Revison exercise 4. Capital Structure.

Pre-Tax					Net Cashflow	Firm Value pre tax
Debt	Equity	Kd	Ke	WACC		
0	100	5	15	15.0	500000	3333333
10	90	5	16.2	15.1	500000	3315650
20	80	5	17.5	15.0	500000	3333333
30	70	5	19.3	15.0	500000	3331113
40	60	5	21.7	15.0	500000	3328895
50	50	5	25	15.0	500000	3333333
60	40	5	30	15.0	500000	3333333
70	30	5	38.5	15.1	500000	3322259
80	20	5	55	15.0	500000	3333333
90	10	5	105	15.0	500000	3333333
Debt	Equity	Kd	Ke	WACC		
0	100	5	15	15.0	500000	3333333
10	90	5	16.2	15.1	500000	3315650
20	80	5	17.5	15.0	500000	3333333
30	70	5	19.3	15.0	500000	3331113
40	60	5	21.7	15.0	500000	3328895
50	50	5	25	15.0	500000	3333333
60	40	6	30.5	15.8	500000	3164557
70	30	7	39.4	16.7	500000	2990431
80	20	8	57	17.8	500000	2808989
90	10	9	105	18.6	500000	2688172

Graphs:

Debt	Kd	Ke	WACC
0	5	15	15.0
10	5	16.2	15.1
20	5	17.5	15.0
30	5	19.3	15.0
40	5	21.7	15.0
50	5	25	15.0
60	5	30	15.0
70	5	38.5	15.1
80	5	55	15.0
90	5	105	15.0

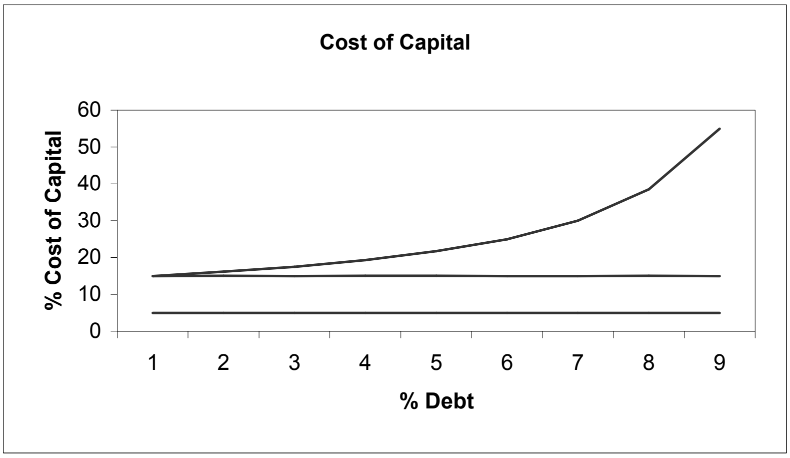
Debt	Kd	Ke	WACC
0	5	15	15.0
10	5	16.2	15.1
20	5	17.5	15.0
30	5	19.3	15.0
40	5	21.7	15.0
50	5	25	15.0
60	6	30.5	15.8
70	7	39.4	16.7
80	8	57	17.8
90	9	105	18.6

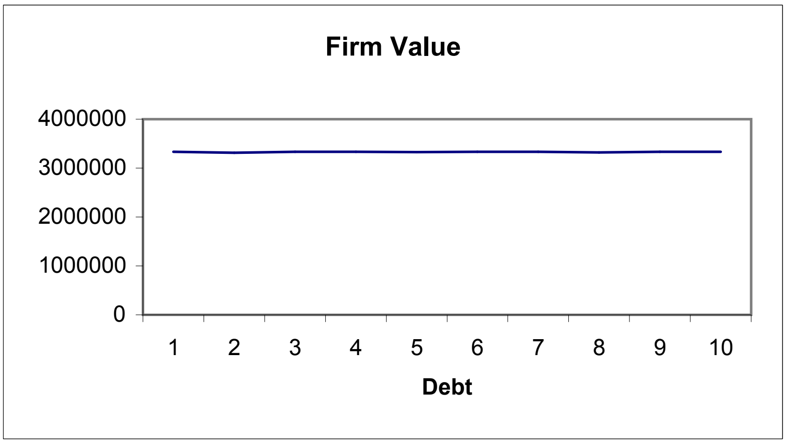
Graphs:

Debt	Kd	Ke	WACC
0	3	15	15
10	3	16.2	14.88
20	3	17.5	14.6
30	3	19.3	14.41
40	3	21.7	14.22
50	3	25	14
60	3	30	13.8
70	3	38.5	13.65
80	3	55	13.4
90	3	105	13.2

