



# 2023 International Stock Picking Challenge

**Westlake**

# Westlake Share Performance

S&P 500 (^SPX) Index Value : 48.17%

WLK Share Pricing : 172.36%

DOW Share Pricing : 61.48%

CVX Share Pricing : 100.00%

Pane 1

Right click in the pane to export and for more options



Westlake Corp has outperformed S&P500 and peers over last 3 years

\*Source : S&P Capital IQ

# Westlake Overview

## Financial Performance

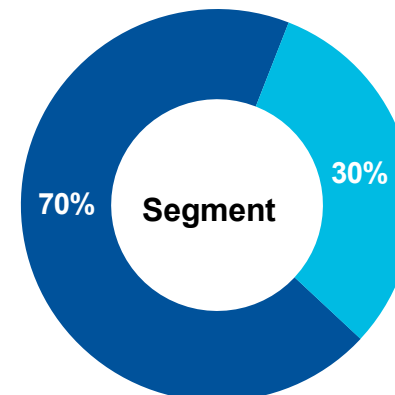
<b>\$15.8B</b> (+12.8%, 5 year CAGR*) Sales	<b>\$14.4B</b> (+18%, 5 year CAGR) Market Cap
<b>\$4.2B</b> (+15%, 5 year CAGR) EBITDA	<b>\$17.4</b> (+18%, 5 year CAGR, Yield 7.5%) Basic EPS
<b>26%</b> EBITDA Margin	<b>\$1.31</b> (+7%, 5 year CAGR) Dividend per share
<b>\$2.2B</b> (+18%, 5 year CAGR, Margin 14%) Net Income	<b>\$3.3B</b> (+18%, 5 year CAGR) Operating Cash Flows

Dec 31<sup>st</sup>, 2022

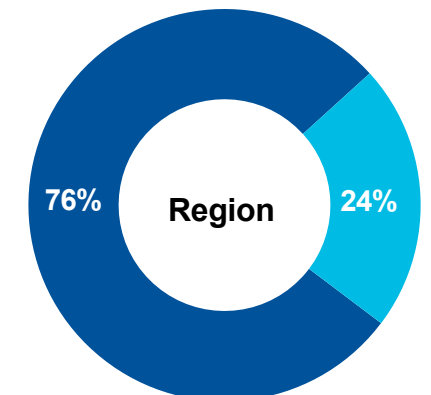
A leading producer of performance oriented and essential materials as well as North American building products that benefits from a globally competitive low-cost position

<b>105</b> Manufacturing Facilities	<b>15,920</b> Employees	<b>~16%</b> Sales CAGR (1986-2021)
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### Sales Breakout



■ PEM ■ HIP



■ N. America ■ International

**Strong Financials and Balance Sheet With Leadership Positions Across Several Markets**

# Westlake is a Compelling Investment Opportunity

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**BUY**

**Recommendation**

**~30%  
Upside**

**Strong Financials  
& Balance Sheet**

**Consistent  
Dividend Growth**

**Undervalued  
Stock**

**Competitive  
Advantage**

**\$134**  
TARGET PRICE RANGE



**\$102\***  
CLOSING PRICE  
December 30<sup>th</sup> 2022

# Competitive Advantage

1

**Strong Financials** : The company has consistently generated positive free cash flow over the past five years. The company also has a strong balance sheet, with return on equity (ROE) consistently above the industry average

2

**Vertically Integrated Business Model** : Control entire value chain from raw material to finished goods, it provides the company with cost advantages and greater operational efficiency compared to companies that do not have such integration.

3

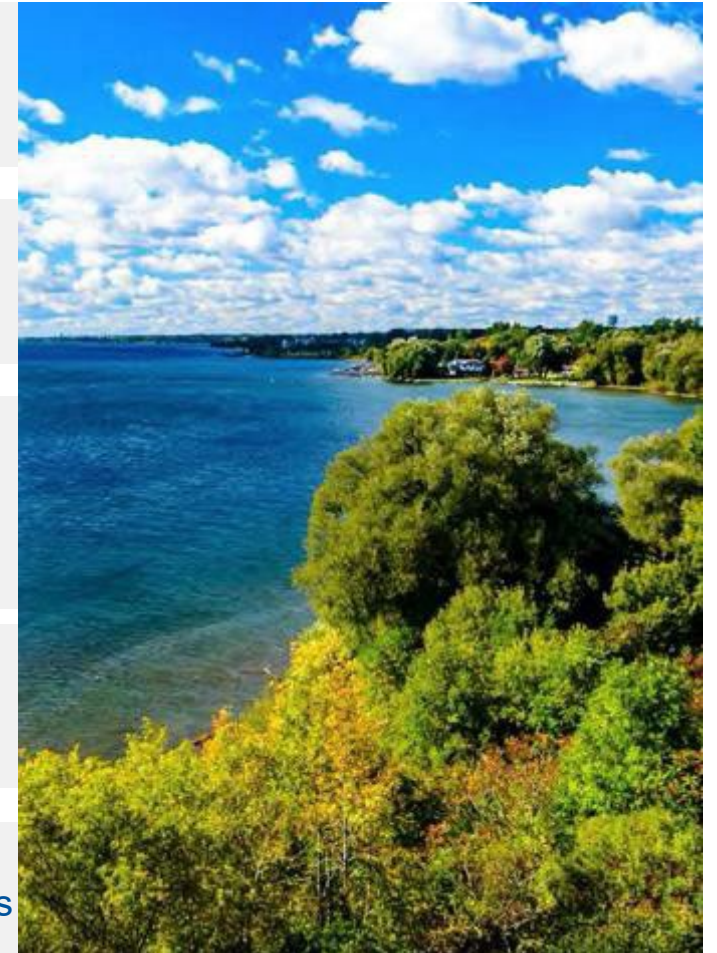
**Scale and Scope of Operations** : With a broad range of products and operations across multiple geographies, Westlake has significant scale and scope advantages that enable it to meet a wide range of customer needs and adapt to changing market conditions.

4

**Operational Excellence** : Focus on operational excellence allows the company to deliver consistent quality and service to customers while maximizing efficiency and profitability.

5

**Global Presence** : Manufacturing facilities and sales offices in North America, Europe, and Asia. This global reach allows the company to access new markets and customers, diversify its revenue streams, and respond quickly to changing market conditions.



Leveraging a Strong History of Success Across a Dynamic Portfolio of Opportunities

# Industry Outlook

## Growth



The global chemical industry is expected to grow at a CAGR of 5.5% from 2021 to 2028, driven by rising demand from various end-use industries such as automotive, construction, and electronics.

## Opportunity



The industry is also expected to benefit from increasing investments in research and development (R&D) and innovation, which are leading to the development of more advanced and sustainable products.

