

# MHK:NYSE

Recommendation: Buy

Price Target: \$200

Return: 50%

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Current Share Price	\$136
52 Week Range	\$109.35 - 228.49
Dividend Yield	0%
Analyst Count	22
Average Rating	Hold

**Valuation**

P/E (LTM)	13.1x
P/E (NTM)	12.3x
P/B	1.3x
EV/EBITDA	8.0x

**Enterprise Value**

Total Shares Outstanding (Millions)	72.4
Current Share Price (USD)	\$136.25
<b>Market Capitalization</b>	<b>\$9,867</b>
Plus: Debt	3,891
Minus: Cash	119
<b>TEV</b>	<b>\$13,639</b>

**Equity Target Price (2020)**

Base Case Target	\$204.00
Upside/(Downside)	50%

**Trading Metrics**

Implied TEV / LTM EBITDA	8.0x
Implied P/E (NTM)	11.3x
Implied P/B	1.7x
Implied FCF Yield	4.8%

## Mohawk Industries Value Investing with Legends (5x5x5)

### Investment Summary

Mohawk Industries (MHK) has experienced significant cost increases over the last twelve to sixteen months. Additionally, the market turmoil, surrounding the China-United States trade deal, has disrupted the supply chain, leading to cost increases. In summary, operating margins have compressed from a historical high of 15% down to 10% in the last reported quarter (Q1 2019). The market believes that a structural shift has occurred in the industry, resulting in materially lower operating margins going forward.

I, however, believe that this perfect cocktail of external pressures has created a buying opportunity, for a business with significant long-term value.

### Thesis Summary:

1. Recent input factor cost pressures will taper off by the end of 2019
2. MHK is still growing sales at historical rates and will be able to exercise its pricing power to pass on cost pressure to consumers
3. Recent increases in competition from international producers in Liquid Vinyl Tile (LVT) will taper off as MHK starts to offer locally produced higher quality LVT at much lower costs
4. MHK has invested significantly over the last couple of years specifically in LVT, depressing free cash-flow. That said, MHK can now capitalize in its investment as one of the only local producers of LVT

**Market concensus is that MHK will continue to underperform in 2019 and 2020 - I however believe MHK has been hit with a perfect cocktail of external pressures as well as some self-inflicted errors that will be worked out by the end of 2019.**



## Company Background

Mohawk Industries, Inc. (MHK) is the largest flooring company in the world. MHK engages in the

- » manufacture
- » design; and
- » distribution of residential and commercial flooring products.

It operates through the following segments:

### The Global Ceramic

This segment focuses on ceramic, porcelain, and natural stone tile products used for wall and floor applications.

### The Flooring NA

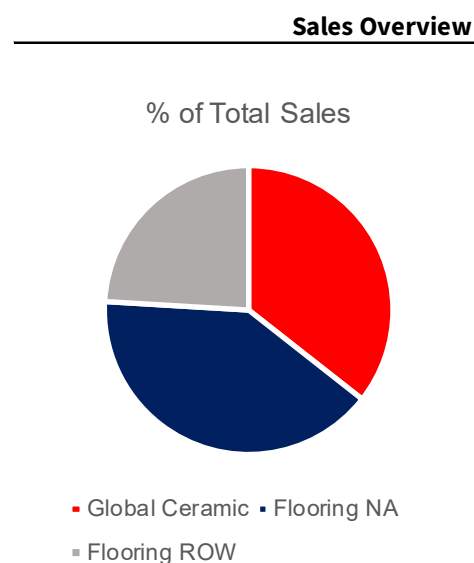
This segment focuses on floor covering product lines, in a broad range of colors, textures, and patterns.

### The Flooring ROW

This segment focuses on laminate, hardwood flooring, and vinyl flooring products, roofing elements, insulation boards, medium-density fiberboard, and chipboards.

