Calculating WACC for Avenue Super Mart

Formulas Used

WACC = [(Weight of Equity * Cost of Equity) + (Weight of Debt * Cost of Debt)]

Cost of Equity = Risk Free Rate (Rf) + Levered Beta (β) * Equity Risk Premium (Rm-Rf)

Unlevered Beta = Covariance (Ri, Rm)/Variance (Rm)
Risk Free Rate (Rf) = Returns from a 10 Year Bond (Hard-Coded; Source – Investing.com)
Levered Beta (β) = Comparable Median Unlevered beta * [1+(1-Tax Rate)*Target Debt/Equity]
Total Market Return (Rf) = Average Returns + Dividend Yield (Hard-Coded)

Cost of Debt = Pre-Tax Cost of Debt – Tax Rate

Pre-Tax Cost of Debt = (Total Interest/Total Debt)*100
Tax Rate = Hard-Coded (Long Term Tax Rate)

Weight of Debt = Target Debt = Average Debt/Capital Ratio for comparable companies.
Weight of Equity = 100 – Weight of Debt

Step 1: Calculating Unlevered Beta

Avenue Supermart Weekly Returns		
Date	Closing Price	Weekly Return
05-12-2021	4,796.6	
12-12-2021	4,697.8	-2.06%
19-12-2021	4,628.9	-1.47%
26-12-2021	4,671.5	0.92%
02-01-2022	4,731.4	1.28%
09-01-2022	4,322.7	-8.64%
16-01-2022	4,299.8	-0.53%
23-01-2022	4,076.0	-5.20%
30-01-2022	4,081.9	0.14%
06-02-2022	4,142.3	1.48%
13-02-2022	4,073.1	-1.67%
20-02-2022	4,190.8	2.89%
27-02-2022	4,110.2	-1.92%
06-03-2022	4,199.0	2.16%
13-03-2022	4,192.8	-0.15%
20-03-2022	4,001.3	-4.57%
27-03-2022	4,082.2	2.02%
03-04-2022	4,146.3	1.57%
10-04-2022	4,090.9	-1.33%
17-04-2022	4,028.9	-1.52%
24-04-2022	3,944.3	-2.10%
01-05-2022	3,666.2	-7.05%
08-05-2022	3,230.6	-11.88%
15-05-2022	3,630.4	12.38%
22-05-2022	3,613.9	-0.46%
29-05-2022	3,820.1	5.71%
05-06-2022	3,755.7	-1.69%
12-06-2022	3,460.6	-7.86%

NIFTY Returns	
Closing Price	Weekly Return
17,511.3	
16,985.2	-3.00%
17,003.8	0.11%
17,354.1	2.06%
17,812.7	2.64%
18,255.8	2.49%
17,617.2	-3.50%
17,102.0	-2.92%
17,516.3	2.42%
17,374.8	-0.81%
17,276.3	-0.57%
16,658.4	-3.58%
16,245.4	-2.48%
16,630.5	2.37%
17,287.1	3.95%
17,153.0	-0.78%
17,670.5	3.02%
17,784.4	0.64%
17,475.7	-1.74%
17,172.0	-1.74%
17,102.6	-0.40%
16,411.3	-4.04%
15,782.2	-3.83%
16,266.2	3.07%
16,352.5	0.53%
16,584.3	1.42%
16,201.8	-2.31%
15,293.5	-5.61%

Beta Drifting	
Levered Raw Beta	1.03
Raw Beta Weights	75.00%
Market Beta	1.00
Market Beta Weight	25.00%
Adjused Beta	1.03
Beta 2	1.03

Historical Data from Yahoo Finance

Beta 2 = Levered Raw Beta = Covariance (Avenue Supermarket Weekly Returns, NIFTY Weekly Returns)/ Variance (NIFTY Weekly Returns)

Adjusted Beta = Unlevered Beta = (Levered Raw Beta*Raw Beta Weight) + (Market Beta*Market Beta Weight)

Step 2: Creating a Template to Calculate WACC

Weighted Average Cost of Capital

All figures are in INR unless stated otherwise.

