ACF 302 - Week 7

Workshop: Leasing

Berk and DeMarzo Chapter 25

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Question 1-a)

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

A lease is a contract between two parties that involve the transfer of rights of use of an asset.

Lessee

- The party in a lease liable for periodic payments in Exchange for the right to use the asset.

Lessor

- The party in a lease who is entitled to the lease payments in Exchange for lending the asset.

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Question 1-b)

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.

Sales-Type Lease

- A type of lease in which the lessor is the manufacturer (or primary dealer) of the asset
- Examples: XEROX, IBM

Direct Lease

- A type of lease in which the lessor is not the manufacturer but is often an independent company that specializes in purchasing assets and leasing them to customers
- Example: trucks and transportation / logistics companies

Sale and Lease-Back

- Describes a type of lease in which a firm already owns an asset it would prefer to lease
- The firm receives cash from the sale of the asset and then makes lease payments to retain the use of the asset.
- Example: public transport services, when a city sells the tram line and the leases the service back.

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.

Answer: A) In a direct lease, the lessor is an independent company that owns the asset.

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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.

Answer: D

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

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Q4) Lease payment vs. Loan payment

- 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 rate for a five-year lease in a perfect market?

  b) What would be the monthly payment for a five-year $200,000 risk-free 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.
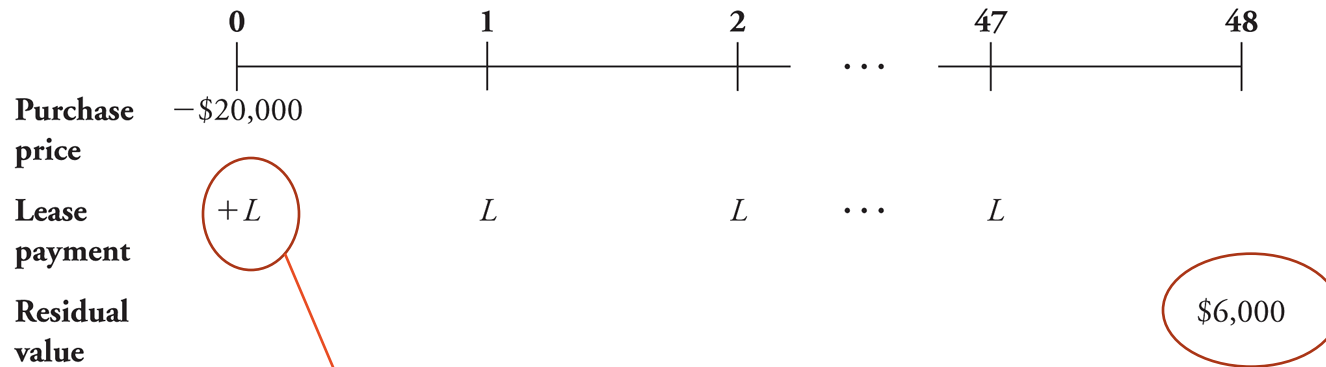
(Remember from Lecture)

- In a perfect market, the cost of leasing is equivalent to the cost of purchasing and reselling the asset.

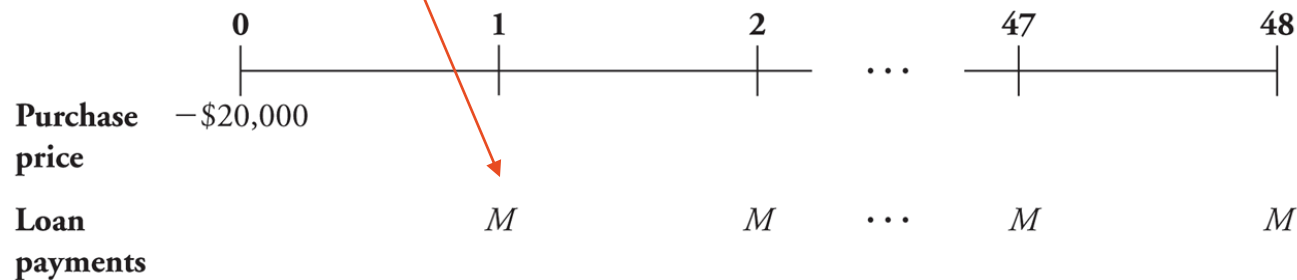- Purchase Price = PV(Lease Payments) + PV(Residual Value)

