Financial Reporting and Analysis: Non-Current Liabilities

Francisco Parga, CFA

BONDS

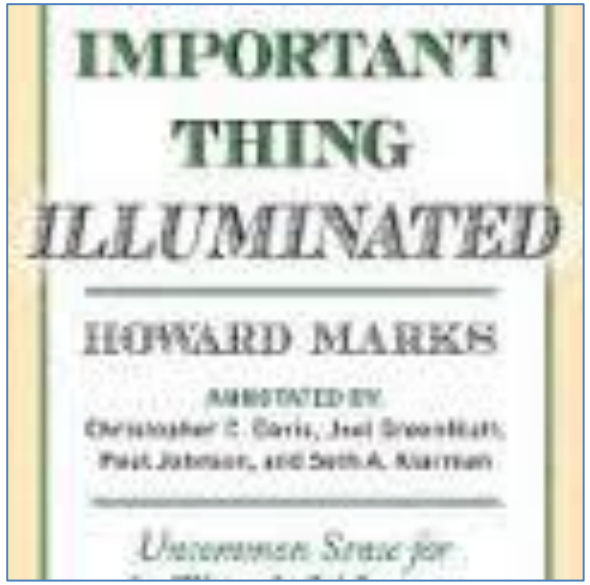
THEORY. DEBT

LEASE ACCOUTING

PENSION PLANS

1

BOND ACCOUNTING


IMPORTANT
THING
ILLUMINATED
HOWARD MARKS

Restaurante "Viridiana"

Contract information

+) 3-year Bond; +) 1,000,000 par value; +)3% coupon rate

Today	Year-1	Year-2	Year-3
Market Price	-30,000	-30,000	-30,000
			-1,000,000

-Coupon rate (3%) x par value (1,000,000)

Market information

How much they pay you today for the bond

a) Par Value

Today	Year-1	Year-2	Year-3
1,000,000	-30,000	-30,000	-30,000
			-1,000,000

b) Premium

Today	Year-1	Year-2	Year-3
1,060,000	-30,000	-30,000	-30,000
			-1,000,000

c) Discount

Today	Year-1	Year-2	Year-3
300,000	-30,000	-30,000	-30,000
			-1,000,000

Market information

a) Par Value

Today	Year-1	Year-2	Year-3
1,000,000	-30,000	-30,000	-30,000
			-1,000,000

$$\frac{30{,}000}{(1+3\%)} + \frac{30{,}000}{(1+3\%)^{2}} + \frac{30{,}000+1{,}000{,}000}{(1+3\%)^{3}} = 1{,}000{,}000$$

Market information

a) Discount→ ABENGOA

Today	Year-1	Year-2	Year-3
300,000	-30,000	-30,000	-30,000
			-1,000,000

$$\frac{30{,}000}{(1+57\%)} + \frac{30{,}000}{(1+57\%)^{2}} + \frac{30{,}000+1{,}000{,}000}{(1+57\%)^{3}} = 300{,}000$$

Market information

a) Premium→ Berkshire Hathaway

Today	Year-1	Year-2	Year-3
1,060,000	-30,000	-30,000	-30,000
			-1,000,000

$$\frac{30{,}000}{(1+0.96\%)} + \frac{30{,}000}{(1+0.96\%)^{2}} + \frac{30{,}000+1{,}000{,}000}{(1+0.96\%)^{3}} = 1{,}060{,}000$$

- determine the initial recognition, initial measurement and subsequent measurement of bonds;
- describe the effective interest method and calculate interest expense, amortisation of bond discounts/premiums, and interest payments;