Peer Comps

Name of the Comp	Country	Total Debt	Total Equity	Tax Rate [1]	Debt / Equity	Debt / Caital	Levered Beta [2]	Unlevered Beta [3]
				Average				
				Median				

Cost of Debt

Pre-Tax Cost of Debt	
Tax Rate	
Post Tax Cost of Debt	

Cost of Equity

Risk Free Rate	
Equity Risk Premium	
Levered Beta [4]	
Cost of Equity	

Capital Structure

	Current	**Target**
Total Debt		
Market Capitalization		
Total Capital		
Debt/Equity		

Levered Beta

Comps Median Unlevered Beta	
Target Debt/Equity	
Tax Rate	
Levered Beta	

Weighted Average Cost of Capital

	Total Cost	Total Weight
Debt		
Equity		
Weighted Average Cost of Capital		

Notes:

1. Tax Rate considered as Marginal Tax Rate for the country
2. Levered Beta is based on 5 years monthly data.
*3. Unlevered Beta = Levered Beta/(1+(1-Tax Rate)*Debt/Euity)*
4. Levered Beta = Unlevered Beta(1+(1-Tax Rate)*Debt/Euity*

Step 3: Populating the “Peer Comp” Section

Peer Comps

Name of the Comp	Country	Total Debt	Total Equity	Tax Rate [1]	Debt / Equity	Debt / Caital	Levered Beta [2]	Unlevered Beta [3]
Average								
Median								

Cost of Debt **Cost of Equity**

Peer Comps

Name of the Comp	Country	Total Debt	Total Equity	Tax Rate [1]	Debt / Equity	Debt / Caital	Levered Beta [2]	Unlevered Beta [3]
Trent	India	1842.2	241943.0	30.00%	0.76%	0.76%	0.98	0.97
Avenue Super.	India	712.9	239339.5	30.00%	0.30%	0.30%	1.03	1.03
Aditya Bir. Fas.	India	9999.2	34524.2	30.00%	28.96%	22.46%	1.60	1.33
Brainbees Solut.	India	1573.6	30963.7	30.00%	5.08%	4.84%	0.52	0.50
Redtape	India	650.6	11310.5	30.00%	5.75%	5.44%	0.60	0.58
Average				30.00%	8.17%	6.76%	0.95	0.88
Median				30.00%	5.08%	4.84%	0.98	0.97

Cost of Debt **Cost of Equity**

To gather information on comparable companies:

Screener.com > Avenue Super Mart > Peers (Retail) > Filters Added (Debt, Market Cap, Debt/Equity) > Sort by highest Market Cap > Copy & Paste top 5 companies to Excel.

Tax Rate – Hard Coded

Debt/Capital = Total Debt/(Total Debt + Total Equity)

Levered and Unlevered beta can be calculated for each of these companies using the method in slide 2.

Step 4: Calculating Returns on Market (Rm)

Return on Markets

Year	Annual
2000	-14.65%
2001	-16.18%
2002	3.25%
2003	71.90%
2004	10.68%
2005	36.34%
2006	39.83%
2007	54.77%
2008	-51.79%
2009	75.76%
2010	17.95%
2011	-24.62%
2012	27.70%
2013	6.76%
2014	31.39%
2015	-4.06%
2016	3.01%
2017	28.65%
2018	3.15%
2019	12.02%
2020	14.90%
2021	24.12%
2022	4.32%

Average Return	15.44%
Dividend Yield	1.27% [1]
Total Market Return	**15.44%**

Step 5: Populating “Capital Structure”

Capital Structure

	Current	Target
Total Debt		
Market Capitalization		
Total Capital		
Debt/Equity		

Capital Structure

		Current	Target
Total Debt	712.9	0.30%	6.76%
Market Capitalization	239339.5	99.70%	93.24%
Total Capital	240052.5	100.00%	100.00%
Debt/Equity		0.30%	7.25%

Total Debt and Total Equity (From Peer Comp) (For Avenue Super Mart)

Current Debt Weight = Total Debt/ Total Capital

Current Equity Weight = Total Market Cap/Total Capital

Target Debt = Average Debt/Capital (From Peer Comp)

Target Equity = 100 – Target Debt

Target Debt/Equity Ratio = Target Debt/Target Equity

Step 6: Populating “Levered Beta”

Levered Beta	
Comps Median Unlevered Beta	
Target Debt/Equity	
Tax Rate	
Levered Beta	

Levered Beta	
Comps Median Unlevered Beta	0.97
Target Debt/Equity	7.25%
Tax Rate	30%
Levered Beta	1.02