## Challenges



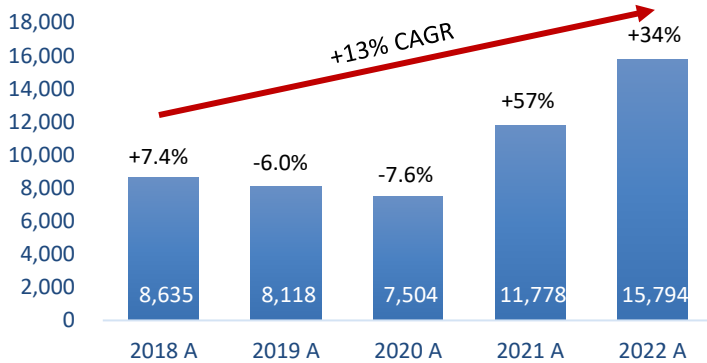
Rising raw material costs, increasing competition, and supply chain disruptions  
Increased government regulations and policies around environmental protection and sustainability

# Financial Analysis



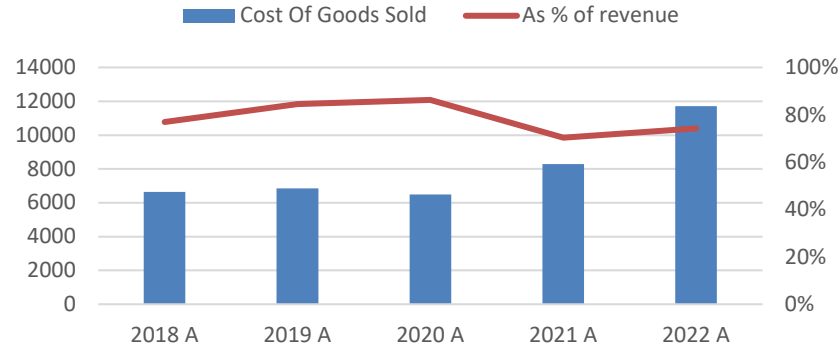
# Financial Analysis – Income Statement

## Sales/ Revenue (M \$)



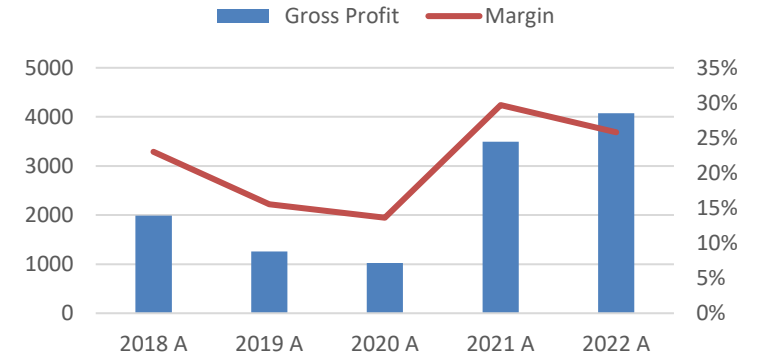
**Strong Revenue Growth : +13% CAGR as compared to +8% of industry**

## COGS (M \$)



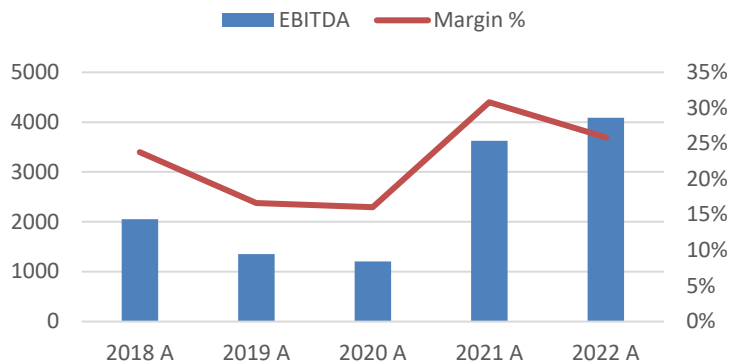
**COGS 78% of total sales, +12% CAGR**

## Gross Profit Margin %



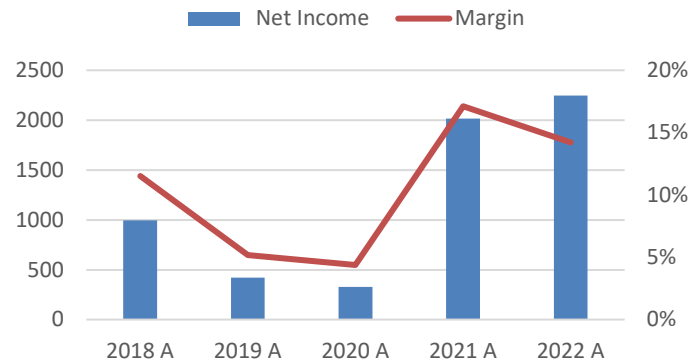
**GPM increasing to 26% as compared to 17% industry**

## EBITDA (M \$)



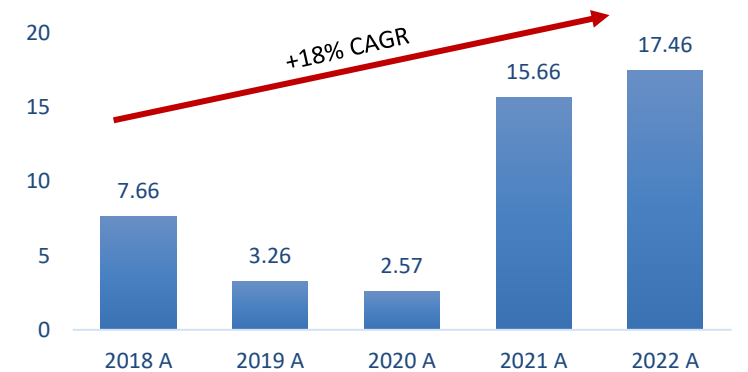
**EBITDA Margin : 26% , Industry Margin : 12%**

## Net Income (M \$)



**CAGR : 18%, Consistent margin of 14% , Industry : 6%**

## EPS



**Increasing return to shareholders, Consistent increase in earning, CAGR 18%**

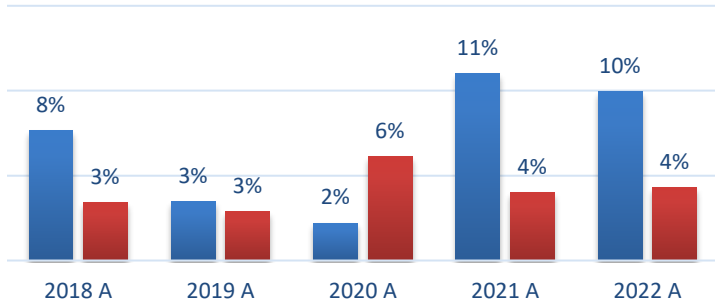
Revenue and Net Income have been growing at a steady pace with increase in COGS and operational expense while EBITDA remained relatively stable



# Financial Analysis – Balance Sheet

## Return on Assets

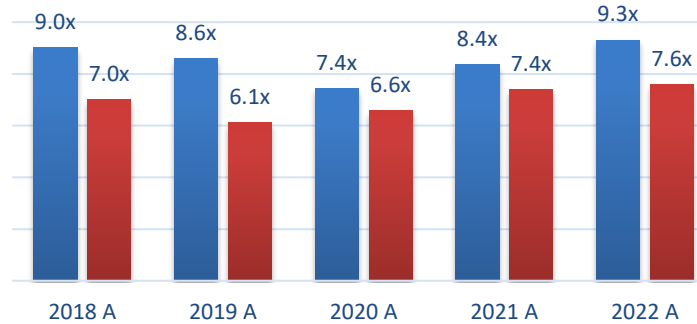
■ Return on Assets % - WLK ■ Return on Assets % - Industry



