DCF Analysis of RoboCo:
Identifying the Optimal Divisions for AutoCo to Acquire

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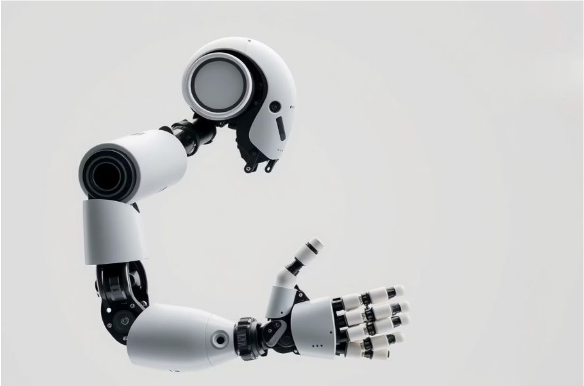
Free Cash Flow (FCF): Cash left after operating expenses & capital expenditures
WACC: Avg. cost of capital (equity + debt), used as discount rate
Present Value (PV): Future FCFs discounted to today's value using WACC



Task 1 – Free Cash Flows per year

Classic Robots: Y1: 500 | Y2: 1,980 | Y3: 1,390 | Y4: 4,655 | Y5: 8,400
Collaborative Robots: Y1: 3,550 | Y2: -5,460 | Y3: -27,184 | Y4: -6,260 | Y5: 223

Task 2 – WACC

Classic: 4.48% (E/V: 25%, D/V: 75%)
Collaborative: 4.33% (E/V: 21.9%, D/V: 78.1%)
(**Cost of Equity:** 8.22%, **Cost of Debt:** 3.67%, **Tax:** 11.89%)

Task 3 – Present Value Calculation of Free Cash Flows (Using WACC as Discount Rate)

Division	PV of FCFs	Terminal Value	Net Present Value
Classic Robots	14,165	228,474	1,89,798
Collaborative	-30.656	11,836	-21,477

4) Explanation how and why a risk-free rate of 5% changes the results; everything else held constant.

A risk-free rate of 5% increases the cost of equity and WACC, which reduces the present value of future cash flows. As a result, t**he overall firm valuation decreases**, even if all other variables remain unchanged.

🔍 Why Does This Happen?

Higher Risk-Free Rate → Higher Cost of Equity (Re) → Higher WACC → Lower Present Value of Future Cash Flows

5) Explanation: Impact of a β (Beta) of 0.2 (Everything Else Held Constant)

A beta of 0.2 indicates very low risk relative to market, which lowers the cost of equity and the WACC. This increases the present value of future cash flows, leading to a higher firm valuation, even when all other factors remain constant.

📉 Effect on WACC and Valuation

Lower Cost of Equity (Re) → Lower WACC → Higher Present Value of Future Cash Flows

A lower Re (1.96%) reduces the WACC, since equity becomes cheaper. A lower WACC means that future cash flows(FCF) are discounted at a lower rate, increasing their present value. **As a result, the overall firm valuation increases.**

Strategic Recommendations on Acquisition

The financial analysis of RoboCo's cash flows suggests that we **acquire just Classic Robots division** from the company. The following insights gained from the analysis support the recommendation:

1. **Net Present Value & FCFs**:
   a. Classic Robots generates substantial positive value (€189.8 million) with consistent cash flow growth
   b. Cobots destroys value (-€21.5 million) with volatile and largely negative cash flows
2. **WACC**:
   a. Despite a slightly higher WACC indicating greater risk, the Classic Robots division delivers a higher NPV — creating more value for the company
3. The negative present value of Cobots division significantly reduces the overall company valuation