Comps Median Unlevered Beta (From Peer Comp)

Target Debt/Beta (From Capital Structure)

Tax Rate (Hard-Coded)

Levered Beta =
Comps Median Unlevered Beta *[1+(1-Tax Rate)* Target Debt/Beta]

Step 7: Populating “Cost of Equity”

Cost of Equity	
Risk Free Rate	
Equity Risk Premium	
Levered Beta [4]	
Cost of Equity	

Cost of Equity	
Risk Free Rate	6.50%
Equity Risk Premium	8.94%
Levered Beta [4]	1.02
Cost of Equity	15.66%

Risk Free Rate = Return on 10 Year Bond (From Investor.com India)

Levered Beta (From Levered Beta)

Equity Risk Premium (Rm-Rf)
Rm = Slide 5
Rf = Risk Free Rate

Cost of Equity = Risk Free Rate + Equity Risk Premium * Levered Beta

Step 8: Populating “Cost of Debt”

Cost of Debt	
Pre-Tax Cost of Debt	
Tax Rate	
Post Tax Cost of Debt	

Cost of Debt	
Pre-Tax Cost of Debt	8.40%
Tax Rate	30%
Post Tax Cost of Debt	5.88%

Pre-Tax Cost of Debt = Total Interest/Total Debt
(From Screener.com for Avenue Super Mart)

Tax Rate = Hard-Coded

Post Tax Cost of Debt =
Pre-Tax Cost of Debt - Tax Rate

Step 9: Populating “Weighted Average Cost of Capital (WACC)”

Weighted Average Cost of Capital

	Total Cost	Total Weight
Debt		
Equity		
Weighted Average Cost of Capital		

Weighted Average Cost of Capital

	Total Cost	Total Weight
Debt	5.88%	6.76%
Equity	15.66%	93.24%
Weighted Average Cost of Capital		15.00%

Cost of Debt
(from cost of debt)

Cost of Equity
(from cost of equity)

Weight of Debt
(From capital structure)

Weight of Equity
(From capital structure)

WACC =
(Cost of Debt * Weight of Debt) + (Cost of Equity * Weight of Equity)

Step 10: Final Output

WACC for Avenue Super Mart

Weighted Average Cost of Capital

All figures are in INR unless stated otherwise.

Peer Comps

Name of the Comp	Country	Total Debt	Total Equit	Tax Rate [1]	Debt / Equity	Debt / Caital	Levered Beta [2]	Unlevered Beta [3]
Trent	India	1842.2	241943.0	30.00%	0.76%	0.76%	0.98	0.97
Avenue Super.	India	712.9	239339.5	30.00%	0.30%	0.30%	1.03	1.03
Aditya Bir. Fas.	India	9999.2	34524.2	30.00%	28.96%	22.46%	1.60	1.33
Brainbees Solut.	India	1573.6	30963.7	30.00%	5.08%	4.84%	0.52	0.50
Redtape	India	650.6	11310.5	30.00%	5.75%	5.44%	0.60	0.58
Average				30.00%	8.17%	6.76%	0.95	0.88
Median				30.00%	5.08%	4.84%	0.98	0.97

Cost of Debt

Pre-Tax Cost of Debt	8.40%
Tax Rate	30%
Post Tax Cost of Debt	5.88%

Cost of Equity

Risk Free Rate	6.50%
Equity Risk Premium	8.94%
Levered Beta [4]	1.02
Cost of Equity	15.66%

Capital Structure

		Current	Target
Total Debt	712.9	0.30%	6.76%
Market Capitalization	239339.5	99.70%	93.24%
Total Capital	240052.5	100.00%	100.00%
Debt/Equity		0.30%	7.25%

Levered Beta

Comps Median Unlevered Beta	0.97
Target Debt/Equity	7.25%
Tax Rate	30%
Levered Beta	1.02

Weighted Average Cost of Capital

	Total Cost	Total Weight
Debt	5.88%	6.76%
Equity	15.66%	93.24%
Weighted Average Cost of Capital		15.00%

Notes:

1. Tax Rate considered as Marginal Tax Rate for the country
2. Levered Beta is based on 5 years monthly data.
*3. Unlevered Beta = Levered Beta/(1+(1-Tax Rate)*Debt/Euity)*
4. Levered Beta = Unlevered Beta(1+(1-Tax Rate)*Debt/Euity*