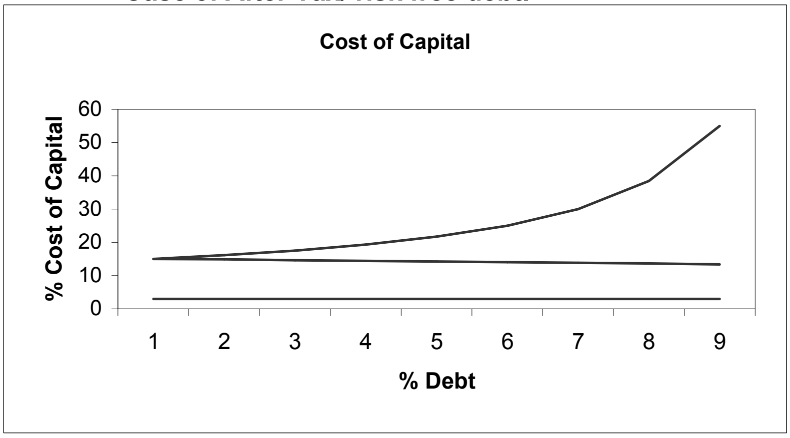
Debt	Kd	Ke	WACC
0	3	15	15
10	3	16.2	14.88
20	3	17.5	14.6
30	3	19.3	14.41
40	3	21.7	14.22
50	3	25	14
60	3.6	30.5	14.36
70	4.2	39.4	14.76
80	4.8	57	15.24
90	5.4	105	15.36

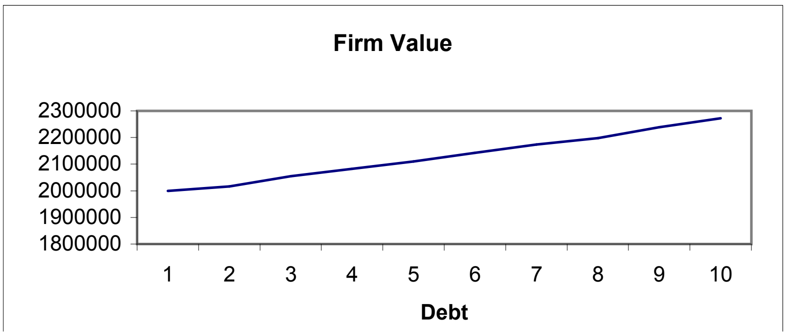
Case 1: no tax/ risk free debt (MM Irrelevance).





Case 3: After Tax/ risk free debt.





Debt

	After Tax			
Debt	Equity	Kd	Ke	WACC
0	100	3	15	15.0
10	90	3	16.2	14.9
20	80	3	17.5	14.6
30	70	3	19.3	14.4
40	60	3	21.7	14.2
50	50	3	25	14.0
60	40	3	30	13.8
70	30	3	38.5	13.7
80	20	3	55	13.4
90	10	3	105	13.2
Debt	Equity	Kd	Ke	WACC
0	100	3	15	15.0
10	90	3	16.2	14.9
20	80	3	17.5	14.6
30	70	3	19.3	14.4
40	60	3	21.7	14.2
50	50	3	25	14.0
60	40	3.6	30.5	14.4
70	30	4.2	39.4	14.8
80	20	4.8	57	15.2
90	10	5.4	105	15.4

Net Cashflow	PV after tax
300000	2000000
300000	2016129
300000	2054795
300000	2081888
300000	2109705
300000	2142857
300000	2173913
300000	2197802
300000	2238806
300000	2272727
300000	2000000
300000	2016129
300000	2054795
300000	2081888
300000	2109705
300000	2142857
300000	2089136
300000	2032520
300000	1968504
300000	1953125

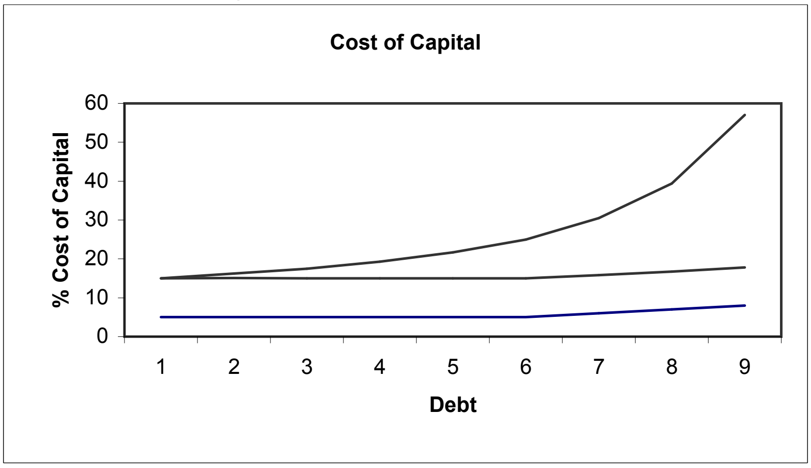
Debt	Value
0	3333333
10	3315650
20	3333333
30	3331113
40	3328895
50	3333333
60	3333333
70	3322259
80	3333333
90	3333333

