**Book Homework 3**

**Jiaqi Li**

20. Yes. If IRR > ER, accept project; otherwise reject project.

21. Yes. There is big difference between promised and expected. Issuers usually provide promised, which is not really reliable.

22. Cannot tell because stated is not equal to expected.

23. (1) 5 years is the most likely operating time

(2) 0.2× 1+0.8× 0.2× 2+…+0.8^4× 5

(3) -2000 + [0.2× 1000/1.12] + [0.8× 0.2× (0.2× 1000/1.12+1000/1.12/1.12) + …

24. (1) 0.04+2× 0.03 = 0.1 ⇒ 95/1.1 ≈ 86.4

(2) NPV = -100 + 106/1.1 ≈ -3.6

(3) NPV will goes down

(4) Beta will increase due to higher risk

(5) cost of capital will increase

(6) Yes

(7) Should not change since payoff does not increase

25. Not a bad idea since keeping money in short-term treasuries provides high liquidity and zero risk

26. For: every accurate in evaluating process since each project is discounted by its own COC.

Against: too time consuming and not sensible, time value is also a cost!

27. If expand cargo division, managers will have less attention on other divisions, which means the increase in airline cargo division’s operations would be harmful to the passenger division.

28. Positive externality: the sum of the parts is worth more than the part individually

Main source: acquisition of firms

Negative externality: the sum of the parts is worth less than the part individually

Main source: Pollution and Congestion

Cannibalization

Complexity

Resources Exhaustion

29. (1) There will be 7! combinations of distributors. It is feasible, but not sensible because of the

the distributors generate revenues that are less than its cost and we may only need distributors

that generates “excess return” (= gross revenue – cost)

(2) A,B,C,F

(3) 5-2+4-2+4-3+7-5=8

(4) marginal benefit = 1, marginal cost = 3

(6) marginal benefit = -1, marginal cost = 4 if serving for D

(5) NPV = 8 -5 = 3 > 0, should initiate the investment

30. (1) 5+10/(Q × 1+2) = 7 – Q× 1/10 ⇒ Q = 13.6 and 4.4 (should take integer as 14 and 5)

(2) 0 (or 0.35 for 14 units and -0.35 for 5 units)

(3)

(4) marginal profit = 5+10/(Q× 1+2)- (7 – Q× 1/10) = 10/(Q× 1+2)+ Q× 1/10 – 2

as Q goes to infinity, 10/(Q× 1+2) goes to 0 and Q× 1/10 goes to infinity

thus, the firm should produce 1 – 4 units of goods or more than 14 units and as much as possible

(5)

31. It is not the best to allocate costs only to divisions that request a resource because allocation of cost

should generate profits. If allocation of cost cannot generate profits or cannot optimize profits, such allocation should be adjusted.

32. It is the best to allocate costs to divisions that benefit from a resource because such allocation of

cost main to optimize profits.

33. (1) NPV = = 0.85

|  |  |  |  |
| --- | --- | --- | --- |
|  | Weight of Profit | Fari Share Cost | NPV |
| A | 8.8% | 88 | 92 |
| B | 22.1% | 221 | 229 |
| C | 44.1% | 441 | 459 |
| D | 3.9% | 39 | 41 |
| E | 6.4% | 64 | 66 |
| F | 14.7% | 147 | 153 |
| Total |  |  | 1047 |

(2)

Firm’s NPV = 1.047 million

34. (1) E = 10× 1/10 + 6× 6/10 + 0× 3/10 = 4.6

(2) Should not sell any since the expected selling price is lower than the cost in general for now.

(3) (6-5)× 150000× 6/10 + (10-8)× 500000× 1/10 = 190000

(4) 190000 – 0 = 190000

35. (1)Expansion and Contractions (2)Acceleration and delay (3)Switching (4)Spinoffs

36. I would drive 40 minuets to purchase staples since I can get the staples with half of the price.

From economic perspective, since both have the same 300 benefit, I should evaluate the cost of both purchase and decide to purchase the one with the lowest cost and highest gross profit.

37. Can make a lottery rule for people to join the health club: everyone gets a chance to attend the lottery process and each person who attends the lottery can win, with different levels of award. The awards are different levels of discount to join the health club, and actually the price to join the club after discount is just equal to the original price without the lottery process, but people don’t know the fair price.

38. Problem between CEOs and shareholders. Firm can award CEOs to compensate them.

39. Agency problem is worse in established firms, because established firms are usually big firms, which are harder to control the entire firm.

40. No, some agency conflicts can promote efficiency.