Capital Structure

Inputs

Debt/Value	0	0.2	0.4	0.6	0.8		
Equity/Value	1	0.8	0.6	0.4	0.2		
Debt rating	A	BBB	BB	C	D		
B-T cost of Debt	7%	8%	10%	12%	15%		
Risk-free rate	5%						
Market risk premium	6%						
Unlevered beta	1.2						
Tax rate	40%						

Outputs

D/S	0	0.25	0.67	1.5	4		
Beta(using the Hamada equation)							
beta = b_U [1+ (1-T)(D/S)]	1.2	1.38	1.68	2.28	4.08		
Cost of equity (CAPM) rs = rRF + b(rM-rRF)							
r_s	12.20%	13.28%	15.08%	18.68%	29.48%		
A-T Cost of Debt = rd(1-T)							
A-T r_d	4.20%	4.80%	6.00%	7.20%	9.00%		
WACC = $w_d(r_d)(1-T) + w_{ce}(r_s)$.							
WACC	12.20%	11.58%	11.45%	11.79%	13.10%		
Min WACC					11.45%		
w_d at min WACC	0	0	40%	0	0		
D/A ratio that minimizes the WACC:					40.00%		

A-T co
Debt/V