A) PAR

B) DISCOUNT

C) PREMIUM

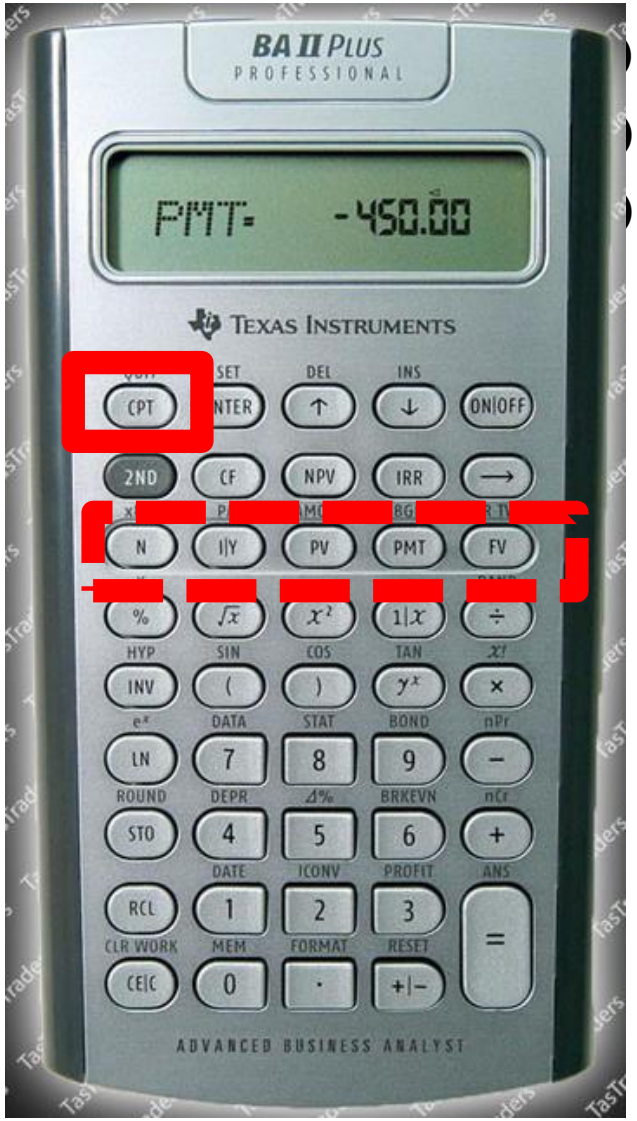
D) ZERO COUPON

E) ISSUANCE COSTS

F) FAIR VALUE REPORTING

SLIDE INTRO BOND DISCOUNT / PREMIUM

CALCULATOR. PREMIUM / PAR / DISCOUNT

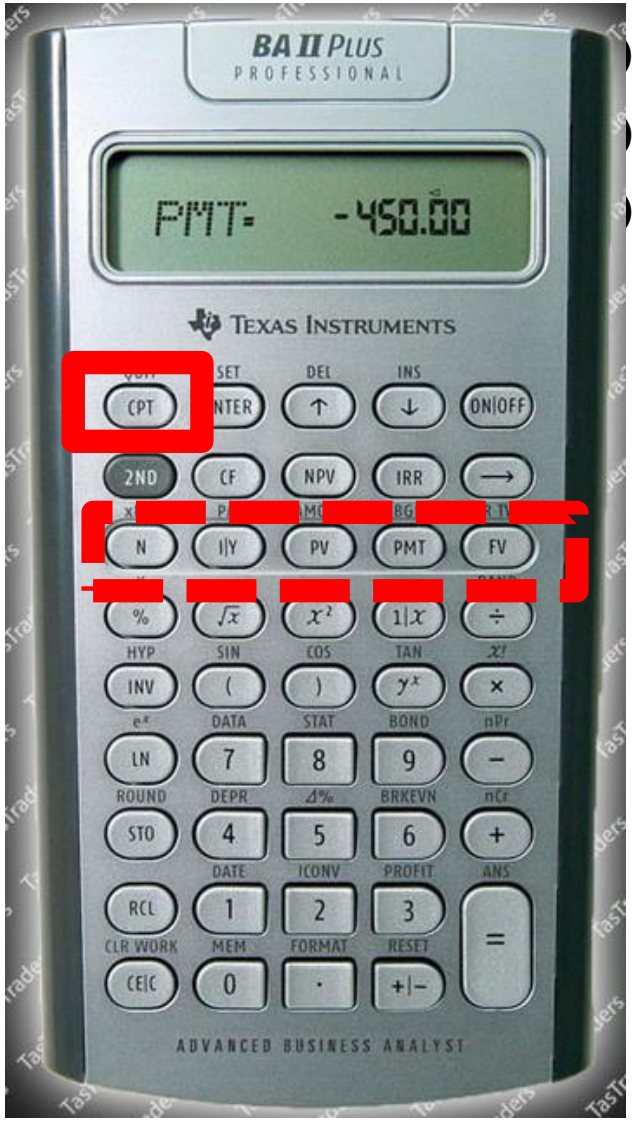


- N = Number of Compounding Periods
- I/Y = Interest rate per compounding period → EFFECTIVE INTEREST
- PV = Present Value → INITIAL RECOGNITION
- PMT = Annuity payments, or constant periodic cash flow
- FV = Future Value
- CPT = Compute