$\rightarrow$

$$PV(\text{Lease Payments}) = \text{Purchase Price} - PV(\text{Residual Value})$$

(Remember from Lecture)

- Lease payments are made at the beginning of each period

	0	**1**	**2**		**47**	**48**
Purchase price	$-\$20,000$					
Lease payment	$+L$	L	L	$\cdots$	L	
Residual value						$\$6,000$

- Loan payments are made at the END of the month

	0	**1**	**2**		**47**	**48**
Purchase price	$-\$20,000$					
Loan payments		M	M	$\cdots$	M	M

  - This changes the annuity formula!

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(Remember from Lecture)

- Lease (L) payments are made at the beginning of each period

$$PV \ (LEASE \ Payments) = L + L \times \frac{1}{r} \left(1 - \frac{1}{(1+r)^{t-1}} \right)$$

- Loan (M) payments are made at the END of the month

$$PV \ (LOAN \ Payments) = M \times \frac{1}{r} \left(1 - \frac{1}{(1+r)^{t}} \right)$$

Solution Q4 – a)

- T = five-year (60 month) lease,

- r = 0.05/12

- *PV*(Lease payments) = Purchase Price – PV(Residual Value)

- *PV*(Lease payments) = $200,000 – 60,000/(1 + 0.05/12)^{60}$ = $153,248.

- Because the first lease payment is paid upfront, and the remaining 59 payments are paid as an annuity:

$$PV\ (LEASE\ Payments) = L + L \times \frac{1}{r}\left(1 - \frac{1}{(1+r)^{t-1}}\right)$$

$$153,248 = L\left(1 + \frac{1}{0.05/12}\left(1 - \frac{1}{(1+0.05/12)^{59}}\right)\right)$$

Solving for L=2880

Q4 – b)

- T= 5 years = 60 months
- Loan = Value of the computer = 200000

$$200,000 = M \frac{1}{0.05/12}\left(1 - \frac{1}{(1+0.05/12)^{60}}\right)$$

- Solving for M = 3774

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Question 4-c)

- In the Lease there is no transfer of ownership and the monthly lease payments are made at the beginning of the month.

- In the Loan monthly payment the machine is actually purchased and the monthly payments are at the end of the month.

- Loan repayment is more costly because the totality of the machine needs to be repaid (unlike the lease, where there is a residual value we don´t pay for).

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Q5) Different types of Leases

- 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

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Q5 – a) A fair market value lease

- T= five-year (60 month)

- r = monthly interest rate of 6%/12 = 0.5%,

- PV(Lease payments) = 400,000 – 150,000/(1.005)^{60} = \$288,794.

- Because the first lease payment is paid upfront, and the remaining 59 payments are paid as an annuity:

$$288,794 = L\left(1 + \frac{1}{0.005}\left(1 - \frac{1}{1.005^{59}}\right)\right).$$

- L = $288{,}794 / \left(1 + \frac{1}{0.005}\left(1 - \frac{1}{(1.005)^{59}}\right)\right) = 5555$

Q5 – b) A $1.00 out lease

- In this case, the lessor will only receive $1 at the conclusion of the lease. Therefore, the present value of the lease payments should be $400,000:

(The assumption is that there is no residual value)

- → PV(Lease payments) = Purchase Price

$$400,000 = L\left(1 + \frac{1}{0.005}\left(1 - \frac{1}{1.005^{59}}\right)\right).$$

- L = $7,695.

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Q5-c) A fixed price lease with an $80,000 final price

- In this case the lessor will receive $80,000 at the conclusion of the lease.

- PV(Lease payments)= 400,000 – 80,000/(1.005)^{60} = $340,690.

