 607 | 619 | 635 | 692 | 744 | 795 | 843 |
| Current Year Invested Capital | 3616 | 3920 | 4019 | 3998 | 4304 | 4983 | 5246 | 5693 |
| Prior Year Invested Capital | 3718 | 3616 | 3920 | 4019 | 3998 | 4304 | 4983 | 5246 |
| **Free Cash Flow** | 604 | 303 | 520 | 656 | 386 | 64 | 532 | 396 |

**Martin Marietta Materials, Inc.**

*Weighted Average Cost of Capital (WACC) Estimation*

| | |
|---|---|
| 30-Year Treasury | 3.38% |
| Marginal Tax Rate | 22.50% |
| Beta | 1.06 |
| Equity Risk Premium | 4.80% |
| Cost of Equity | 8.47% |
| Pretax Cost of Debt | 4.25% |
| Shares Outstanding | 62,932,000 |
| Share Price | $188.73 |
| Market Value of Equity | 11,877,156,360 |
| | |
| Short Term Debt & Current Portion of Long Term Debt | 299,909,000 |
| Long Term Debt | 2,727,294,000 |
| PV of Operating Leases | 698,400,000 |
| | |
| Market Value of Debt | 3,725,603,000 |
| Market Value of Firm | 15,602,759,360 |
| Equity/Total Market Value | 76.12% |
| Debt/Total Market Value | 23.88% |
| | |
| WACC | 7.23% |

**Martin Marietta Materials, Inc.**

*Discounted Cash Flow (DCF) and Economic Profit (EP) Valuation Models*

Key Inputs:

| | |
|---|---|
| CV Growth | 3.50% |
| CV ROIC | 16% |
| WACC | 7.23% |
| Cost of Equity | 8.47% |

| *Fiscal Years Ending Dec. 31* | | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|---|
| **DCF Model** | | | | | | |
| NOPLAT | | 635 | 692 | 744 | 795 | 843 |
| Beginning IC | | 4019 | 3998 | 4304 | 4983 | 5246 |
| Ending IC | | 3998 | 4304 | 4983 | 5246 | 5693 |
| Changin in IC | | -21 | 306 | 680 | 263 | 447 |
| ROIC | | 16% | 17% | 17% | 16% | 16% |
| Free Cash Flows | | 656 | 386 | 64 | 532 | 396 |
| Terminal Value | | | | | | 17663 |
| Discount Rate | | 1.072 | 1.150 | 1.233 | 1.322 | 1.322 |
| PV of FCF | | $ 612.20 | $ 335.77 | $ 52.06 | $ 402.29 | $13,358.46 |
| Total | $ 14,760.8 | | | | | |
| + Excess Cash | 1372 | | | | | |
| - Total Debt | 3027 | | | | | |
| - Other Long Term Liabilities | 889 | | | | | |
| - Underfunded Pension Liabilities | 133 | | | | | |
| - PV of Operating Leases | 558 | | | | | |
| - PV of Non-Controlling Interest | 3 | | | | | |
| - PV of Employee Stock Options | 284 | | | | | |
| Value of Equity | $ 11,239.40 | | | | | |
| Share Outstanding | 63 | | | | | |
| Intrisic Value | 178.76 | | | | | |
| **EP Model** | | | | | | |
| NOPLAT | | 635 | 692 | 744 | 795 | 843 |
| Beginning IC | | 4019 | 3998 | 4304 | 4983 | 5246 |
| ROIC-WACC | | 9% | 10% | 10% | 9% | 9% |
| **EP** | | 344 | 403 | 433 | 435 | 463 |
| Terminal Value | | | | | | 12416 |
| Discount Rate | | 1.072 | 1.150 | 1.233 | 1.322 | 1.322 |
| PV of EP | | 321 | 351 | 351 | 329 | 9391 |
| Total | 10742 | | | | | |
| Beginning IC | 4019 | | | | | |
| Value of Operating Assets | 14761 | | | | | |
| + Excess Cash | 1372 | | | | | |
| - Total Debt | 3027 | | | | | |
| - Other Long Term Liabilities | 889 | | | | | |
| - Underfunded Pension Liabilities | 133 | | | | | |
| - PV of Operating Leases | 558 | | | | | |
| - PV of Non-Controlling Interest | 3 | | | | | |
| - PV of Employee Stock Options | 284 | | | | | |
| Value of Equity | $ 11,242.28 | | | | | |
| Share Outstanding | 62.9 | | | | | |
| Intrisic Value | 178.81 | | | | | |
| Partial Year Adjustment | 191.97 | | | | | |