	Operating Segments			
	2015	2016	2017	2018
\$m	<b>Global Ceramic</b>			
Sales	3013	3175	3405	3553
<i>growth (%)</i>	0%	5%	7%	4%
EBIT	414	478	525	443
<i>margin (%)</i>	14%	15%	15%	12%
<i>Incremental/(Decremental margin)</i>	-2605%	40%	20%	-56%
	<b>Flooring NA</b>			
Sales	3602	3866	4011	4029
<i>growth (%)</i>	20%	7%	4%	0%
EBIT	264	505	540	348
<i>margin (%)</i>	7%	13%	13%	9%
<i>Incremental/(Decremental margin)</i>	1%	91%	24%	-1052%
	<b>Flooring ROW</b>			
Sales	1457	1919	2075	2402
<i>growth (%)</i>	-23%	32%	8%	16%
EBIT	203	333	329	346
<i>margin (%)</i>	14%	17%	16%	14%
<i>Incremental/(Decremental margin)</i>	-2%	28%	-3%	5%
	<b>Aggregate</b>			
Sales	8072	8959	9491	9984
<i>gross margin (%)</i>	30%	32%	32%	30%
Segment Operating Income	882	1317	1395	1137
<i>EBIT margin (%)</i>	11%	15%	15%	11%
<i>Incremental/(Decremental margin)</i>	53%	49%	15%	-52%

	Segment Overview	
	% of Total Sales	% of Total EBIT
Global Ceramic	36%	39%
Flooring NA	40%	31%
Flooring ROW	24%	30%



## Products

MHK sells a variety of products across a spectrum of price points:

	Flooring Products					
	Vinyl Sheet	LVT	Laminate	Carpets	Tile	Hardwood
Full Installation Price/sf	\$1.5-7.5	\$3-11	\$4-6	\$5-6	\$6-8	\$8-10
Est. Contractor Costs	\$1-4	\$1-4	\$1-2	\$2-3	\$2-3	\$2-3
Raw Material Costs	\$0.5-3.5	\$2-7	\$2-4	\$1-4	\$4-5	\$6-7
Project Average Cost (500/sf)	\$ 2500	\$ 2500	\$ 2500	\$ 2750	\$ 3500	\$ 4500

LVT is a new product offered as an alternative to hardwood floors. LVT is made from PVC plastic through a 3D-printing process. The finish of LVT can be customized to a variety of effects to mimic real wood, but LVT offers significant durability advantages. The margin on LVT is projected to be higher than hardwood and most other products. In conclusion, LVT offers consumers a new product that has all the advantages of synthetic flooring with the look of quality that hardwood offers. It is clear that LVT will be the main driver of growth for the industry and MHK for the next decade.

## Distribution

MHK does not own any retail presence, rather it operates as a manufacturer and wholesaler. MHK distributes through the following channels:

1. Home Centers
2. Independent specialty retailers
3. Builders
4. Mass Merchants
5. E-Commerce

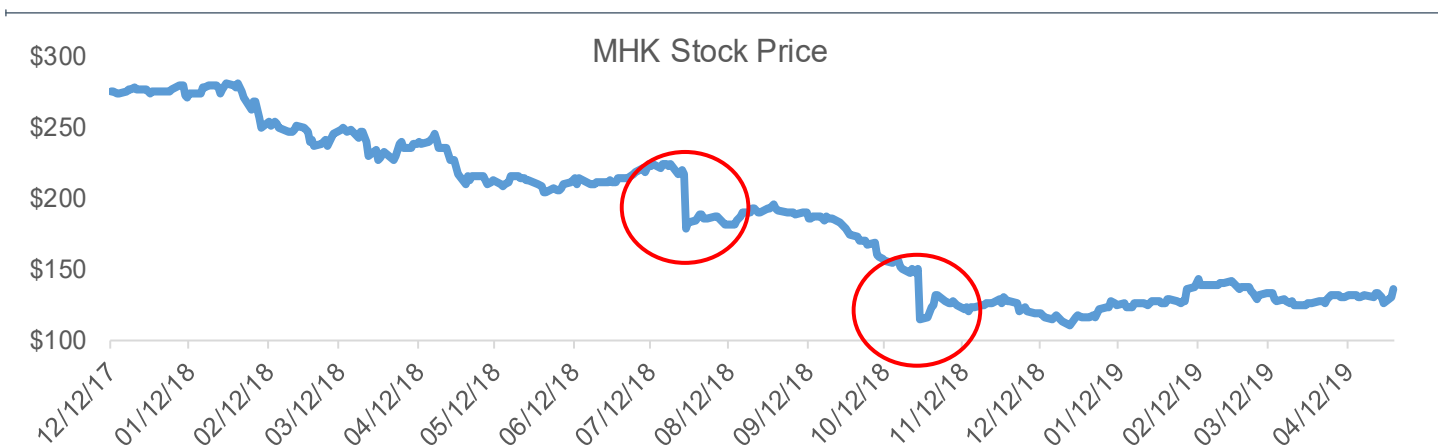
## Sales Mix (Product/Geographic)