- Because the first lease payment is paid upfront, and the remaining 59 payments are paid as an annuity:

$$340,690 = L\left(1 + \frac{1}{0.005}\left(1 - \frac{1}{1.005^{59}}\right)\right).$$

- Therefore, L = $6,554.

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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?

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(Remember from the Lecture!)

- Leases in Accounting
  - For lessees, the Financial Accounting Standards Board (FASB), distinguishes two types of leases based on the lease terms, and this classification determines the lease's accounting treatment.
    - **Operating Lease:** Lease is treated as a rental agreement.
    - **Capital Lease:** Lease is viewed as an acquisition.

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Q6-a - b) Capital Lease

- A) Capital Lease: property added to balance sheet, lease added to debt:

Assets		Liabilities	
Cash	20	Debt	150
Prop., Plant, Equip.	255	Equity	125

- B) Book D/E = 150 / 125 = 1.2

Q6-c) Operating Lease

- Operating Lease: <u>no change</u> to balance sheet

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

- Book D/E = 70 / 125 = 0.56

Q7) Capital vs. Operational Lease

Your firm is considering leasing a $50,000 copier. The copier has an estimated economic life of eight years. Suppose the appropriate discount rate is 9% APR with monthly compounding.

Classify each lease below as a capital lease or operating lease, and explain why:

- a.   A four-year fair market value lease with payments of $1150 per month
- b.   A six-year fair market value lease with payments of $790 per month
- c.   A five-year fair market value lease with payments of $925 per month
- d.   A five-year fair market value lease with payments of $1000 per month and an option to cancel after three years with a $9000 cancellation penalty

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(Remember from the Lecture!)

- Lease Accounting
    - A lease is treated as a capital lease for the lessee and must be listed on the firm's balance sheet if it satisfies any of the following four conditions.

1. Title to the property transfers to the lessee at the end of the lease term.

2. The lease contains an option to purchase the asset at a bargain price that is substantially less than its fair market value.

3. The lease term is 75% or more of the estimated economic life of the asset.

4. The present value of the minimum lease payments at the start of the lease is 90% or more of the asset's fair market value.

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Q7 – Case a)

- A four-year fair market value lease with payments of $1,150 per month.

- PV(Lease Payments) = $1150 \times \left(1 + \dfrac{1}{0.09/12} \left(1 - \dfrac{1}{(1+0.09/12)^{47}} \right) \right) = \$46,559.$

- This is 46,559/50,000 = 93% of the purchase price.
- Because it exceeds 90% of the purchase price, <u>this is a capital lease.</u>

Q7 – Case b)

- A six-year fair market value lease with payments of $790 per month.

- The lease term is 75% or more of the economic life of the asset (75% × 8 years = 6 years), and so this is a capital lease.

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Q7 – Case c)

- A five-year fair market value lease with payments of $925 per month.

- PV(Lease Payments) = $925 \times \left(1 + \frac{1}{0.09/12} \left(1 - \frac{1}{(1+0.09/12)^{59}} \right) \right) = \$44,895.$

- This is 44,895/50,000 = 89.8% of the purchase price.

- Because it is less than 90% of the purchase price, the term is less than 6 years, and it is a fair market value lease, <u>this is an operating lease.</u>

Q7 –Case d)

- A five-year fair market value lease with payments of $1,000 per month and an option to cancel after three years with a $9,000 cancellation penalty.

- Without the cancellation option, the PV of the lease payments would exceed 90% of the purchase price.

- With the cancellation option,

- PV(Min. Lease Pmts) = $1000 \times \left(1 + \frac{1}{0.09/12} \left(1 - \frac{1}{(1+0.09/12)^{35}} \right) \right) + \frac{9000}{(1+0.09/12)^{36}} = \$38,560.$

- As this is less than 90% of the purchase price, the lease qualifies as an operating lease.

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Question 8) Explain what is the lease equivalent loan.

Answer: The lease-equivalent loan is the loan that is required on the purchase of the asset that leaves the purchaser with the same obligations as the lessee would have.