**Martin Marietta Materials, Inc.**

*Dividend Discount Model (DDM) or Fundamental P/E Valuation Model*

| *Fiscal Years Ending Dec. 31* | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|
| EPS | $ 9.23 | $ 10.16 | $ 11.13 | $ 12.09 | $ 12.93 |
| ***Key Assumptions*** | | | | | |
| CV growth | 3.50% | | | | |
| CV ROE | 10.09% | | | | |
| Cost of Equity | 8.47% | | | | |
| ***Future Cash Flows*** | | | | | |
| P/E Multiple (CV Year) | | | | | 14.60 |
| EPS (CV Year) | | | | | 12.93 |
| Future Stock Price | | | | | 188.73 |
| Dividends Per Share | 1.77 | 1.82 | 1.87 | 1.92 | 1.97 |
| Future Cash Flows | 1.77 | 1.82 | 1.87 | 1.92 | 190.70 |
| Discounted Cash Flows | 1.69 | 1.65 | 1.62 | 1.58 | 157.08 |
| Intrinsic Value | $ 161.93 | | | | |
| Partial Year Adjustment | $ 173.85 | | | | |

**Martin Marietta Materials, Inc.**

*Relative Valuation Models*

| Ticker | Company | Price | EPS 2018E | EPS 2019E | P/E 18 | P/E 19 | Est. 5yr EPS gr. | PEG 18 | PEG 19 |
|---|---|---|---|---|---|---|---|---|---|
| VMC | Vulcan Materials Compa | $101.71 | $3.04 | $4.00 | 33.5 | 25.4 | 25.9 | 1.29 | 0.98 |
| EXP | Eagle Materials Inc. | $77.53 | $5.34 | $5.45 | 14.5 | 14.2 | 8.0 | 1.81 | 1.78 |
| MHK | Mohawk Industries | $131.78 | $13.61 | $12.32 | 9.7 | 10.7 | 2.7 | 3.61 | 3.99 |
| USCR | US Concrete, Inc. | $36.36 | $2.98 | $3.20 | 12.2 | 11.4 | 10.0 | 1.22 | 1.14 |
| | | | | Average | **17.5** | **15.4** | | **2.0** | **2.0** |
| | | | | | | | | | |
| MLM | Martin Marietta Materi | $188.73 | $9.23 | $10.16 | 20.4 | 18.6 | 8.6 | 2.4 | 2.2 |

**Implied Value:**

| | |
|---|---|
| **Relative P/E (EPS18)** | **$ 161.24** |
| **Relative P/E (EPS19)** | **$ 156.82** |
| **PEG Ratio (EPS18)** | **$ 157.28** |
| **PEG Ratio (EPS19)** | **$ 172.01** |

