Midland energy resources, cost of capital

Midland Energy Resources, Cost of Capital The case is about how Janet Mortensen, senior vice president of project finance for Midland Energy Resources, prepare her annual cost of capital estimates for midland and each of its three divisions for her company. Midland was a global energy company with operations in oil and gas exploration and production (E&P), refining and marketing(R&M), and petrochemicals. Estimates of cost of capital prepared by Mortensen were used in many analyses within Midland, including asset appraisals for both capital budgeting and financial accounting, performance assessments.

Since her calculations had been widely applied in various areas and became influential, she was considering appending a sort of user's guide to the 2007 set of calculations for reference to different applications. Mortensen used WACC formula to estimate cost of capital, compute the cost of debt by adding a premium over US Treasury securities of a similar maturity, and calculate the cost of equity by using the CAPM formula. After reviewing the case and tables given, we calculated the company's composite WACC and WACCs for each division respectively. The company's composite WACC is 8. 19%. The inputs we used are spread to treasury of 1. 2%, debt ratio of 42. 2%, Treasury bond yields of 4. 98% at a 30-year maturity, the 2006 tax rate of 39%, beta of 1. 25, and EMRP of 5%. However, we do not think that EMRP given in the case is appropriate. Instead, we recommend 3. 3%, which is the most recent EMRP estimate according the survey results in the Exhibit 6. Midland cannot use the same WACC for all divisions. It has three different divisions with different risk or Beta, which is given in Exhibit 5. If midland

uses same WACC for all division it can accept risky investment or some time it may mislead by giving up profitable investment.

It should use corporate WACC only for corporate level decision. WACC for E&P and R&M is calculated by using cost of debt by adding risk free rate plus spread to TB. From the Exhibit 5, weights for debt and Equity are calculated. WACC of E&P is 8. 82 and R&F is 9. 83. Both WACC are different to each other because they have different risk level, leverage and credit rating. Calculation Part: WACC (E&P):= rd(D/V)(1-t)+re(E/V)= 6. 58*0. 2847(1-0. 39)+10. 73*0. 7153= 8. 8178 rd= rf+spread = 4. 98+1. 6= 6. 58, re= rf+B(EMRP)= 4. 98+1. 15*5= 10. 73 D/E= 0. 398 or V-E/E= 0. 398 or E/V= 0. 7153

D/V= 1-E/V= 1-0. 7153= 0. 2847 WACC (R&M)= rd(D/V)(1-t)+re(E/V)= 6. 78*0. 1687(1-0. 39)+10. 98*0. 8313= 9. 8253 rd= rf+spread = 4. 98+1. 8= 6. 78re= rf+B(EMRP)= 4. 98+1. 2*5= 10. 98 D/E= 0. 203orV-E/E= 0. 203orE/V= 0. 8313, D/V= 1-E/V= 1-0. 8313= 0. 1687 For Petrochemical division, since we don't have sufficient information of that division. We cannot compute our Beta so that we cannot get an exact number of WACC for the division. If the managers want to have a rough estimate, they can use the overall Beta as an average for three divisions and calculate the Beta for Petrochemical division. Then they can get the WACC.