Q9) The Leasing decision (true tax lease).

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?

Q9 – a)

• If Riverton buys the equipment, it will pay $220,000 upfront and have depreciation expenses of 220,000 / 5 = $44,000 per year, generating a depreciation tax shield of 35% × 44,000 = $15,400 per year for years 1–5.

• If it leases, the after-tax lease payments are $55,000 × (1 − 0.35) = $35,750. Thus, the FCF of leasing versus buying is −35,750 − (−220,000) = 184,250 in year 0, −35,750 − (15,400) = −51,150 in years 1–4, and 0 − (15,400) = −15,400 in year 5.

• The initial amount of the lease equivalent loan is the PV of the incremental free cash flows in years 1–5 at Riverton's after-tax borrowing rate of 8%(1 − 0.35) = 5.2%:

$$\text{Loan Amt} = \frac{-51,150}{1.052} + \frac{-51,150}{1.052^2} + \frac{-51,150}{1.052^3} + \frac{-51,150}{1.052^4} + \frac{-15,400}{1.052^5}$$
$$= -192,488.$$

• That is, leasing leads to the same future cash flows as buying the equipment and borrowing $192,488 initially.

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Q9 – a) continued

Year	0	1	2	3	4	5
Buy						
Capital Expenditure	-£220,000					
Depreciation tax shield at 35%		£15,400	£15,400	£15,400	£15,400	£15,400
FCF(Buy)	-£220,000	£15,400	£15,400	£15,400	£15,400	£15,400
Lease						
Lease Payment	-£55,000	-£55,000	-£55,000	-£55,000	-£55,000	
Income Tax Savings at 35%	£19,250	£19,250	£19,250	£19,250	£19,250	
FCF (Lease)	-£35,750	-£35,750	-£35,750	-£35,750	-£35,750	
Lease vs. Buy						
Lease - Buy	£184,250	-£51,150	-£51,150	-£51,150	-£51,150	-£15,400

Borrowing rate	8%
After tax borrowing rate	5.2%

Year	0	1	2	3	4	5
PV of incremental FCF in years 1 to 5		-£48,622	-£46,218	-£43,934	-£41,762	-£11,952
Lease equivalent Loan	-£192,488					
Upfront payment if we Lease	-£35,750					
Upfron payment if we take the equivalent loan	-£27,512					
Difference	-£8,238					

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Q9 – b)

- If Riverton leases, it pays $35,750 after-tax as an initial lease payment. If it buys using the lease equivalent loan, it pays 220,000 – 192,488 = $27,512 upfront.

- Because the future liabilities are the same, buying with the lease equivalent loan is cheaper by 35,750 – 27,512 = $8,238 today. Thus, **the lease is not attractive**.

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Q11) Leasing decision: exercise with 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.

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Remember from the Lecture!

Leasing can be compared to buying the asset using equivalent leverage by discounting the incremental cash flows of leasing versus buying using the after-tax borrowing rate.

• First, compute the incremental cash flows for leasing versus buying, including the depreciation tax shield (if buying) and the tax deductibility of the lease payments if leasing.

• Then, compute the NPV of leasing versus buying using equivalent leverage by discounting the incremental cash flows <u>at the after-tax borrowing rate</u>.

• If NPV < 0 , then leasing is unattractive compared to traditional debt financing.
• If NPV > 0, then leasing does provide an advantage over traditional debt financing and should be considered.

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Q11 – a) Linear depreciation

- If Clorox buys the equipment, it will pay $4.25 million upfront and have depreciation expenses of 4.25 / 5 = $850,000 per year, generating a depreciation tax shield of 35% × 850,000 = $297,500 per year for years 1–5.

- If it leases, the after-tax lease payments are $975,000 × (1 − 0.35) = $633,750. Thus, the FCF of leasing versus buying is −633,750 − (−4,250,000) = 3,616,250 in year 0, −633,750 − (297,500) = −931,250 in years 1–4, and 0 − (297,500) = −297,500 in year 5.