WLK is more efficient at generating profits from its assets

## Account Receivable Turnover

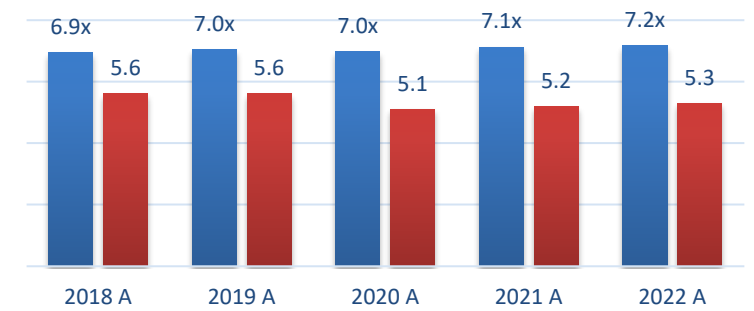
■ AR Turnover - WLK ■ AR Turnover - Industry



WLK has better control over its credit and collection policies than its peers

## Inventory Turnover

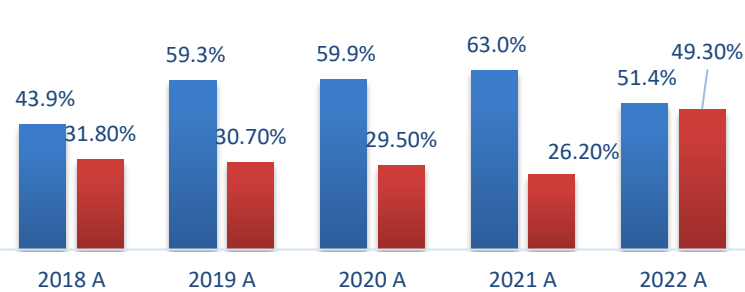
■ Inventory Turnover - WLK ■ Inventory Turnover - Industry



inventory turnover has consistently been higher than the industry average for the past five years

## Debt to Equity Ratio

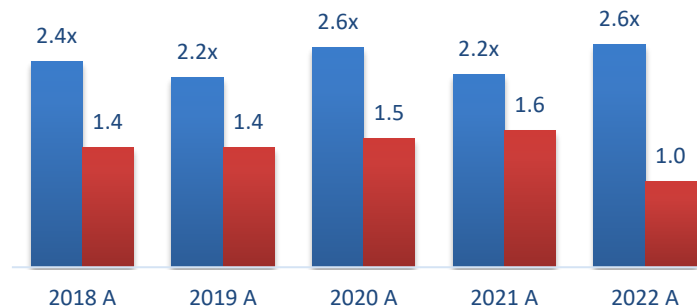
■ LT Debt/Equity - WLK ■ LT Debt/Equity - Industry



WLK Capital structure is debt heavy as compared to peers but it has decreased from 63% to 51% in 2022

## Current Ratio

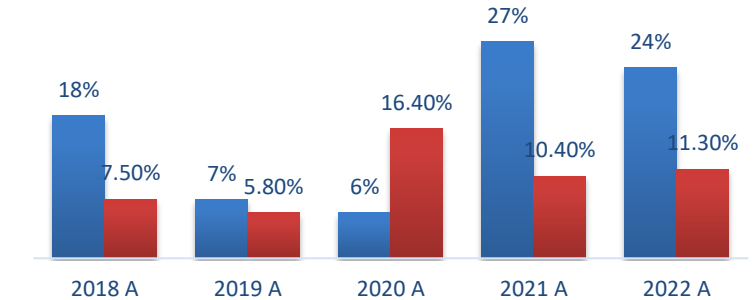
■ Current Ratio - WLK ■ Current Ratio - Industry



With higher current ratio, WLK is better equipped to meet its short-term obligations.

## Return on Equity

■ Return on Equity % - WLK ■ Return on Equity % - Industry

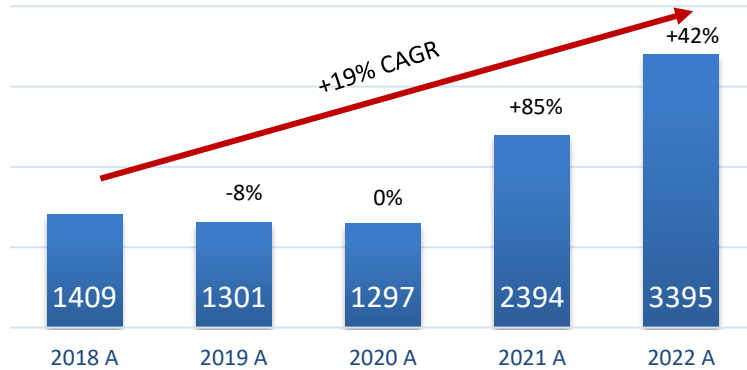


ROE is consistently higher than the industry average

WLK's financial performance improved from 2018 to 2022 with an increase in AR turnover, inventory turnover, and return on equity and assets, while maintaining a current ratio above industry average and reducing long-term debt to equity ratios to below industry averages.

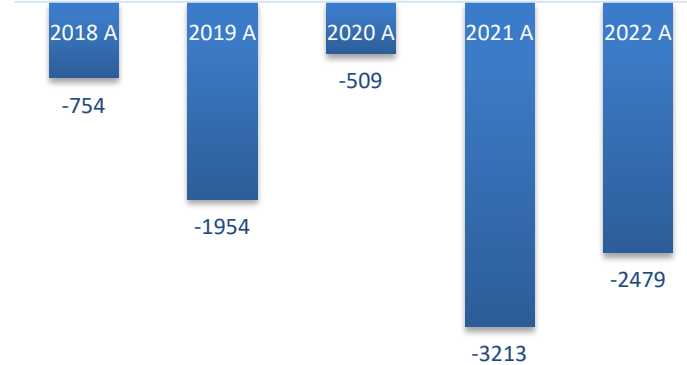
# Financial Analysis – Cash Flow Statement

## Operating Cash Flow (M\$)



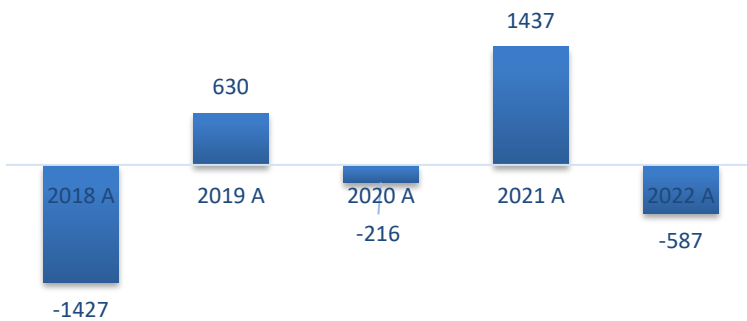
Significant increase in cash from operations over the past two years, with a growth rate of 85% in 2021 and 42% in 2022

## Investing Cash Flow (M\$)



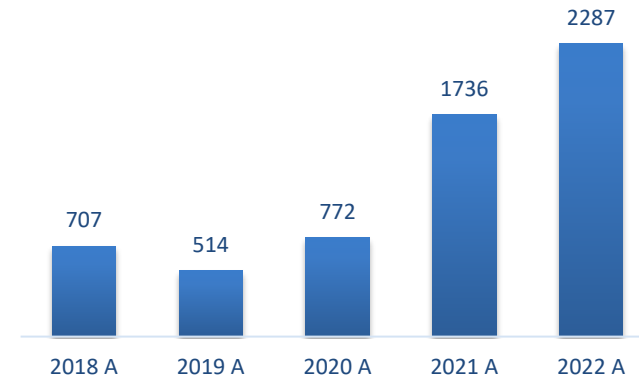
Significant cash outflow, company investing heavily to fund expansion and upgrading facilities

## Financing Cash Flow (M \$)



Cash Flow from financing varied widely with significant inflow in 2021 and cash outflow in 2022

## Free Cash Flow (M \$)



Strong FCF in recent years, with significant increases in both absolute value and FCF per share. FCF yield 17.5%

The company has seen improvements in cash from operations and free cash flow over the years, while cash from investing has been volatile. The company has a high free cash flow yield of 17.5% in 2022, and free cash flow per share has also been steadily increasing.