INT. EXPENSE

EFFECTIVE INTEREST x B.o.P Liability

CALCULATOR. PREMIUM / PAR / DISCOUNT

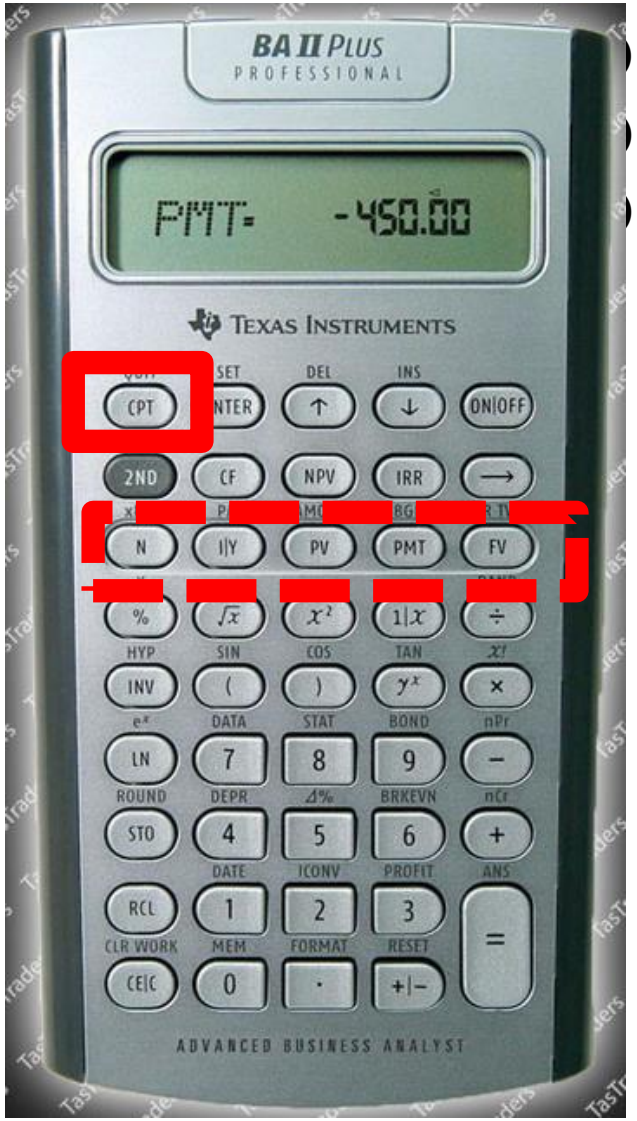


Face Value	100,000
Coupon	9%
Yield	9%
Term (Years)	5

- N = Number of Compounding Periods
- I/Y = Interest rate per compounding period
- PV = Present Value
- PMT = Annuity payments, or constant periodic cash flow
- FV = Future Value
- CPT = Compute