The Carpets and Resilient products still contribute the largest portion of the revenue, however Ceramics and Stone are not far behind. However, Laminates, via LVT, is projected to grow significantly in the next decade.

61% of MHK's sales is generated in the US, 25% in Europe, 4% in Russia, and 11% in the rest of the world.

	Flooring Products				
	Global Ceramic	Flooring NA	Flooring ROW	Total	Mix
Ceramic & Stone	\$ 886	\$ 17		\$ 903	35%
Carpet & Resilient		\$ 852	\$ 192	\$ 1044	41%
Laminate & Wood		\$ 179	\$ 200	\$ 379	15%
Other			\$ 220	\$ 220	9%





## Overview of Recent Events

Over the last six quarters, MHK has been experiencing significant headwinds from a number of sources:

1. Execution problems ramping up their new LVT Plant
2. Significant increases in transportation costs due to higher fuel prices and supply issues
3. Stronger dollar has reduced the cost of international import competition
4. Price increases have been less effective as consumers have traded down
5. A weakening housing market has reduced demand as mortgage rates surpassed 5% briefly in Q4-2018

In response to this continued pressure, the operating metrics of the business has suffered significantly. Although sales has maintained its long-run average growth rate of 5%, EBIT margins have contracted from a high of 15% down to 10%. This has lead to a sell-off in the equity, from a high of \$270 down to \$116. Even though the EPS dropped only about 10%, the P/E multiple halved, reflecting the markets excessive pessimism that MHK has permanently been impaired.

I however believe most of the headwinds can be explained by short term pressures that will taper off by the end of 2019. Specifically, I believe that there is no way that the current increase in transportation/logistics can be maintained and that once the cost increases slow down, MHK will be able to pass the costs onto end-consumers.

Additionally, MHK's self-inflicted pain, from its struggles related to the operations of its new LVT plant in the US, will soon be alleviated. MHK has transferred an executive that lead the design and operations of its European LVT plant to the US at the end of 2018. Based on the latest earnings call, management has indicated the US LVT plant is only six months behind the European plant.

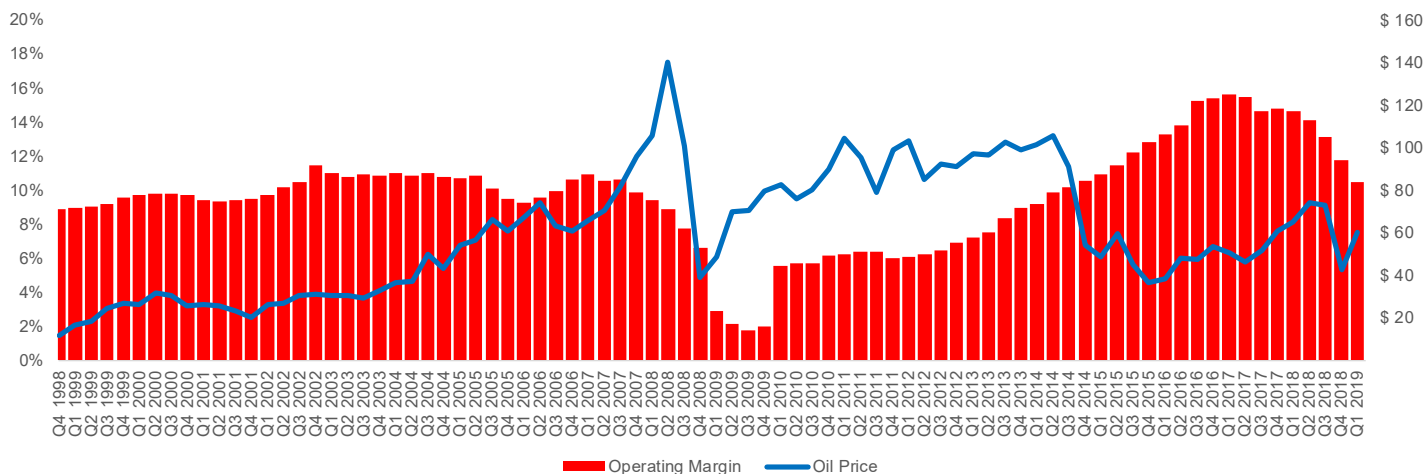
	<b>Summary of Events</b>		
	<b>FY 2017</b>	<b>FY 2018E</b>	<b>% Change</b>
<b>Sales</b>	9,491 M	9,984 M	5%
<b>Growth</b>	6%	5%	-75 bps
<b>EBIT Margin</b>	14.78%	11.38%	-340 bps
<b>EPS</b>	\$ 13.61	\$12.33	-9%
<b>P/E</b>	20.3x	10.3x	-49%
<b>Price</b>	\$ 270	\$ 136	-50%



