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INDEPENDENT ANALYSIS
RESEARCH REPORT
Noble NOBLE Life Science Partners

Jan 04, 2021

Healthcare

HBPCF

Other OTC

Rating

Outperform

Unchanged

Current Price

$0.42

Target Price

$2.50

Market Capitalization

55.80M

Shares Outstanding

135.13M

Float

117.78M

Institutional Holdings

2%

12-Month Low/High

$0.22/$1.15

Average 90-Day Volume

791

Fiscal Year End

07/31/2020

Revenues ($ MIL)

Period	2019	2020	2021
Q1			
Q2			
Q3			
Q4			
	$0.0mm	$0mm	$0mm

EPS ($)

Period	2019A	2020E	2021E
Q1			
Q2			
Q3			
Q4			
	$(0.07)	$(0.07)	$(0.08)

Helix Biopharma

Q1 F2021: Business Update

Q1 F2021 financial results. Helix reported financial results for the first quarter of fiscal 2021 ending October 31, 2020. Net operating loss was $0.2 million (loss from operations $2.4 million and gain from discontinued operations of $2.2 million) for the quarter with $1.1 million in research and development expenses and $1.3 million in general and administrative expenses. Helix reported ($0.02) EPS.

Near-term value drivers. We believe data updates from two clinical trials in pancreatic cancer and non-small cell lung cancer would be the major value generators for the company. The company also intends to raise capital and up-list on the Nasdaq stock exchange. We expect this to generate traction and visibility by US investors.

Reiterating Outperform rating. In our opinion, the company is positioned well with multiple large market opportunities in cancer indications. We believe the current share price does not reflect the potential of Helix's pipeline. We foresee more visibility and value expansion in the next 12-months. We are reiterating our Outperform rating and a $CAD 2.50 price target.

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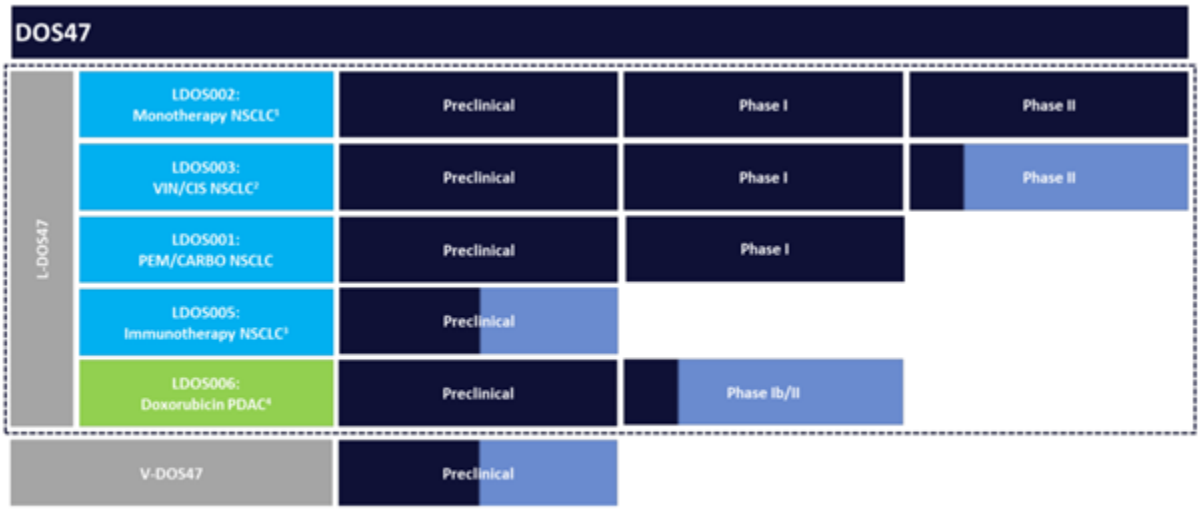
Refer to the last two pages for Analyst Certification & Disclosures

Investment Appraisal

Helix is a clinical-stage biotechnology company developing a unique technology to reduce the acidity of TME, aiming to restore the effectiveness of immunotherapies for the treatment of cancer and improving the efficacy of chemotherapy. The company's lead product, L-DOS47, is in Phase 2 clinical trials for the treatment of non-small cell lung cancer (NSCLC) and pancreatic cancer, which combined represent a multibillion-dollar commercial opportunity.