# Risks

## High Debt



- At end of FY 2022, **5.4B \$** of Debt (**35% of FY Sales**)
- Higher interest rate can lead to **lower profitability**
- Debt of 5.4B\$ is less than **tangible book value of 6.2B\$**

## Price Volatility



- Challenges from **upswing in feedstock, power and fuel costs**
- **Inflationary cost pressure** and impacts of **supply chain constraints**
- Can be **mitigated through long term contracts, hedging** raw material price and increasing product prices

## Environment & Safety Risks



- Westlake uses large quantities of **hazardous substances** and generates **large quantities of emissions**
- **Air pollution, chemical spills, water pollution, workplace safety** are some of the risk face by Westlake
- Low probability and **risk can be reduced** with focus on climate change and **sustainability**

## Intense Competition



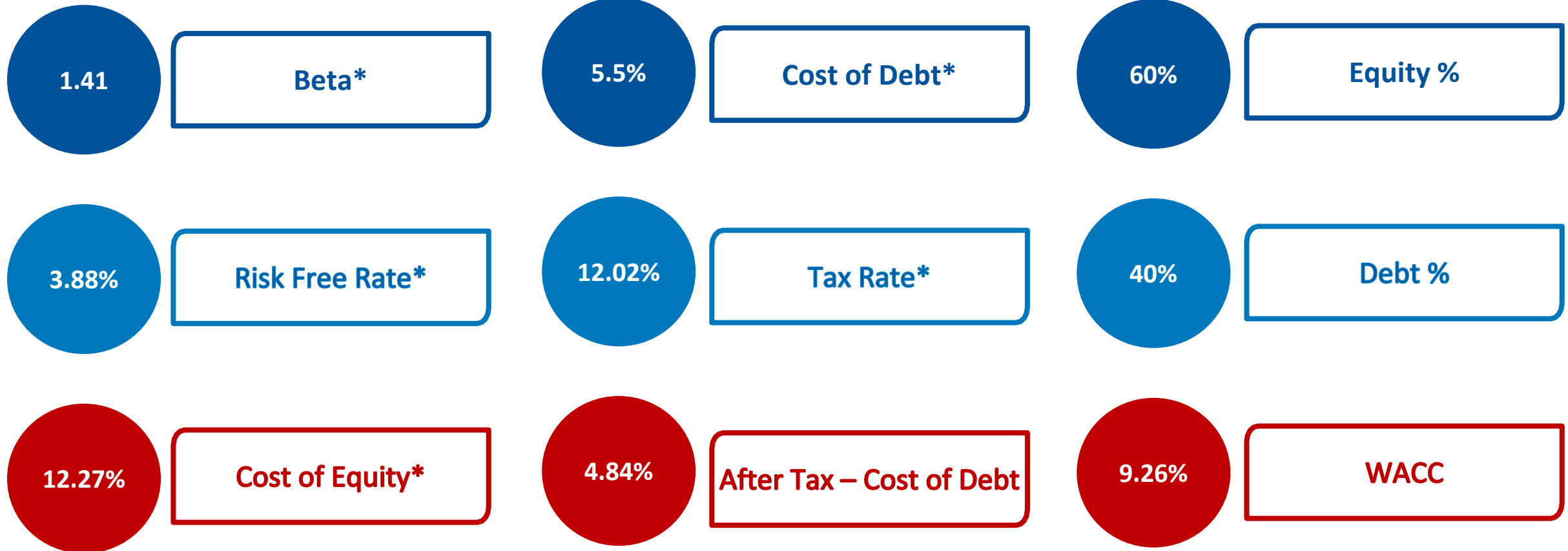
- Operates in **highly competitive market**
- **Competitors include world's largest chemical company** like Chevron, Exxon, Formosa Plastics etc.
- **Cost leadership, strategic acquisition** used by Westlake to be ahead of competition

Several risks like leverage, price volatility, environmental etc. is faced by Westlake

# Valuation



# Weighted Average Cost of Capital



Rate Assumptions : Chemicals (Diversified) Industry

# DCF Valuation

Intrinsic Value : \$134

Cost of equity

**12.2%**

Cost of debt

**4.8%**

WACC

**9.2%**

Terminal Growth

**3%**

Upside : 31%

	Historical					Projected (P)				
	2018	2019	2020	2021	2022	FY+1	FY+2	FY+3	FY+4	FY+5
<b>Revenue</b>	\$8,635	\$8,118	\$7,504	\$11,778	\$15,794	\$17,000	\$17,500	\$18,025	\$18,566	\$19,123
<b>Op Income (EBIT)</b>	\$1,452	\$693	\$479	\$2,844	\$3,109	\$2,497	\$2,570	\$2,647	\$2,727	\$2,809
<b>Net Income</b>	\$1,261	\$689	\$649	\$2,406	\$2,613	\$2,191	\$2,251	\$2,243	\$2,307	\$2,372
<b>FCF</b>	\$341	(\$39)	\$66	\$1,246	\$1,360	\$888	\$856	\$830	\$907	\$921

## Assumptions

LT Revenue Growth(P): 3%

Net Income (P) : 13% of revenue

COGS, SG&A, D&A, Tax Rate projections to be 5 year CAGR

Rate Assumptions : Chemicals (Diversified) Industry

# DDM Valuation

Intrinsic Value : \$140

Current Dividend

**\$1.31**

Dividend Growth Rate

**7%**

Discount Rate

**8%**

Upside : 36%

	Historical					Projected				
	2018	2019	2020	2021	2022	FY+1	FY+2	FY+3	FY+4	FY+5
<b>Dividend</b>	\$0.92	\$1.03	\$1.07	\$1.14	\$1.31	\$1.41	\$1.51	\$1.62	\$1.74	\$1.87
<b>Growth Rate</b>		12%	4%	7%	15%	7%	7%	7%	7%	7%
<b>EPS</b>	7.6	3.3	2.6	15.6	17.3	18.2	18.7	19.2	19.8	20.4
<b>Payout ratio</b>	12.0%	31.4%	41.5%	7.2%	7.5%	7.7%	8.1%	8.4%	8.8%	9.1%