- We can determine the gain from leasing by discounting the incremental cash flows at Clorox's after-tax borrowing rate of 7% (1 − 0.35) = 4.55%:

$$\text{NPV(Lease-Buy)} = 3,616,250 - \frac{931,250}{1.0455} - \frac{931,250}{1.0455^2} - \frac{931,250}{1.0455^3} - \frac{931,250}{1.0455^4} - \frac{297,500}{1.0455^5}$$

$$= \$41,112.$$

- Under these assumptions, the lease is more attractive than financing a purchase of the computer.

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Q11- a) Linear depreciation

Direct method using linear depreciation

Year	0	1	2	3	4	5
Buy						
Capital Expenditure	-£4,250,000					
Depreciation tax shield at 35%		£297,500	£297,500	£297,500	£297,500	£297,500
FCF(Buy)	-£4,250,000	£297,500	£297,500	£297,500	£297,500	£297,500
Lease						
Lease Payment	-£975,000	-£975,000	-£975,000	-£975,000	-£975,000	
Income Tax Savings at 35%	£341,250	£341,250	£341,250	£341,250	£341,250	
FCF (Lease)	-£633,750	-£633,750	-£633,750	-£633,750	-£633,750	
Lease vs. Buy						
Lease - Buy	£3,616,250	-£931,250	-£931,250	-£931,250	-£931,250	-£297,500

Borrowing rate	7%
After tax borrowing rate	5%

	0	1	2	3	4	5
PV of incremental FCF in years 1 to 5	£3,616,250	-£890,722	-£851,958	-£814,881	-£779,417	-£238,159
NPV(L-B)	**£41,112**					

Since NPV>0, Leasing is more attractive than traditional debt financing

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Q11 – b) Accelerated depreciation

- The depreciation tax shield if Clorox buys is now 35% × ($4.25 million × 20%) = $297,500 in year 0.

- Therefore, the incremental FCF from leasing is 633,750 – (–4,250,000) – 297,500 = $3,318,750 in year 0. In year 1, the depreciation tax shield is 35% × ($4.25 million × 32%) = $476,000, and the incremental cash flow is –633,750 – (476,000) = –1,109,750.

- We can continue in this way each year as shown in the spreadsheet :

$$\text{NPV(Lease-Buy)} = 3,318,750 - \frac{1,109,750}{1.0455} - \frac{919,350}{1.0455^2} - \frac{805,110}{1.0455^3} - \frac{805,110}{1.0455^4} - \frac{85,680}{1.0455^5}$$

$$= -\$30,712$$

Lease is no longer attractive

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Q11-b) Accelerated depreciation

Direct method using accelerated depreciation

Year	0	1	2	3	4	5
Buy						
Capital Expenditure	-£4,250,000					
Depreciation tax shield at 35%	£297,500	£476,000	£285,600	£171,360	£171,360	85,680
FCF(Buy)	-£3,952,500	£476,000	£285,600	£171,360	£171,360	£85,680
Lease						
Lease Payment	-£975,000	-£975,000	-£975,000	-£975,000	-£975,000	
Income Tax Savings at 35%	£341,250	£341,250	£341,250	£341,250	£341,250	
FCF (Lease)	-£633,750	-£633,750	-£633,750	-£633,750	-£633,750	
Lease vs. Buy						
Lease - Buy	£3,318,750	-£1,109,750	-£919,350	-£805,110	-£805,110	-£85,680

Borrowing rate	7%
After tax borrowing rate	5%

	0	1	2	3	4	5
PV of incremental FCF in years 1 to 5	£3,318,750	-£1,061,454	-£841,071	-£704,503	-£673,844	-£68,590
NPV(L-B)	**-£30,712**					

Since NPV<0, Leasing is no longer attractive with this scheme of accelerated depreciation.

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Question 10)

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 machine, 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 sewing machine. Show all your calculations and explain your decision.