Exhibit 1. Helix's pipeline in development



Source: Company SEC filings

L-DOS47 is an anti-cancer therapeutic designed to exploit the acidic tumor extracellular environment. The antibody serves as a targeting agent to deliver the enzyme urease to tumor sites. Urease is a plant enzyme that converts natural urea into ammonia and generates a local pH increase. While urease is absent, its enzymatic target or substrate, urea, is very abundant in the human body. Cancer cells generate and thrive for a very acidic environment, low pH (concentration of hydrogen ions), in the tumor microenvironment (TME). Reversely, T lymphocytes or killer T cells struggle to defend the human body against cancer cells in the acidic TME. L-DOS47 the plant urease enzyme converts natural urea into ammonia and generates a local pH increase, which is favorable for immune mechanism and induces cancer cell death and the potency of chemotherapeutic drugs such as pemetrexed/carboplatin (PC).

L-DOS47 is currently in two active clinical trials for the treatment of non-small cell lung cancer (NSCLC) and pancreatic cancer.

- LDOS003 - Phase 2b is an open-label, randomized study evaluating L-DOS47 in combination with vinorelbine/cisplatin in patients with metastatic lung adenocarcinoma, conducted in Ukraine and Poland. The study is ongoing, dose-escalation cohort is at the last stage.
- LDOS006 - Phase 1b/2 combination study utilizing L-DOS47 with doxorubicin in patients with previously treated advanced pancreatic cancer. The trial is ongoing.

Helix reported financial results for the first quarter of fiscal 2021 ending October 31, 2020. In the quarter, the company recorded a net loss from operations of $2.4 million and a gain from discontinued operations of $2.2 million, accounting for a net loss and total comprehensive loss of $0.2 million. For the quarter, R&D and SG&A costs were $1.1 million and $1.3 million, respectively, compared to $1.4 million and $0.6 mm for the corresponding period in F2019. The company had 132 million outstanding shares and reported ($0.02) earnings per share loss. The reported operating expenses are in line with our estimates. We are

maintaining our F2021 estimate of $10.1 million operating expenses.

The company completed multiple private placements related to Polish subsidiary:

On August 21, 2019, the Company completed a private placement financing of 13,725,500 units of the Company at a price of $0.51 per unit and the disposition of a 25% stake of its Polish subsidiary, for aggregate gross proceeds of approximately $7,000,000.

On January 13, 2020, the Company completed a private placement financing of 2,940,000 units of the Company at a price of $1.02 per unit and the disposition of an 8.5% stake of its Polish subsidiary, for aggregate gross proceeds of approximately $2,999,000.

On March 12, 2020, the Company completed a private placement financing of 5,042,016 units of the Company at a price of $1.19 per unit including the disposition of a 15.5% stake of its Polish subsidiary, for aggregate gross proceeds of approximately $6,000,000.

The following table provides information on share purchase warrants outstanding as at:

	October 31, 2020		July 31, 2020	
Exercise Price	Weighted average remaining contractual life (in years)	Number of share purchase warrants outstanding	Weighted average remaining contractual life (in years)	Number of share purchase warrants outstanding
$ 0.72	3.97	18,909,422	3.97	18,909,422
$ 1.42	4.45	2,940,000	4.45	2,940,000
$ 1.50	2.32	15,982,300	2.32	15,982,300
$ 1.54	1.74	8,680,000	1.74	8,680,000
$ 1.61	–	–	0.25	4,546,000
$ 1.67	4.61	5,042,016	4.61	5,042,016
$ 1.82	0.99	1,250,000	0.99	1,250,000
$ 1.92	1.05	644,675	1.05	644,675
$ 1.98	0.70	3,105,000	0.70	3,105,000
$ 2.24	0.94	3,981,000	0.94	3,981,000
Outstanding, end of period	2.57	60,534,413	2.64	65,080,413

During the three-month perioded ended October 31, 2020, a total of 4,546,000 warrants expired unexercised.