Rate Assumptions : Chemicals (Diversified) Industry

# Relative Valuation

Relative Valuation : \$138

PE Discount

**36%**

PB Discount

**39%**

P/S Discount

**34%**

EV/EBITDA Discount

**29%**

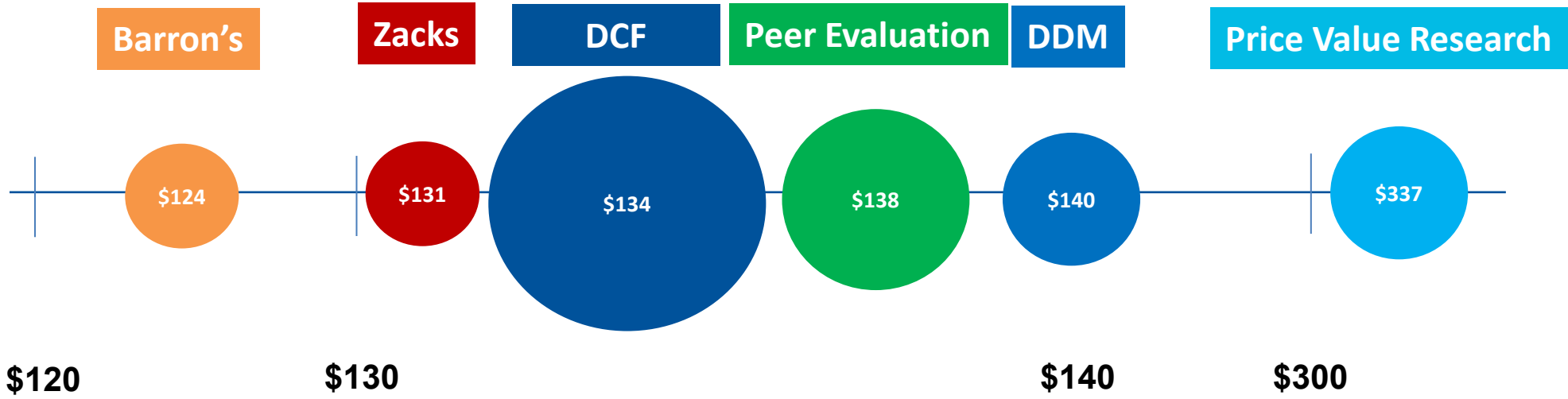
Upside : 34%

	<i>P/E</i>	<i>P/B</i>	<i>P/S</i>	<i>EV / EBITDA</i>
<b>Chevron Philips</b>	9.1	2.01	1.3	4.8
<b>Dow Inc</b>	8.7	1.8	0.7	5.4
<b>Exxon Mobil Chemical</b>	8.6	2.4	1.2	4.8
<b>Formosa Plastic</b>	15.9	1.6	2.3	10.4
<b>LyondellBasell</b>	7.9	2.4	0.6	6.6
<b>Median</b>	9.4	2.0	1.2	6.1
<b>Westlake Corp</b>	6.4	1.4	0.9	4.2

Westlake Corp trading at a discount



# Recommendation



**\$130-140**  
TARGET PRICE RANGE



**\$102**  
CLOSING PRICE  
December 30<sup>th</sup> 2022

**BUY**  
Recommendation  
~30%  
Upside

- Undervalued Stock
- Strong Financials & Balance Sheet
- Consistent Dividend Growth
- Competitive Advantage



**Westlake**

# Appendix

# Income Statement

<b>Key Financials<sup>1</sup></b>							
<b>For the Fiscal Period</b>							
<b>Ending</b>	<b>12 months</b>	<b>12 months</b>	<b>12 months</b>	<b>12 months</b>	<b>12 months</b>		
	<b>Dec-31-2018A</b>	<b>Dec-31-2019A</b>	<b>Dec-31-2020A</b>	<b>Dec-31-2021A</b>	<b>Dec-31-2022A</b>		
<b>Currency</b>	<b>USD</b>	<b>USD</b>	<b>USD</b>	<b>USD</b>	<b>USD</b>		
	2018 A	2019 A	2020 A	2021 A	2022 A		
<b>Total Revenue</b>		<b>8,635</b>	<b>8,118</b>	<b>7,504</b>	<b>11,778</b>	<b>15,794</b>	13%
<i>Growth Over Prior Year</i>		7.4%	(6.0%)	(7.6%)	57.0%	34.1%	
Cost Of Goods Sold	2018 A	2019 A	2020 A	2021 A	2022 A		
As % of revenue		6648	6858	6481	8283	11721	12%
		77%	84%	86%	70%	74%	78%
			3%	-5%	28%	42%	
Gross Profit	2018 A	2019 A	2020 A	2021 A	2022 A		
Margin		1987	1260	1023	3495	4073	15%
		23%	16%	14%	30%	26%	22%
			-37%	-19%	242%	17%	
Operating Income	2018 A	2019 A	2020 A	2021 A	2022 A		
		1452	693	479	2844	3109	16%
			-52%	-31%	494%	9%	
Operating Expense	2018 A	2019 A	2020 A	2021 A	2022 A		
		1452	693	479	2844	3109	16%
			-52%	-31%	494%	9%	
Net Income	2018 A	2019 A	2020 A	2021 A	2022 A		
Margin		996	421	330	2015	2247	18%
		12%	5%	4%	17%	14%	
			-58%	-22%	511%	12%	
Basic EPS	2018 A	2019 A	2020 A	2021 A	2022 A		
		7.66	3.26	2.57	15.66	17.46	18%
			-57%	-21%	509%	11%	
EBITDA	2018 A	2019 A	2020 A	2021 A	2022 A		
Margin %		2054	1351	1204	3628	4085	15%
		24%	17%	16%	31%	26%	

# Balance Sheet

	2018 A	2019 A	2020 A	2021 A	2022 A
Total Asset Turnover - WLK	0.7x	0.7x	0.6x	0.7x	0.8x
Total Asset Turnover - Industry	0.7	0.6	0.7	0.8	0.8
Fixed Asset Turnover	1.3x	1.2x	1.0x	1.5x	1.8x
	2018 A	2019 A	2020 A	2021 A	2022 A
AR Turnover - WLK	9.0x	8.6x	7.4x	8.4x	9.3x
AR Turnover - Industry	7.0x	6.1x	6.6x	7.4x	7.6x
	2018 A	2019 A	2020 A	2021 A	2022 A
Inventory Turnover - WLK	6.9x	7.0x	7.0x	7.1x	7.2x
Inventory Turnover - Industry	5.6	5.6	5.1	5.2	5.3
	2018 A	2019 A	2020 A	2021 A	2022 A
Current Ratio - WLK	2.4x	2.2x	2.6x	2.2x	2.6x
Current Ratio - Industry	1.4	1.4	1.5	1.6	1.0
	2018 A	2019 A	2020 A	2021 A	2022 A
Total Debt/Equity - WLK	43.9%	60.8%	61.3%	67.4%	52.5%
Total Debt/Equity - Industry	55.4%	54.5%	49.7%	45.9%	86.5%
	2018 A	2019 A	2020 A	2021 A	2022 A
LT Debt/Equity - WLK	43.9%	59.3%	59.9%	63.0%	51.4%
LT Debt/Equity - Industry	31.80%	30.70%	29.50%	26.20%	49.30%
	2018 A	2019 A	2020 A	2021 A	2022 A
Return on Equity % - WLK	18%	7%	6%	27%	24%
Return on Equity % - Industry	7.50%	5.80%	16.40%	10.40%	11.30%
	2018 A	2019 A	2020 A	2021 A	2022 A
Return on Assets % - WLK	8%	3%	2%	11%	10%
Return on Assets % - Industry	3%	3%	6%	4%	4%

# Cash Flow Statement

For the Fiscal Period Ending	12 months Dec-31-2018A	12 months Dec-31-2019A	12 months Dec-31-2020A	12 months Dec-31-2021A	12 months Dec-31-2022A
<i>Currency</i>	<i>USD</i>	<i>USD</i>	<i>USD</i>	<i>USD</i>	<i>USD</i>
	2018 A	2019 A	2020 A	2021 A	2022 A
Cash from Ops.	1409	1301 -8%	1297 0%	2394 85%	3395 42%
Cash from Investing	-754	-1954 159%	-509 -74%	-3213 531%	-2479 -23%
Cash from Financing	-1427	630	-216	1437	-587
FCF	707	514	772	1736	2287
FCF per Share	5.46	4	6.04	13.56	17.87
FCF Yield					17.5%