**Martin Marietta Materials, Inc.**

*Key Management Ratios*

| *Fiscal Years Ending Dec. 31* | | 2015 | 2016 | 2017 | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|---|---|---|---|---|---|---|---|---|
| ***Liquidity Ratios*** | | | | | | | | | |
| Current Ratio | Current Assets/ Current Liabilities | 2.95 | 1.99 | 3.79 | 4.26 | 3.43 | 3.72 | 5.86 | 6.36 |
| Quick Ratio | Cash + AR/ Current Liabilities | 0.54 | 0.47 | 0.73 | 0.78 | 0.72 | 0.73 | 0.75 | 0.78 |
| ***Activity or Asset-Management Ratios*** | | | | | | | | | |
| Receivables Turnover | Sales/ Average AR | 8.51 | 8.79 | 8.39 | 8.53 | 8.62 | 8.55 | 8.52 | 8.50 |
| Fixed-Asset Turnover | Revenue/Avg PPE | 1.08 | 1.16 | 1.13 | 1.19 | 1.23 | 1.15 | 1.09 | 1.06 |
| Total Asset Turnover | Revenue/Total Assets | 0.51 | 0.52 | 0.44 | 0.45 | 0.50 | 0.48 | 0.47 | 0.45 |
| ***Financial Leverage Ratios*** | | | | | | | | | |
| Debt-Total Assets Ratio | Total Liabilities/Total Assets | 17.62 | 17.68 | 23.47 | 20.89 | 15.67 | 15.97 | 14.81 | 15.05 |
| Debt-Equity Ratio | LT Debt + ST Debt/Equity | 0.39 | 0.41 | 0.65 | 0.48 | 0.45 | 0.44 | 0.37 | 0.36 |
| Capitalization Ratio | LT Debt/LT Debt + Equity | 0.28 | 0.27 | 0.37 | 0.30 | 0.29 | 0.28 | 0.27 | 0.26 |
| Interest Coverage Ratio | EBIT/Interest Expense | 8.09 | 9.88 | 9.29 | 35.21 | 36.89 | 75.21 | 368.94 | 282.58 |
| Cash Flow to Debt Ratio | Operating Cash Flow/Total Debt | 0.36 | 0.40 | 0.22 | 0.54 | -0.10 | 0.20 | 0.39 | 0.35 |
| ***Profitability Ratios*** | | | | | | | | | |
| Gross Profit Margin | Gross Margin/Revenue | 20.39% | 23.80% | 24.51% | 25.00% | 25.50% | 26.00% | 26.50% | 27.00% |
| Operating Margin | Operating Profit/Revenue | 11.69% | 15.90% | 15.61% | 17.61% | 18.12% | 18.89% | 19.60% | 20.08% |
| Pretax Profit Margin | EBIT/Revenue | 17.43% | 21.12% | 21.44% | 19.17% | 19.62% | 20.14% | 20.70% | 21.21% |
| Net Profit Margin | Net Income/Revenue | 8.16% | 11.14% | 17.99% | 13.65% | 14.05% | 14.64% | 15.19% | 15.56% |
| Return on Assets | Net Income/Average Total Assets | 4.00% | 5.97% | 8.76% | 6.32% | 6.89% | 7.28% | 7.31% | 7.23% |
| Return on Equity | Net Income/Average Equity | 6.87% | 10.37% | 16.17% | 11.71% | 11.54% | 11.33% | 11.03% | 10.58% |

## WACC vs. CV Growth

| CV Growth | WACC | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 191.97 | 3.30% | 3.35% | 3.40% | 3.45% | 3.50% | 3.55% | 3.60% | 3.65% | 3.70% |
| 6.40% | 240.72 | 244.29 | 247.97 | 251.78 | 255.72 | 259.80 | 264.02 | 268.40 | 272.94 |
| 6.60% | 224.13 | 227.19 | 230.34 | 233.59 | 236.95 | 240.41 | 244.00 | 247.70 | 251.53 |
| 6.80% | 209.61 | 212.24 | 214.96 | 217.76 | 220.64 | 223.61 | 226.67 | 229.83 | 233.09 |
| 7.00% | 196.79 | 199.08 | 201.44 | 203.86 | 206.35 | 208.91 | 211.54 | 214.26 | 217.06 |
| 7.23% | 183.82 | 185.78 | 187.79 | 189.85 | 191.97 | 194.15 | 196.39 | 198.69 | 201.05 |
| 7.40% | 175.38 | 177.13 | 178.93 | 180.78 | 182.67 | 184.62 | 186.61 | 188.66 | 190.76 |
| 7.60% | 166.24 | 167.79 | 169.37 | 171.00 | 172.66 | 174.36 | 176.11 | 177.90 | 179.74 |
| 7.80% | 158.00 | 159.37 | 160.77 | 162.21 | 163.67 | 165.17 | 166.71 | 168.28 | 169.89 |
| 8% | 150.54 | 151.75 | 153.00 | 154.26 | 155.56 | 156.89 | 158.24 | 159.63 | 161.05 |