Helix previously disposed of a 49.0% ownership in HIO, bringing the Company's total ownership interest as of April 30, 2020, to 51.0%. Subsequent to the third fiscal quarter on June 25, 2020, the company announced an agreement with HIO, under which the company canceled an aggregate amount of approximately $2.7 million of intercompany debt owed to the company by HIO, and an increase in the share capital of HIO and the issuance of up to 2.2 million Series B ordinary shares in the capital of HIO to enable it to issue up to 2.2 million Series B ordinary shares by a private placement financing for aggregate gross proceeds of approximately 2.97 million Polish zloty.

On December 4, the company closed a private placement financing for gross proceeds of $1.1 million on December 4th, 2020. The terms of the placement are for the purchase of units at $0.50 per unit, one common share, and one common share purchase warrant. Each warrant will entitle the holder to purchase one common share at an exercise price of $0.70 with 5 years expiration date. On December 22nd, Helix Biopharma closed the transaction of its Polish subsidiary with CAIAC Fund Management AG (CAIAC) for Helix's remaining holdings for gross proceeds of CAD 2.3 million. The company intends to raise capital in conjunction with Nasdaq up listing in 2021.

We think the company represents a promising trajectory. In our view, positive results from two ongoing studies would act as a catalyst for the shares over the next twelve months. We value Helix based on a risk-adjusted discounted cash flow (DCF) model; we arrive at our 12-month target price of $CAD 2.50.

Company Profile

Helix BioPharma Corp. is an immune-oncology company developing innovative products for the prevention and treatment of cancer based on its proprietary technology designed to modify the tumor microenvironment. Helix's product development initiatives include its novel L-DOS47 new drug candidate for the treatment of non-small cell lung cancer (NSCLC) and pancreatic cancer. Helix is currently listed on the TSX under the symbol "HBP".

Helix Biopharma has a robust intellectual property portfolio with several layers of protection for the company's lead drug and versatile platform technology. Through its collaboration with Moffitt Cancer Center, Helix has built a strong scientific foundation to support the clinical development of its lead product L-DOS47 and expand applications of its platform technology. The Company will require to raise additional capital to fund its clinical programs. Helix will face certain clinical, regulatory and commercial risks inherent to the biotechnology industry. Given the fierce competition in the sector, especially with the advent of new therapies for the treatment of NSCLC such as checkpoint inhibitors (Merck's Keytruda), the company's clinical strategy might change going forward. Despite of dynamic competitive landscape, Helix has the advantage of being the only biotechnology company developing a drug designed to modify the tumor microenvironment in Phase II trials for the treatment of cancer.