# Income Statement Model

## Westlake Corp Income Statement

	USD 2018 Last Reported Fiscal Year (-4 yr)	USD 2019 Last Reported Fiscal Year (-3 yr)	USD 2020 Last Reported Fiscal Year (-2 yr)	USD 2021 Last Reported Fiscal Year (-1 yr)	USD 2022 Last Reported Fiscal Year	2023 E Pro forma Next Fiscal Year	2024 E Pro forma Next Fiscal Year (+1)
<b>Sales/Revenue</b>	8,635	8,118	7,504	11,778	15,794	17,000	17,500
Cost of Good Sold (Excluding D&A)	6,648	6,858	6,481	8,283	11,721	13,341	13,733
<b>Gross Income</b>	1,987	1,260	1,023	3,495	4,073	3,659	3,767
SG&A Expense	434.0	458	435.0	528.0	809.0	886	912
Other Operating Expense							
<b>EBITDA</b>	1,553	802	588	2,967	3,264	2,773	2,855
Depreciation & Amortization	101	109	109	123	155	204	210
<b>EBIT (Operating Income)</b>	1,452	693	479	2,844	3,109	2,569	2,645
Nonoperating Income (Expense)	10	18	16	23	23	30	31
Interest Expense	-109	-104	-128	-169	-153	-153	-153
Unusual Expense	-19	-37	-36	-21	-33		
<b>Pretax Income</b>	1,334	570	331	2,677	2,946	2,753	2,829
Income Taxes	300	108	-42	607	649	459	473
Minority Interest Expense	-38	-41	-43	-55	-50	-50	-50
<b>Net Income</b>	996	421	330	2,015	2,247	2,343	2,406
Preferred Dividends	5	2	1	10	12	12	12
<b>Net Income available to Common</b>	991	419	329	2,005	2,235	2,343	2,406
Basic Shares Outstanding	129	128	128	128	128	128	128
Diluted Shares Outstanding	130	129	128	129	129	129	129
EPS Basic Shares Outstanding	7.66	3.26	2.57	15.66	17.46	18.31	18.80
EPS Diluted Shares Outstanding	7.62	3.25	2.57	15.58	17.35	18.19	18.68

## Income Statement Items

<b>Sales/Revenue</b>	Cost of Good Sold (Excluding D&A)
<b>Gross Income</b>	SG&A Expense Other Operating Expense
<b>EBITDA</b>	Depreciation & Amortization
<b>EBIT (Operating Income)</b>	Nonoperating Income (Expense)
	Interest Expense Unusual Expense
<b>Pretax Income</b>	Income Taxes Minority Interest Expense
<b>Net Income</b>	Preferred Dividends
<b>Net Income available to Common</b>	
	Basic Shares Outstanding Diluted Shares Outstanding

## Assumptions

Wall St Estimate for Next FY & Next FY (+1)

Last 5 yrs % of sales

Sales/Revenue - Cost of Good Sold (Excluding D&A)

Last 5 yrs % of sales

Last 5 yrs % of sales

Gross Income - SG&A Expense - Other Operating Expense

% of sales

EBITDA - Depreciation & Amortization

Last 5 yrs % of sales

Same as last reported

Assume zero & unless otherwise indicated by company management

EBIT (Operating Income) + Nonoperating Income (Expense) - Interest Expense - Unusual Expense

Last 5 yrs % of sales

Same as last reported

Pretax Income - Income Taxes - Minority Interest Expense

Same as last reported

Net Income - Preferred Dividends

Same as last reported

Same as last reported

## % of Sales

	Last Reported Fiscal Year (- 4 yr)	Last Reported Fiscal Year (- 3 yr)	Last Reported Fiscal Year (- 2 yr)	Last Reported Fiscal Year (- 1 yr)	Last Reported Fiscal Year	Average
Cost of Good Sold (Excluding D&A)	77.0%	84.5%	86.4%	70.3%	74.2%	78.5%
SG&A Expense	5.0%	5.6%	5.8%	4.5%	5.1%	5.2%
Other Operating Expense	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Depreciation & Amortization	1.2%	1.3%	1.5%	1.0%	1.0%	1.2%
Nonoperating Income (Expense)	0.1%	0.2%	0.2%	0.2%	0.1%	0.2%
Unusual Expense	-0.2%	-0.5%	-0.5%	-0.2%	-0.2%	-0.3%
Income Taxes	3.5%	1.3%	-0.6%	5.2%	4.1%	2.7%
Minority Interest Expense	-0.4%	-0.5%	-0.6%	-0.5%	-0.3%	-0.5%

# Balance Sheet Model

## Westlake Corp Balance Sheet

### Assets

Cash & Equivalents (Cash & ST Investments)		753	728	1,313	1,908	2,228	3,776	5,588
Accounts Receivable		1,037	1,036	1,214	1,868	1,801	2,198	2,263
Inventories		1,014	936	918	1,407	1,866	1,907	1,963
Other Current Assets		38	42	32	80	78	78	78
<b>Total Current Assets</b>		<b>2,842</b>	<b>2,742</b>	<b>3,477</b>	<b>5,263</b>	<b>5,973</b>	<b>7,960</b>	<b>9,893</b>

Gross PP&E		9,315	10,523	11,091	12,302	13,838	15,110	16,420
Accumulated Depreciation		-2,720	-3,168	-3,710	-4,134	-4,698	-4,494	-4,285
Net PP&E		6,595	7,355	7,381	8,168	9,140	10,616	12,136
Total Investments and Advances		253	1,112	1,059	1,007	1,142	1,142	1,142
Long-Term Note Receivable							0	0
Intangibles		1,661	1,784	1,695	3,604	3,726	3,726	3,726
Deferred Tax Assets		-	-	102	261	359	359	359
Other Assets		251	268	121	156	210	210	210
<b>Total Non-Current Assets</b>		<b>8,760</b>	<b>10,519</b>	<b>10,358</b>	<b>13,196</b>	<b>14,577</b>	<b>16,053</b>	<b>17,573</b>

### Total Assets

### Liabilities & Shareholders' Equity

Short Term Debt		676	761	809	1,365	1,194	1,194	1,194
Accounts Payable		507	473	536	879	889	1,031	1,061
Income Tax Payable		-	-	-	88	213	213	213
Other Current Liabilities		-	7	12	12	2	2	2
<b>Total Current Liabilities</b>		<b>1,183</b>	<b>1,241</b>	<b>1,357</b>	<b>2,344</b>	<b>2,298</b>	<b>2,440</b>	<b>2,470</b>

Long Term Debt		2,668	3,445	3,566	4,911	4,879	4,879	4,879
Provision for Risks & Charges		337	715	767	752	859	859	859
Deferred Tax Liabilities		1,159	1,255	1,368	1,681	1,735	1,735	1,735
Other Liabilities		179	202	199	243	314	314	314
<b>Total Non-current Liabilities</b>		<b>4,343</b>	<b>5,617</b>	<b>5,900</b>	<b>7,587</b>	<b>7,787</b>	<b>7,787</b>	<b>7,787</b>

### Total Liabilities

Preferred Stock							0	0
Stockholder's Equity		5,590	5,860	6,043	7,955	9,931	12,085	14,297
<b>Total Shareholders' Equity</b>		<b>5,590</b>	<b>5,860</b>	<b>6,043</b>	<b>7,955</b>	<b>9,931</b>	<b>12,085</b>	<b>14,297</b>
Accumulated Minority Interest		486	543	535	573	534	534	534
<b>Total Equity</b>		<b>6,076</b>	<b>6,403</b>	<b>6,578</b>	<b>8,528</b>	<b>10,465</b>	<b>12,619</b>	<b>14,831</b>