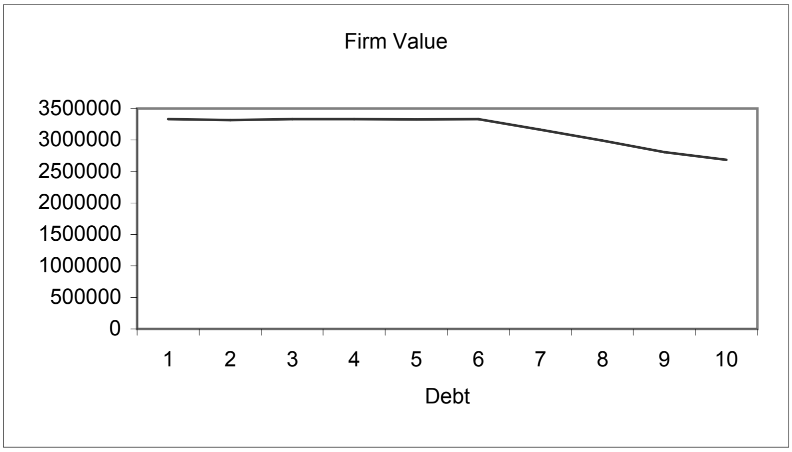
Debt	Value
0	3333333
10	3315650
20	3333333
30	3331113
40	3328895
50	3333333
60	3164557
70	2990431
80	2808989
90	2688172

Debt	Value
0	2000000
10	2016129
20	2054795
30	2081888
40	2109705
50	2142857
60	2173913
70	2197802
80	2238806
90	2272727

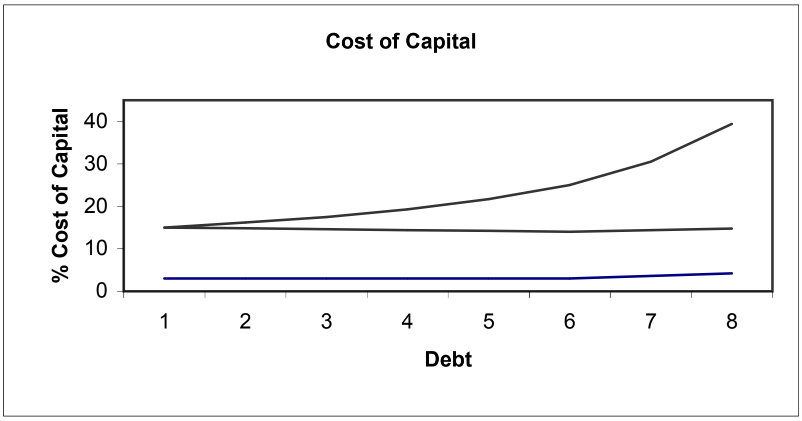
Debt	Value
0	2000000
10	2016129
20	2054795
30	2081888
40	2109705
50	2142857
60	2089136
70	2032520
80	1968504
90	1953125

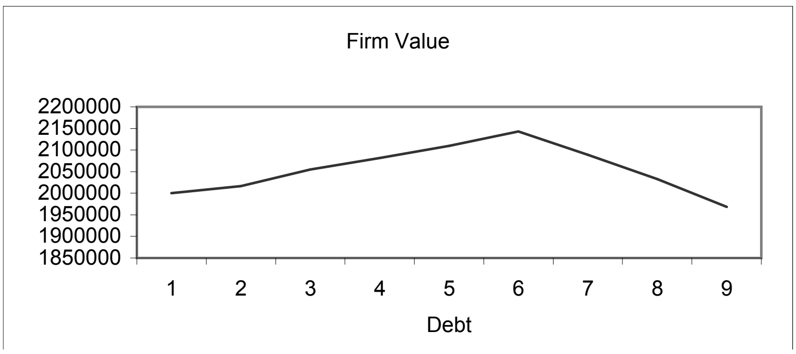
Case 2: no tax/ risky debt





Case 4: After Tax/ risky debt





Debt