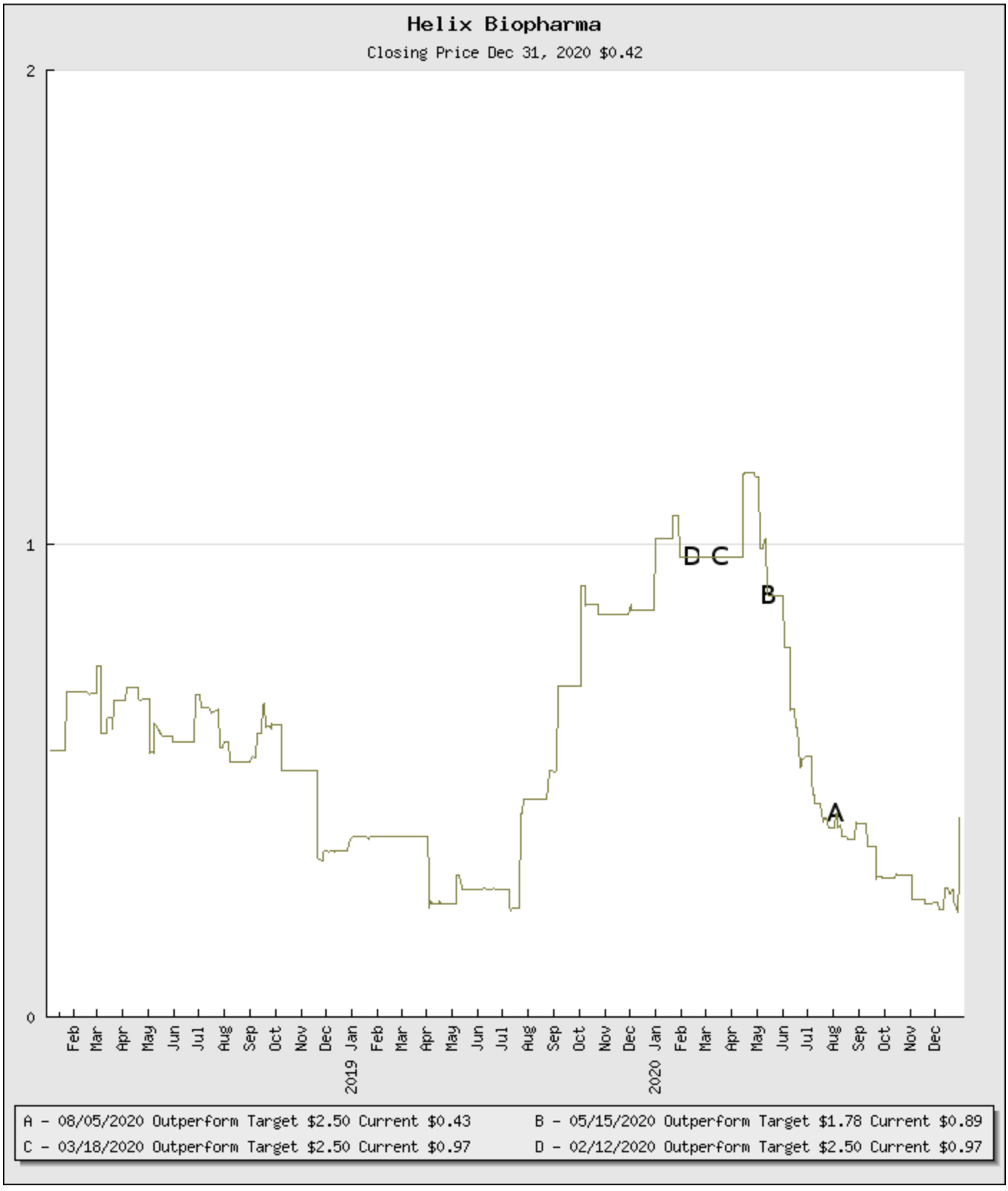
Fundamental Analysis - 3.0/5.0 Checks

Valuation Summary

We value Helix Biopharma using a Risk-adjusted discounted cash flow model based on a WACC of 12%. The DCF model is risk-adjusted for probability of success of L-DOS47 in clinical development. We used a probability estimate to account for financial, clinical and regulatory risks, and based on data compiled by previous industry studies (Clinical Development Success Rates 2006-2015 by Bio (Biotechnology Innovation Organization), BioMedTracker and Amplion). Using the Gordon Growth Method, we calculate a terminal value of $2.24 billion.

We have selected a group of comparable biotechnology companies with a candidate medicine in Phase II clinical trials for the treatment of NSCLC and/or pancreatic cancer (Table II). The average EV of this group is $193 mm. Based on comparable analysis, Helix Biopharma's current EV represents an 34% discount to the peer group. Based on our valuation model, we calculate a risk-adjusted equity value of $240 mm and a twelve-month target price of $2.50. Risks include; regulatory obstacles, clinical trial risk, and financial risks.