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

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Question 10 – a) True tax lease

The NPV of the Buy Free Cash Flows discounted at 6.2% (this is the after tax borrowing rate = 8%*(1-22%) =0.0624 is:

−£56907

The NPV of the Lease Free Cash Flows discounted at 6.24% is:

−£62240

Buying gives a lower cost on an NPV basis.

Alternative solution is calculate the NPV of the Lease-Buy cash flows.

The NPV(FCF L-B) < 0, then Leasing is NOT attractive (see slide 78 in the lecture slides).

In both cases, remember to discount at the **after tax borrowing rate**.

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Question 10 – a) True tax lease

a) True - Tax Lease

	Year				
Direct Method	0	1	2	3	4
L-B	58000.00	-22250.00	-22250.00	-22250.00	-5250.00
NPV(L-B)	58000	-20943.1476	-19713.0531	-18555.2081	-4121.04214
Total	-5332.4509--> Since the NPV(L-B) < 0 this means that Leasing is NOT atractive.				

					TOTAL	
Alternative (calculate the NPV(L) and the NPV(B) separately						
NPV(L)	-17000	-16001.506	-15061.6585	-14177.0129	0	-62240.1775
NPV(B)	-75000	4941.64157	4651.39455	4378.19517	4121.04214	-56907.7266

The cost of leasing is 62240 while the cost of buying is 56907. This means that leasing costs 62240 - 56907 = 5332 more than buying. Then, leasing is not atractive.

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Question 10 – b) Non- Tax lease

- With a non-tax lease we compare the net present value of the lease payments (discounted at the pre-borrowing rate) with the cost of buying the asset (£75000).

-

		Year 0	Year 1	Year 2	Year 3	Year 4
NPV(lease)		-17000	-15740.7407	-14574.7599	-13495.1481	0
Total	-60810.649					

- The lease is attractive because the Present value of the lease payments is £60810 while buying the asset costs £75000. Assuming there is no residual value, it is cheaper to lease than to buy.

Q12) More on Leasing

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 5 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 5 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?

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Q12)

- Note how the questions are similar to the previous exercises.
- Solution is similar to Q11 – b)

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	Year	0	1	2	3	4	5
Cost of the machine		7500000					
tax rate		0.12					
Machine worthless after 5 years							
Accelerated depreciation schedule over 5 years							
Lease term		5 years					
True tax lease							
Lease Payments		1500000					
Borrowing rate		0.052					

	Year	0	1	2	3	4	5
Depreciation schedule		0.32	0.2	0.192	0.1152	0.1152	0.0576

Buy

	0	1	2	3	4	5
CAPEX	-7500000					
Depreciation tax shield	288000	180000	172800	103680	103680	51840
Free Cash Flow (Buy)	**-7212000**	**180000**	**172800**	**103680**	**103680**	**51840**

Lease

	0	1	2	3	4	5
Lease Payments	-1500000	-1500000	-1500000	-1500000	-1500000	
Income tax savings	180000	180000	180000	180000	180000	
Free Cash Flow (Lease)	**-1320000**	**-1320000**	**-1320000**	**-1320000**	**-1320000**	**0**

	0	1	2	3	4	5
Free Cash Flow (Lease - Buy)	**5892000**	**-1500000**	**-1492800**	**-1423680**	**-1423680**	**-51840**

	0	1	2	3	4	5
After tax cost of Debt = rd(1 - Tc)	0.04576	0.04576	0.04576	0.04576	0.04576	0.04576

Loan Balance = PV(Future FCF Lease - Buy) at rd(1 - Tc)

	0	1	2	3	4	5
PV(Future FCF Lease - Buy)		-1434363.525	-1365015.47	-1244847.94	-1190376.32	-41448.1224
Lease equivalent LOAN	5,276,051.38					

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

The amount is the FCF of lease - buy in year zero = 5,892,000.00

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

	Year	0	1	2	3	4	5
NPV = PV(FCF Lease - Buy) at rd(1 - Tc)		5892000	-1434363.525	-1365015.47	-1244847.94	-1190376.32	-41448.1224
	NPV	615,948.62					