## Cost of Equity vs. Pre-Tax Cost of Debt

| Pre-Tax Cost of Debt | Cost of Equity | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 191.97 | 3.45% | 3.65% | 3.85% | 4.05% | 4.25% | 4.45% | 4.65% | 4.85% | 5.05% |
| 7.67% | 254.85 | 251.38 | 247.99 | 244.69 | 241.46 | 238.31 | 235.23 | 232.22 | 229.28 |
| 7.87% | 239.44 | 236.32 | 233.27 | 230.29 | 227.37 | 224.52 | 221.74 | 219.01 | 216.35 |
| 8.07% | 225.46 | 222.64 | 219.88 | 217.18 | 214.53 | 211.94 | 209.41 | 206.93 | 204.51 |
| 8.27% | 212.72 | 210.15 | 207.64 | 205.18 | 202.78 | 200.42 | 198.11 | 195.84 | 193.63 |
| 8.47% | 201.05 | 198.71 | 196.42 | 194.17 | 191.97 | 189.82 | 187.70 | 185.63 | 183.59 |
| 8.67% | 190.32 | 188.18 | 186.09 | 184.03 | 182.01 | 180.03 | 178.09 | 176.19 | 174.31 |
| 8.87% | 180.43 | 178.47 | 176.54 | 174.65 | 172.80 | 170.98 | 169.19 | 167.43 | 165.70 |
| 9.07% | 171.28 | 169.48 | 167.70 | 165.96 | 164.25 | 162.57 | 160.91 | 159.29 | 157.69 |
| 9.27% | 162.79 | 161.12 | 159.49 | 157.88 | 156.29 | 154.74 | 153.21 | 151.70 | 150.22 |

## Beta vs. Equity Risk Premium

| Equity Risk Premium | Beta | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 191.97 | 4.60% | 4.65% | 4.70% | 4.75% | 4.80% | 4.85% | 4.90% | 4.95% | 5.00% |
| 0.85 | 272.20 | 268.43 | 264.75 | 261.16 | 257.64 | 254.19 | 250.82 | 247.52 | 244.29 |
| 0.90 | 252.80 | 249.26 | 245.80 | 242.42 | 239.12 | 235.88 | 232.71 | 229.61 | 226.57 |
| 0.95 | 235.52 | 232.19 | 228.93 | 225.74 | 222.62 | 219.56 | 216.57 | 213.64 | 210.78 |
| 1.00 | 220.04 | 216.88 | 213.80 | 210.78 | 207.82 | 204.93 | 202.10 | 199.33 | 196.62 |
| 1.06 | 203.45 | 200.49 | 197.59 | 194.75 | 191.97 | 189.26 | 186.60 | 183.99 | 181.44 |
| 1.10 | 193.43 | 190.58 | 187.79 | 185.07 | 182.40 | 179.78 | 177.23 | 174.72 | 172.27 |
| 1.15 | 181.92 | 179.20 | 176.54 | 173.93 | 171.39 | 168.89 | 166.45 | 164.06 | 161.72 |
| 1.20 | 171.39 | 168.79 | 166.24 | 163.75 | 161.32 | 158.93 | 156.60 | 154.31 | 152.07 |
| 1.25 | 161.72 | 159.23 | 156.79 | 154.41 | 152.07 | 149.79 | 147.55 | 145.36 | 143.22 |