INCOME STATEMENT	*Units*	FY 19	FY 20	FY 21
Revenue from Sales (U.S.)	*$ Millions*	$ -	$ -	$ -
Revenue from Sales (Rest of the World)	*$ Millions*	-	-	-
Revenue from Pharma Milestones	*$ Millions*	-	-	-
Total Revenue	*$ Millions*	-	-	-
Cost of Goods Sold	*$ Millions*	-	-	-
Gross Profit	*$ Millions*	-	-	-
Research and Development	*$ Millions*	6.0	6.4	7.0
Selling General and Administrative	*$ Millions*	2.5	2.7	3.1
Depreciation and Amortization	*$ Millions*	0.1	0.0	0.0
Total Operating Expenses		8.6	9.1	10.1
Operating Income	*$ Millions*	(8.6)	(9.1)	(10.1)
Interest Income (net)	*$ Millions*	(0.0)	-	-
Tax	*$ Millions*	-	-	-
Net Income	*$ Millions*	(7.5)	(9.1)	(10.1)
Earnings Per Share	*$ As Stated*	(0.07)	(0.07)	(0.08)
Fully Diluted Earnings Per Share	*$ As Stated*	(0.07)	(0.07)	(0.08)


Helix Biopharma
Closing Price Dec 31, 2020 $0.42
2
1
0
D C
B
A
Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2019
2020
A - 08/05/2020 Outperform Target $2.50 Current $0.43
B - 05/15/2020 Outperform Target $1.78 Current $0.89
C - 03/18/2020 Outperform Target $2.50 Current $0.97
D - 02/12/2020 Outperform Target $2.50 Current $0.97

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The Company has attended Noble investor conference(s) in the last 12 months.

Noble intends to seek compensation for investment banking services and non-investment banking services (securities and non-securities related) within the next 3 months.

Noble is not a market maker in the Company.

FUNDAMENTAL ASSESSMENT

The fundamental assessment rating system is designed to provide insights on the company's fundamentals both on a macro level, which incorporates a company's market opportunity and competitive position, and on a micro/company specific level. The micro/company specific attributes include operating & financial leverage, and corporate governance/management. The number of check marks that a company receives is designed to provide a quick reference and easy determination of the company's fundamentals based upon the following five attributes of the company (weighting reflects the importance of each attribute in the overall scoring of company's fundamental analysis):

Attribute	Weighting
Corporate Governance/Management	20%
Market Opportunity Analysis	20%
Competitive Position	20%
Operating Leverage	20%
Financial Leverage	20%

For each attribute, the analysts score the company from a low of zero to a high of ten based upon the analysis described below. The final rating and resulting check marks is a result of dividing the overall score (out of 100%) by ten.

Rating	Score	Checks
Superior	9.1 to 10	Five Checks
Superior	8.1 to 9	Four & A Half Checks
Above Average	7.1 to 8	Four Checks
Above Average	6.1 to 7	Three & A Half Checks
Average	5.1 to 6	Three Checks
Average	4 to 5	Two & A Half Checks
Below Average	3 to 3.9	Two Checks
Below Average	2 to 2.9	One & A Half Checks
Low Quality	0 to 1.9	One Check

While these are the attributes currently used for the analyst's fundamental analysis, the attributes and weighting may be reviewed, updated with additional attributes, and/or changed in the future based on discussions with the analysts and recommendations from the Director of Research.

Following is the description of each attribute in the fundamental analysis.

Corporate Governance/Management

We believe that a review of corporate governance and assessment of the senior management are important tools to determine investment merit. Good corporate governance aligns management with the interests of stakeholders. As such, analysts are to rank the company on the basis of good corporate governance principles that may include rules and procedures, board composition and staggered term limits, rights and responsibilities, corporate objectives, monitoring of actions and policies, and accountability. In addition, analysts will assess issues with controlling shareholders and whether decisions have been made in the past that were in the interests of all shareholders. In addition, management will be assessed based on industry experience, expertise, and/or track record.

High ranking example: Board and management that is aligned with the interests of shareholders with incentives based on stock price appreciation and with an experienced management team known for exceptional shareholder returns.

Low ranking example: Concentrated ownership without independent directors that do not necessarily align with all shareholders' interests.

The Market Opportunity Analysis

In this review, the analyst assesses the company's macro environment as a measure of understanding the industry. Factors considered include the size and growth potential of the industry under various economic conditions, the emerging demands in the market, technological benefits/disruptions, competition, geographical opportunities, and customer demands/needs, and an assessment of supply and distribution channels. In addition, the analyst will review legal and regulatory trends, as well as potential shifts in consumer or social behavior and natural environment changes.

