CEU Department of Economics and Business
CENTRAL EUROPEAN UNIVERSITY

MOLGROUP

CAPSTONE PROJECT SUMMARY 2020-2021

TITLE:	Environmental, Social and Governance (ESG) in Weighted Average Cost of Capital (WACC) in the Oil and Gas refinery Industry with a focus on MOL Group
NAME:	Rosalie Robyn Kahambundu (2003571)
PROJECT SPONSOR:	Mikkel Skougaard, MOL GROUP HUNGARY
PROJECT MANAGER:	Peter Szilagyi, MS in Finance, CEU

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1. BACKGROUND

1.1 PROJECT SPECIFICATON

Weighted average cost of capital reflects the expected average future cost of funds over the long run, tells us the minimum amount the company needs to return to be profitable. How can MOL Group integrate their ESG score with WACC?

1.2 INTRODUCTION

MOL Group is a leading integrated Central Eastern European Oil and Gas corporation headquartered in Budapest, Hungary and founded in October 1991 with a current revenue of 11.46 billion (Euro). An ESG score leader among 30 companies in the integrated oil and gas industry and its ratings remain unchanged since July 2017 with a rating of AA as indicated with MSCI.

ESG investment refers to the consideration of the ESG factors along with investment decision-making processes in the financial sector. Oil and gas industry plays a vital role converting crude oil into variety of useful products. Good environmental management of operations comprises reduction of emissions and accidents which is closely linked to cost competitiveness.

2 IMPLEMENTATIONS

2.1. THEORY

Studies have shown that ESG factors can have significant bearing on the cost of key companies which appears as risk such as commodity risk, that covers the changing prices of commodities like crude oil.

Low ESG score firms tend to have smaller investor base due to investor preferences, whilst green bonds are issued at yield lower than non-green bonds resulting to higher WACC for firms with lower ESG scores. Firms with higher ESG scores experience lower cost of capital and companies that failed to manage ESG risks have experienced higher cost of capital. We will test this theory with MOL Group.

Representations:

COD: Cost of Debt, COE: Cost of Equity, WACC: Weighted Cost of Capital

YEAR	WACC	ESG	COD	COE
2016	6.56%	72%	3.90%	7.16%
2017	6.51%	69%	3.01%	7.28%
2018	6.43%	64%	2.92%	6.98%
2019	6.04%	70%	1.85%	7.13%
2020	5.22%	72%	1.51%	7.06%

Table 2.1.1

2.2 EXPIREMENTAL METHODS

We look at WACC of MOL Group for the 2015-2020 financial years and their ESG score. We want to see how ESG can be integrated in the companies WACC calculations.

Dependent Variable: WACC
Method: Least Squares
Date: 06/06/21 Time: 00:19
Sample: 2016 2020
Included observations: 5

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.015265	0.101404	-0.150535	0.9049
ESG	-0.078917	0.053772	-1.467618	0.3808
COD	0.403214	0.175953	2.291603	0.2619
COE	1.698190	1.622645	1.046557	0.4855

R-squared	0.924681	Mean dependent var	0.061524
Adjusted R-squared	0.698724	S.D. dependent var	0.005585
S.E. of regression	0.003065	Akaike info criterion	-8.746755
Sum squared resid	9.40E-06	Schwarz criterion	-9.059205
Log likelihood	25.86689	Hannan-Quinn criter.	-9.585339
F-statistic	4.092285	Durbin-Watson stat	2.669175
Prob(F-statistic)	0.344994		

Table 2.2.1

Estimation Command:
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LS WACC C ESG COD COE

Estimation Equation:
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WACC = C (1) + C(2)*ESG + C(3)*COD + C(4)*COE

Substituted Coefficients:
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WACC = -0.0152647834377 - 0.0789169541919*ESG + 0.403213657731*COD + 1.69819046515*COE
Table 2.2.2

3 RESULTS AND CONCLUSION

Table 2.2.1 shows that ESG, cost of debt and cost of equity jointly significantly influences WACC at 35% significance level. There is a positive relationship with the cost of debt and cost of equity with WACC, hence when there is an increase in the independent variable, the dependent variable also increases. The model also indicated that cost of equity has a more influence in WACC than cost of debt. When ESG score increase by 1%, then WACC would decrease by 7.84%.

The model has proven that ESG score of MOL Group is negatively influence WACC, but jointly with the cost of equity and cost of debt. Hence it is important to include ESG scores in WACC but did not prove that increase in ESG score would decrease the firms WACC. Reason could indicate because other factors are also contributing to the cost of equity such as the relative size of a firm's investor base. We could argue that the relationship of sustainability and financial performance is only significant in the long term and not in the short term.