AcF302: Corporate Finance

Lent term 2021

Week 17 Workshop Questions

Leasing and the leasing decision

Question 1)

a) Define a lease and specify the rights and obligations of each party to the lease.

b) Distinguish between a sales-type lease, a direct lease, and a sale and lease-back. Provide real examples as the ones used in the lecture.

Question 2) Which of the following statements is FALSE?

A) In a direct lease, the lessor is the manufacturer (or a primary dealer) of the asset.

B) The lease specifies any cancellation provisions, the options for renewal and purchase, and the obligations for maintenance and related servicing costs.

C) If a firm already owns an asset it would prefer to lease, it can arrange a sale and leaseback transaction.

D) With many leases, the lessor provides the initial capital necessary to purchase the asset, and then receives and retains the lease payments.

Question 3) Which of the following statements regarding leases and bankruptcy is FALSE?

A) Operating and true tax leases are generally viewed as true leases by the courts, whereas capital and non-tax leases are more likely to be viewed as a security interest.

B) By retaining ownership of the asset, the lessor has the right to repossess it if the lease payments are not made, even if the firm seeks bankruptcy protection.

C) If a lease contract is characterized as a true lease in bankruptcy, the lessor is in a somewhat superior position than a lender if the firm defaults.

D) If the lease is classified as a true lease in bankruptcy, then the lessee retains ownership rights over the asset.

Question 4) Lease payments vs. Loan payments.

- Suppose an H1200 supercomputer has a cost of £200,000 and will have a residual market value of £60,000 in five years. The risk-free interest rate is 5% APR with monthly compounding.

  a) What is the risk-free monthly lease payment for a five-year lease in a perfect market?

  b) What would be the monthly repayment for a five-year £200,000 loan to purchase the H1200?

  c) Compare your answers in part a) and b). What are the advantages and disadvantages of each arrangement? Are the monthly payments similar or different? Explain why they differ or they are close together.

Question 5) different types of leasing

- Consider a five-year lease for a £400,000 bottling machine, with a residual market value of £150,000 at the end of the five years. If the risk-free interest rate is 6% APR with monthly compounding, compute the monthly lease payment in a perfect market for the following leases:

a. A fair market value lease

b. A £1.00 out lease

c. A fixed price lease with an £80,000 final price

Q6) Balance Sheet changes

- Acme Distribution currently has the following items on its balance sheet:

Assets		**Liabilities**	
Cash	20	Debt	70
Prop., Plant, Equip.	175	Equity	125

a) How will Acme's balance sheet change if it enters into an £80 million capital lease for new warehouses?

b) What will its book debt-equity ratio be?

c) How will Acme's balance sheet and debt-equity ratio change if the lease is an operating lease?

Question 7) Explain what is the lease equivalent loan.

Question 8) The Leasing decision

Riverton Mining plans to purchase or lease £220,000 worth of excavation equipment. If purchased, the equipment will be depreciated on a straight-line basis over five years, after which it will be worthless. If leased, the annual lease payments will be £55,000 per year for five years. Assume Riverton's borrowing cost is 8%, its tax rate is 35%, and the lease qualifies as a true tax lease.

- a. If Riverton purchases the equipment, what is the amount of the lease-equivalent loan?
- b. Is Riverton better off leasing the equipment or financing the purchase using the lease equivalent loan?
- c. By how much would your company be better off?

Question 9) You work for a garment company. Your firm needs to decide if it is more convenient to lease or to buy a sewing machine to meet the additional demand of shirts to be faced in the next 5 years. The purchase price of the machine is £75,000. If you lease the truck, annual payments will be £17,000, with the first of four payments due today. The firm's pre-tax borrowing cost is 8% and the effective tax rate is 22%.

Consider the following cash flows:

	Year				
FCF	0	1	2	3	4
Buy	-75000	5250	5250	5250	5250
Lease	-17000	-17000	-17000	-17000	

a) If this is a true tax lease, decide if the firm should buy or lease the truck. Show all your calculations and explain your decision.

b) If this is a non-tax lease, should the firm buy or lease the truck? Show all your calculations and explain your decision.

Q10) Leasing decision: linear vs. accelerated depreciation.

Suppose Clorox can lease a new computer data processing system for £975,000 per year for five years. Alternatively, it can purchase the system for £4.25 million. Assume Clorox has a borrowing cost of 7% and a tax rate of 35%, and the system will be obsolete at the end of five years.

a. If Clorox will depreciate the computer equipment on a straight-line basis over the next five years, and if the lease qualifies as a true tax lease, is it better to lease or finance the purchase of the equipment?

b. Suppose that if Clorox buys the equipment, it will use accelerated depreciation for tax purposes. Specifically, suppose it can expense 20% of the purchase price immediately and can take depreciation deductions equal to 32%, 19.2%, 11.52%, 11.52%, and 5.76% of the purchase price over the next five years. Compare leasing with purchase in this case.

Question 11) More on Leasing decision

You are the CFO of a transport company that is considering the purchase of a new extra height truck costing a total of £7.5 million. This truck will qualify for accelerated depreciation: 32% can be expensed immediately, followed by 20%, 19.2%, 11.52%, 11.52% and 5.76% over the next 4 years.

However, because of the company's substantial tax loss carry forwards, you estimate its marginal tax rate to be only 12% over the next 4 years. Since the company will get very little tax benefit from the depreciation expense, you are also considering leasing the packaging machine instead. Suppose that the transport company and the lessor face the same 5.2% borrowing rate. Assume that the truck is worthless after five years, the lease term is five years, and a lease would qualify as a true tax lease.

a) Assuming that your company's annual lease payments are £1.5 million, calculate the lease-equivalent loan (show all your calculations, including the computation of the FCF (buy) and the FCF (Lease).

b) What is the amount of the savings in year 0 from leasing?

c) Using the direct method, calculate the NPV of leasing (show your calculations).

d) What should you do as CFO of this Transport Company, lease or buy the new truck?