High rank example: A company in an industry that is growing revenues well above GDP rates (which are on average 2% plus) and/or may have unmet or under-served needs in a rapidly growing market opportunity.

Low rank example: A mature industry that is in secular decline and likely to grow below GDP rates.

Competitive Position

The evaluation of the company's competitive position is another macro environment attribute designed to measure the relevance, market share, position and value proposition, and sustainable differentiations of the company and its products/services within its industry. Ease of entry into the industry and the ability of other well-funded players to potentially enter the market would be determined. As such, the assessment would consider the company's strengths and advantages of its products/services against weaknesses and limitations. This may include the company's current brand awareness, pricing and cost structure, current market strategies and geographic penetration that may affect demand for its products/services. In addition, the company's competitors would be evaluated.

High rank example: An analyst would consider the company's product to be superior to its competitors and that should allow the company to gain market share.

Low rank example: A company with a "me-too" product that does not have any significant technology advantages in an industry that has low barriers to entry.

Operating Leverage

Simplistically, operating leverage is determined by the operating income relative to changes in revenue. The analyst will calculate the impact on sensitivity on gross margins and variable costs to determine operating leverage. The analyst will take into account the ability of the company to cut fixed and variable costs in a challenged revenue environment and technological changes that may impact operating expenses. In addition, the analyst is to assess corporate strategies that include capital investment, which may be required for sustainable revenue growth, marketing expenses, and the company's ability to attract and retain talent and/or employees. The analyst should focus on the revenue opportunity and determine the price elasticity of demand for the company's products or services. In other words, the analyst is to rank the company based on improved operating margins going forward on an absolute and relative basis.

High rank example: A company that has improving margins for the foreseeable future, with significant price elasticity.

Low rank example: A company that is in a challenged revenue environment with a fixed cost structure and limited ability to cut costs, indicating an outlook for declining margins.

Financial Leverage

A strict definition of financial leverage is total debt divided by total shareholder's equity. Financial leverage analysis is to determine the company's ability to improve shareholder value by means of utilizing its balance sheet to grow organically or to acquire assets. Analysts may look at the company's debt to cash flow leverage ratio, interest coverage ratios, or debt to equity ratios. In addition, the interest rate environment and the outlook for interest rates are a factor in determining the company's ability to manage financial leverage. Finally, the analyst is expected to determine the ability to service the debt given the industry and/or company profile, such as cyclicality, barriers to entry, history of bankruptcy, consistency in revenue and profit growth, or predictability in sales and profits and large cash reserves. The analyst is expected to take into account capital intensity of the company and the anticipated of capital allocation decisions.

High rank example: A company with predictable and growing revenue and cash flow with modest debt levels. This may indicate that the company could improve shareholder value through growth investments, including acquisitions, using debt financing.

Low rank example: A company in a cyclical industry in a late stage economic cycle that has above average debt leverage and is in an industry that has a history of financial challenges, including bankruptcies.

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Equity Research Analyst focusing on the Life Sciences sector. 5 years of industry experience. PhD in Chemistry from University of Florida.Post-Doctoral training at Columbia University and New York University. Her scientific training focused on antiviral therapy, oncology and immuno-oncology.
FINRA licenses 7, 63, 86, 87.

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NOBLE RATINGS DEFINITIONS	% OF SECURITIES COVERED	% IB CLIENTS
Outperform: potential return is >15% above the current price	78%	34%
Market Perform: potential return is -15% to 15% of the current price	5%	1%
Underperform: potential return is >15% below the current price	0%	0%

NOTE: On August 20, 2018, Noble Capital Markets, Inc. changed the terminology of its ratings (as shown above) from "Buy" to "Outperform", from "Hold" to "Market Perform" and from "Sell" to "Underperform." The percentage relationships, as compared to current price (definitions), have remained the same.

Additional information is available upon request. The recipient of this report who wishes further information regarding the subject company or the disclosure information mentioned herein, should contact by mail or phone.

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