## Thesis Overview

The market believes the current headwinds will persist, resulting in a permanently impaired business with significant underperformance over the foreseeable future. I believe the headwinds are not permanent and will taper off at the end of 2019.

## Thesis 1: Cost Pressure will ease



### Transportation Cost Increases:

There was a significant increase in transportation cost over the past year. The increases resulted from 1) increases in fuel prices and 2) the introduction in Common Carrier Transportation Fuel Surcharges. Additionally, there is a significant shortage in drivers, leading to wage pressure, congestion and shortage of trucks. Lastly, government regulation introducing electronic logging of driver times has led to additional pressure on drivers. I believe all these issues are temporary and will ease in time.

### Input Factor Price Increases:

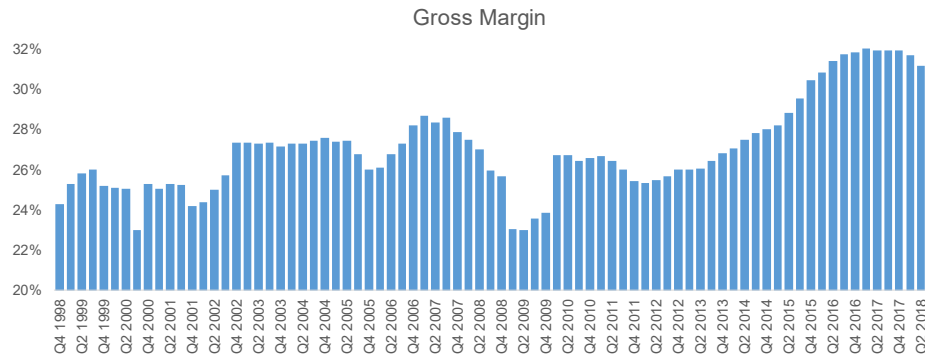
Ethelene is one of the primary input factors for carpets, laminates and LVT. At its peak, more than 60% of the US's production of ethelene was offline after hurricane Harvey. The prolonged drop in supply coupled with the increase in demand led to a drastic increase of over 57% in the price of Ethelene over 2017. The supply of Ethelene was restored and prices have recovered in the second half of 2018. As MHK moves through its historical inventory, the margins will recover. On the longer term, there is sufficient capacity being brought online to maintain a sufficiently low price of Ethelene.

**These cost pressures will ease in the end of 2019 - and operating margins will be restored!**



## Thesis 2: Pricing Power

Historically, MHK has been able to maintain a Gross Profit (GP) margin of ~30%. In the past, MHK was able to pass on costs to consumers. However over the past year, the rate at which cost has been increasing has made it hard for MHK to pass the costs onto consumers. In an attempt to pass on costs, MHK (and the entire industry) has been increasing prices at about 10%. Customers, feeling the rapid increase in prices, have started to trade down to lower quality products. In the process, international importers have been able to encroach, with a stronger dollar and weaker quality product.



The pricing power of MHK has recently come under pressure, however I believe in the long-run, MHK will be able to achieve pricing power. The GP margin will recover to its long-run average of 30%.