### Total Liab. & Equity

### Assets - Total Liab. & Equity

Days of Sales Outstanding (DSO)		44	47	55	48	42	47	47
Days of Inventory on Hand (DIO)		55	51	51	50	50	51	51
Days of Payables Outstanding (DPO)		28	26	28	31	28	28	28

### Balance Sheet Items

#### Assets

Cash & Equivalents (Cash & ST Investments)								
Accounts Receivable								
Inventories								
Other Current Assets								

#### Total Current Assets

Gross PP&E								
Accumulated Depreciation								
Net PP&E								
Total Investments and Advances								
Long-Term Note Receivable								
Intangibles								
Deferred Tax Assets								

#### Total Non-Current Assets

#### Total Assets

#### Liabilities & Shareholders' Equity

Short Term Debt								
Accounts Payable								
Income Tax Payable								
Other Current Liabilities								

#### Total Current Liabilities

Long Term Debt								
Provision for Risks & Charges								
Deferred Tax Liabilities								
Other Liabilities								

#### Total Non-current Liabilities

#### Total Liabilities

Preferred Stock								
Stockholder's Equity								

#### Total Shareholders' Equity

Accumulated Minority Interest								
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#### Total Equity

#### Total Liab. & Equity

### Assumptions

Previous Year Cash & Equivalents (Cash & ST Investments) + Current Year Net Change in Cash from Cash Flow Statement  
 last 5 Year Average DSO \* Current Year Sales Revenue from Income statement / 365  
 last 5 Year Average DIO \* Current Year Cost of Good Sold including Depreciation & Amortization from Income Statement / 365  
 Same as last reported  
**Cash & Equivalents (Cash & ST Investments) + Accounts Receivable + Inventories + Other Current Assets**

Previous Year Gross PP&E + Current Year Capital Expenditures from Cash Flow Statement  
 Previous Year Accumulated Depreciation + Current Depreciation & Amortization from Income Statement  
 Gross PP&E - Accumulated Depreciation  
 Same as last reported  
 Same as last reported  
 Same as last reported  
 Same as last reported  
 Same as last reported  
**Net PP&E + Total Investments and Advances + Long-Term Note Receivable + Intangibles + Deferred Tax Assets + Other Assets**  
**Total Current Assets + Total Non-Current Assets**

Previous Year Short Term Debt + Current Year Change in Current Debt from Cash Flow Statement  
 last 5 Year Average DPO \* Current Year Cost of Good Sold excluding Depreciation & Amortization /365  
 Same as last reported  
 Same as last reported  
**Short Term Debt + Accounts Payable + Income Tax Payable + Other Current Liabilities**

Previous Year Long Term Debt + Current Year Change in Long-Term Debt from Cash Flow Statement  
 Same as last reported  
 Same as last reported  
 Same as last reported  
**Long Term Debt + Provision for Risks & Charges + Deferred Tax Liabilities + Other Liabilities**

**Total Current Liabilities + Total Non-current Liabilities**

Same as last reported  
 Previous Year Stockholder's Equity + Current Year Net Income available to Common from Income Statement + Current Year Cash Dividends Paid from Cash Flow Statement  
 Preferred Stock + Stockholder's Equity  
 Same as last reported  
**Total Shareholders' Equity + Accumulated Minority Interest**

**Total Liabilities + Total Equity**



# Cash Flow Model

## Westlake Corp Statement of Cash Flows

	Last Reported Fiscal Year (-4 yr)	Last Reported Fiscal Year (-3 yr)	Last Reported Fiscal Year (-2 yr)	Last Reported Fiscal Year (-1 yr)	Last Reported Fiscal Year	Pro forma Next Fiscal Year	Pro forma Next Fiscal Year (+1)
<b>Operating Activities</b>							
Net Income	996	421	330	2,015	2,247	2,343	2,406
Depreciation, Depletion & Amortization	602	658	725	784	976	988	1,000
Deferred Taxes & Investment Tax Credit						0	0
Other Funds					196	0	0
<b>Funds from Operations</b>	1,783	1,304	1,375	3,008	3,419	3,331	3,406
Change in Receivables (Previous FY - Current FY)	-58	59	-161	-528	325	-397	-65
Change in Inventories (Previous FY - Current FY)	-123	112	29	-309	-140	-41	-56
Change in Accounts Payable (Current FY - Previous FY)	-100	-89	67	242	-153	142	30
Other Assets/Liabilities	-93	-85	-13	-19	-56	0	0
Changes in Working Capital	-374	-3	-78	-614	-24	-297	-90
<b>Net Operating Cash Flow</b>	1,409	1,301	1,297	2,394	3,395	3,034	3,315
<b>Investing Activities</b>							
Capital Expenditures	-702	-787	-525	-658	-1,108	-1,272	-1,310
Net Assets from Acquisitions	-	-314		-2,554	-1,203	0	0
Sale of Fixed Assets & Businesses						0	0
Purchase/Sale of Investments	-68	-862	26	-24	-180	0	0
Other Funds	16	9	-10	23	12	0	0
<b>Net Investing Cash Flow</b>	-754	-1,954	-509	-3,213	-2,479	-1,272	-1,310
<b>Financing Activities</b>							
Change in Current Debt	0	2	0	0	0	0	0
Change in Long-Term Debt	-1,165	784	45	1,671	-250	0	0
Issuance/Reduction of Debt, Net	-1,165	786	45	1,671	-250	0	0
Preferred Dividends	-5	-2	-1	-10	-12	-12	-12
Common Dividends	-120	-132	-137	-145	-169	-177	-182
Cash Dividends Paid	-120	-132	-137	-145	-169	-189	-194
Change in Capital Stock	-106	-30	-54	-30	-101	0	0
Other Funds	-36	6	-70	-59	-67	0	0
<b>Net Financing Cash Flow</b>	-1,427	630	-216	1,437	-587	-189	-194
Forex Change	-7	-2	15	-14	-24	-24	-24
<b>Net Change in Cash</b>	-779	-25	587	604	305	1,548	1,812

## Cash Flow Statement Items

### Operating Activities

Net Income  
Depreciation, Depletion & Amortization  
Deferred Taxes & Investment Tax Credit  
Other Funds

### Funds from Operations

Change in Receivables (Previous FY - Current FY)  
Change in Inventories (Previous FY - Current FY)  
Change in Accounts Payable (Current FY - Previous FY)  
Changes in Working Capital

### Net Operating Cash Flow

### Investing Activities

Capital Expenditures  
Net Assets from Acquisitions  
Sale of Fixed Assets & Businesses  
Purchase/Sale of Investments  
Other Funds

### Net Investing Cash Flow

### Financing Activities

Change in Current Debt  
Change in Long-Term Debt  
Issuance/Reduction of Debt, Net

Preferred Dividends  
Common Dividends

Cash Dividends Paid

Change in Capital Stock

Other Funds

### Net Financing Cash Flow

### Net Change in Cash

## Assumptions

Current Year Net Income available to Common from Income Statement  
Current Year Depreciation & Amortization from Income Statement

Assume Zero  
Assume Zero

**Net Income + Depreciation, Depletion & Amortization + Deferred Taxes & Investment Tax Credit + Other Funds**

Previous Year Accounts Receivable - Current Year Accounts Receivable from Balance Sheet  
Previous Year Accounts Inventories - Current Year Accounts Inventories from Balance Sheet  
Current Year Accounts Payable - Previous Year Accounts Payable from Balance Sheet  
Change in Receivables + Change in Inventories + Change in Accounts Payable