## Thesis 3: Trade Wars and Tariffs

Over the last year, there has been a significant increase in competition from Chinese LVT importers. On the back of a stronger dollar and overall lower quality product, the Chinese importers have been able to enter the market. The tariffs placed on Chinese imports will be able to help MHK in the short run, while the US LVT plant is ramping up. Once the US LVT plant is running at capacity, MHK's locally produced LVT will be both cheaper and have a superior quality to the Chinese imports.

## Thesis 4: The Housing End-Market

During 2018, the Fed was increasing interest rates, resulting in an ever higher mortgage rate. At the end of 2018, the average 30-year US mortgage rate was 5%, up from below 4% in 2017. The increasing rate placed pressure on the housing market, resulting in lower housing starts and fewer homes sold. Since then, the Fed has stopped raising interest rates, and the housing market is stable. Leading indicators for remodeling activity is still strong, predicting a 7% increase with a total value of over \$350bn<sup>1</sup>.

**In summary, cost pressures will ease and pricing power will return!**

<sup>1</sup> Leading Indicator of Remodeling Activity (LIRA) released today by the Remodeling Futures Program at the Joint Center for Housing Studies of Harvard University



## Additional Points:

### Why does LVT Matter?

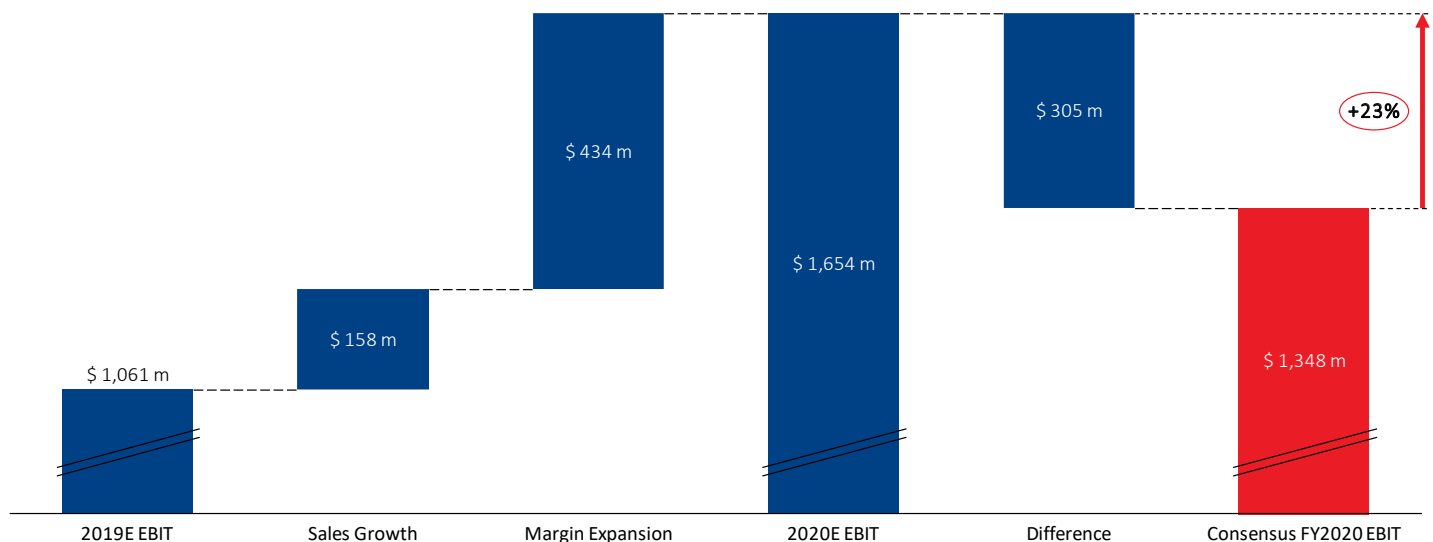
In 2016, MHK invested over \$100m into a new US LVT plant. MHK has experienced multiple delays, and now only expect the plant to reach capacity by 2019. MHK replaced the manager responsible for the US LVT plant with the manager who executed on its European LVT plant. With the new expertise on-shore, the US LVT plant will get back on schedule. Based on the last earnings call, the management has expressed confidence in the execution, and that the US plant is only 6 months behind the European plant.

### Closing down Distribution Centers and liquidating excess inventory:

Lower than expected US ceramic sales has resulted in inventory build-up over the 2018 financial year. Management has been liquidating the excess inventory through lower margin channels. The liquidation has a temporary effect on the margin, and once it is done, margins will recover. Additionally, management is suspending production in two ceramic plants in Italy. MHK will also be closing down two distribution centers in the US.

## Divergence from Consensus

	2019E			2020E			2021E		
	Forecast	Consensus	Diff (%)	Forecast	Consensus	Diff (%)	Forecast	Consensus	Diff (%)
Revenue	\$ 10602 M	\$ 10311 M	3%	\$ 11339 M	\$ 10585 M	7%	\$ 12185 M	\$ 10857 M	12%
EBIT	\$ 1061 M	\$ 1076 M	-1%	\$ 1413 M	\$ 1194 M	18%	\$ 1654 M	\$ 1348 M	23%
EBIT Margin	10.0%	10.4%	-43 bps	12.5%	11.3%	118 bps	13.6%	12.4%	115 bps
GAAP EPS	\$ 10.73	\$ 10.74	0%	\$ 14.89	\$ 12.12	23%	\$ 17.95	\$ 13.83	30%



	Operating Segments		
	Bear	Base	Bull
FY 2020 Revenue	\$ 7866 M	\$ 11339 M	\$ 11526 M
Revenue Growth CAGR	-4%	8%	9%
FY 2020 EBITDA	\$ 1111 M	\$ 2140 M	\$ 2288 M
EBITDA Margin	14%	19%	20%
EV/EBITDA	6.0x	8.0x	9.5x
Implied Enterprise value	\$ 6664 M	\$ 17118 M	\$ 21739 M
P/B	0.5x	1.7x	2.2x
P/E NTM	6.1x	11.3x	13.6x
Net debt	\$ 2394 M	\$ 2497 M	\$ 2346 M
Share price	\$ 61	\$ 204	\$ 270

## Valuation:

Valuing the business based on the 2020E EBITDA of three different scenarios.

### Bear Case:

The bear case reflects a serious macro-economic downturn, with a significant slowdown in growth. EBITDA margins compress down to 14%, reflecting negative economies of scale. The operating metrics largely reflect how MHK performed during the 2008 GFC.

### Base Case:

The base case reflects a recovery to MHK's long-run operating metrics, though not back to MHK's peak operating performance in 2017. Growth remains in line with the long-run average, with the main growth coming from the Rest of World segment. The operating margins recover back to about 90% of peak performance. The valuation metric of 8x EBITDA is still conservative based on MHK's historical trading multiples.

### Bull Case:

The bull case reflects a complete recovery back to the peak performance of 2017. Revenue growth accelerates and operating margins completely recover. Valuation multiples recover back to 2017 multiples, reflecting the strong operating metrics.

**In conclusion, I believe the base case represents the most likely outcome for MHK in 2020, with a price target of ~\$200 with a 50% upside to the current stock price.**





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## Catalyst and Factors to Track

1. Cost pressures showing signs of slowing (mainly tracking PPI, Oil Price and Ethylene Price)
2. Tracking the industries Price increases
3. Leading remodeling index indicators as well as housing starts
4. Management's execution on the new LVT plant in the US

## Risks and Mitigants

I believe there are some significant risks to the investment that must be tracked during the holding period.

### 1 - Inflation Pressure:

The continued increase in input factor costs and cost of transportation can be hard to predict. There is a change that the cost structure keeps increasing much faster and longer than I anticipate, leading to further deterioration of the business.

### 2 - US LVT Plant ramp-up taking longer:

A large part of the thesis relies on LVT growth in the US. In order for MHK to capitalize on the LVT opportunity, the US LVT plant must be completed and operating at capacity as soon as possible. If the new managent assigned to the LVT plant is not able to execute, the opportunity may be missed.

### 3 - Permanent Impairment of Consumer Preference:

The industry-wide persistent increase in prices, in order to pass cost increases to consumer, have led to pricing pressure on consumers. Consumers have resorted to trading down to lower quality products. It may be the case that consumer preference has permanently impaired.

### 4 - Housing Cycle Downturn:

If the housing cycle, and the entire economy for that matter, has a downturn, MHK will face a tough time on the demand side.