**Funds from Operations + Changes in Working Capital**

Last 5 yrs % of sales

Assume zero & unless otherwise indicated by company management  
Assume zero & unless otherwise indicated by company management  
Assume zero & unless otherwise indicated by company management  
Assume zero & unless otherwise indicated by company management

**Capital Expenditures + Net Assets from Acquisitions + Sale of Fixed Assets & Businesses + Purchase/Sale of Investments + Other Funds**

Assume zero & unless otherwise indicated by company management  
Assume zero & unless otherwise indicated by company management  
Change in Current Debt + Change in Long-Term Debt

Current Preferred Dividends from Income Statement \* -1, Note: Change of Sign to Represent Cash Outflow  
Assume previous year's Dividend Payout Ratio: Previous Year Common Dividends / Previous Year Net Income available to Common from Income Statement \* Current Year Net Income available to Common from Income Statement

Preferred Dividends + Common Dividends

Assume zero & unless otherwise indicated by company management  
Assume zero & unless otherwise indicated by company management

**Issuance/Reduction of Debt, Net + Cash Dividends Paid + Change in Capital Stock + Other Funds**

**Net Operating Cash Flow + Net Investing Cash Flow + Net Financing Cash Flow**

## WACC Model

### Cost of Equity - CAPM ( $K_e$ )

Beta:	1.41
Risk Free Rate ( $R_f$ ):	3.88%
Market Return ( $R_m$ ):	9.8%
Cost of equity ( $K_e$ ):	12.27%

### Cost of Debt ( $k_d$ ):

Cost of debt ( $k_d$ ):	5.50%
Tax rate:	12.02%
After tax ( $k_d$ ):	4.84%

### Capital Structure

Equity %:	59.1%
Debt %:	40.9%
Total:	100.0%

$$WACC = \frac{\text{Equity}}{\text{Debt} + \text{Equity}} * K_e + \frac{\text{Debt}}{\text{Debt} + \text{Equity}} * K_d * (1 - \text{Tax Rate})$$

**WACC**                      **9.23%**

### WACC Sensitivity to Beta vs. Capital Structure

		% Equity								
		55%	60%	65%	70%	75%	80%	85%	90%	95%
Beta	1.25	8.20%	8.77%	9.33%	9.90%	10.47%	11.03%	11.60%	12.16%	12.73%
	1.30	8.04%	8.59%	9.14%	9.69%	10.24%	10.79%	11.35%	11.90%	12.45%
	1.35	7.88%	8.41%	8.95%	9.48%	10.02%	10.56%	11.09%	11.63%	12.16%
	1.40	8.04%	8.59%	9.14%	9.69%	10.24%	10.79%	11.35%	11.90%	12.45%
	1.45	8.20%	8.77%	9.33%	9.90%	10.47%	11.03%	11.60%	12.16%	12.73%
	1.50	8.69%	9.30%	9.91%	10.53%	11.14%	11.75%	12.36%	12.97%	13.58%
	1.55	9.18%	9.84%	10.49%	11.15%	11.81%	12.46%	13.12%	13.77%	14.43%

## DCF Model

Corus Entertainment

Income statement (millions)	Historical					Projected				
	FY-4	FY-3	FY-2	FY-1	FY0	FY+1	FY+2	FY+3	FY+4	FY+5
Revenues	\$8,635	\$8,118	\$7,504	\$11,778	\$15,794	\$17,000	\$17,500	\$18,025	\$18,566	\$19,123
Cost of Good Sold	6,648	6,858	6,481	8,283	11,721	\$13,341	\$13,733	\$14,145	\$14,569	\$15,006
SG&A	434	458	435	528	809	\$886	\$912	\$940	\$968	\$997
Others	-	-	-	-	-	\$0	\$0	\$0	\$0	\$0
Depreciation & Amortization	101	109	109	123	155	204	210	216	222	229
<b>Operating income (EBIT)</b>	<b>\$1,452</b>	<b>\$693</b>	<b>\$479</b>	<b>\$2,844</b>	<b>\$3,109</b>	<b>\$2,569</b>	<b>\$2,645</b>	<b>\$2,724</b>	<b>\$2,806</b>	<b>\$2,890</b>
Interest expense	-109	-104	-128	-169	-153	(153)	(153)	(153)	(153)	(153)
<b>Taxable income</b>	<b>\$1,561</b>	<b>\$797</b>	<b>\$607</b>	<b>\$3,013</b>	<b>\$3,262</b>	<b>\$2,722</b>	<b>\$2,798</b>	<b>\$2,877</b>	<b>\$2,959</b>	<b>\$3,043</b>
Taxes	300	108 (42)		607	649	459	473	572	589	605
<b>Net income</b>	<b>\$1,261</b>	<b>\$689</b>	<b>\$649</b>	<b>\$2,406</b>	<b>\$2,613</b>	<b>\$2,263</b>	<b>\$2,325</b>	<b>\$2,305</b>	<b>\$2,370</b>	<b>\$2,438</b>
										\$26,405

### I) Cash Flow Analysis (Free Cash Flow to Firm:

#### FCFF)

(millions)	FY-4	FY-3	FY-2	FY-1	FY0	FY+1	FY+2	FY+3	FY+4	FY+5
EBIT *(1-Tax)	\$1,173	\$599	\$512	\$2,271	\$2,490	\$2,058	\$2,119	\$2,182	\$2,248	\$2,315
+ D&A	101	109	109	123	155	204	210	216	222	229
- Chg. In WC	231 (40)		30	490	177	164	215	262	205	211
- CAPEX	(702)	(787)	(525)	(658)	(1,108)	(1,152)	(1,198)	(1,246)	(1,296)	(1,348)
<b>Free Cash Flow to Firm</b>	<b>\$341</b>	<b>(\$39)</b>	<b>\$66</b>	<b>\$1,246</b>	<b>\$1,360</b>	<b>\$945</b>	<b>\$915</b>	<b>\$890</b>	<b>\$969</b>	<b>\$985</b>

Total PV of FCFF:19,736

	Historical					Projected				
	2018	2019	2020	2021	2022	FY+1	FY+2	FY+3	FY+4	FY+5
Revenue	\$8,635	\$8,118	\$7,504	\$11,778	\$15,794	\$17,000	\$17,500	\$18,025	\$18,566	\$19,123
Op Income(EBIT)	\$1,452	\$693	\$479	\$2,844	\$3,109	\$2,569	\$2,645	\$2,724	\$2,806	\$2,890
Net Income	\$1,261	\$689	\$649	\$2,406	\$2,613	\$2,263	\$2,325	\$2,305	\$2,370	\$2,438
FCF (Firm)	\$341	(\$39)	\$66	\$1,246	\$1,360	\$945	\$915	\$890	\$969	\$985
FCF(Shareholder)	\$429	\$51	\$203	\$1,381	\$1,483	\$1,150	\$1,121	\$1,013	\$1,092	\$1,107

- Net Debt (Total Debt - Cash & Eq) \$2,611

17,125

Per share value: **\$134.11**

## DDM Model- Gordon Growth

$$\text{Value of Stock} = \frac{\text{DPS}_1}{k-g}$$

Current Dividend Per Share (DPS): \$1.31

Growth Rate (g): 7.00%

Discount Rate (k): 8.00%

Current Stock Price: \$102.94

**Value of Stock: \$140.17**

**The Stock is Under Valued by: 36.17%**



**Westlake**