- N = 5
- I/Y = 9%
- PMT = 9,000
- FV = 100,000
- CPT → PV = -100,000

CALCULATOR. PREMIUM / PAR / DISCOUNT

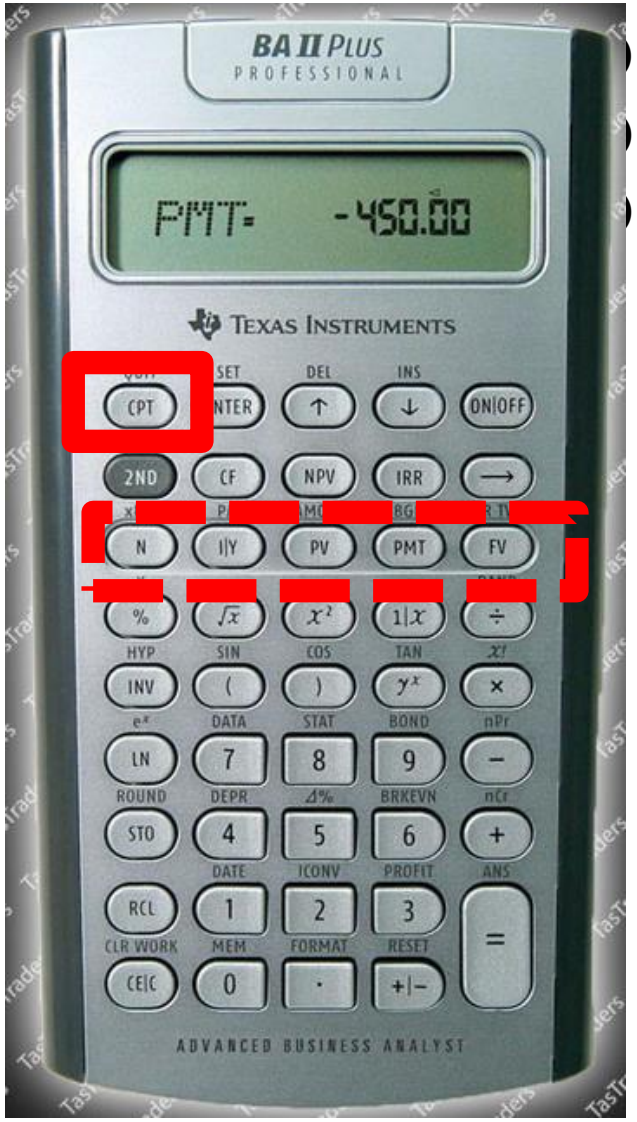


Face Value	100,000
Coupon	9%
Cost	96,209
Effective Interest	10%

- N = Number of Compounding Periods
- I/Y = Interest rate per compounding period
- PV = Present Value
- PMT = Annuity payments, or constant periodic cash flow
- FV = Future Value
- CPT = Compute

- I/Y = 10
- PV = -96,209
- PMT = 9,000
- FV = 100,000
- CPT → N = 5

CALCULATOR. PREMIUM / PAR / DISCOUNT

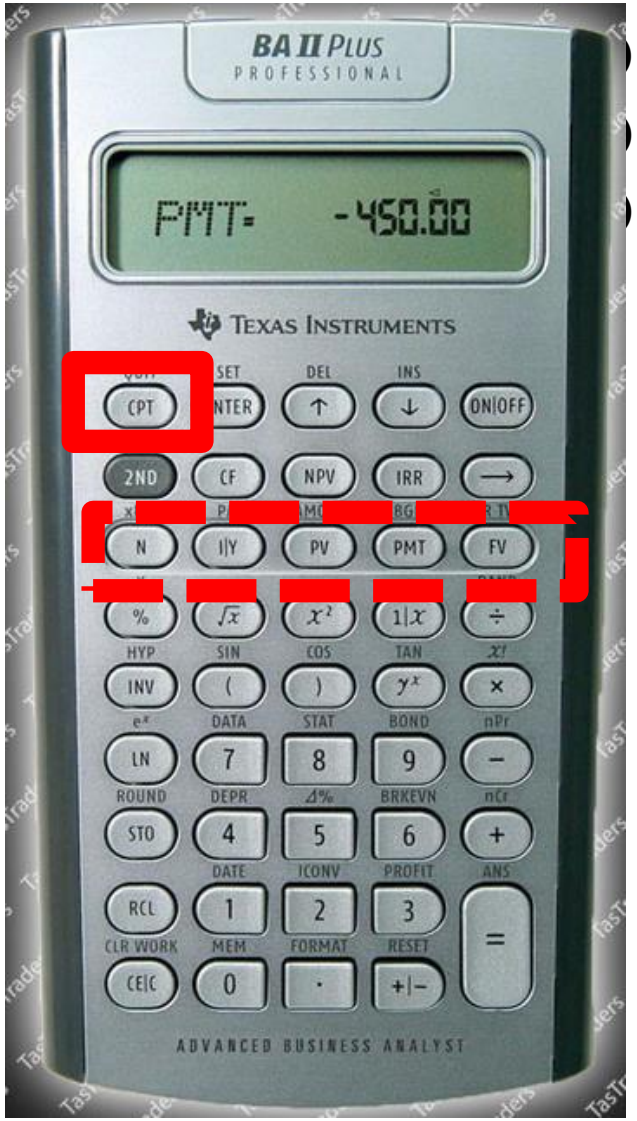


Face Value	100,000
Coupon	9%
Cost	96,209
Term (Years)	5

- N = Number of Compounding Periods
- I/Y = Interest rate per compounding period
- PV = Present Value
- PMT = Annuity payments, or constant periodic cash flow
- FV = Future Value
- CPT = Compute

- N = 5
- PV = -96,209
- PMT = 9,000
- FV = 100,000
- CPT → I/Y = 10%

CALCULATOR. PREMIUM / PAR / DISCOUNT

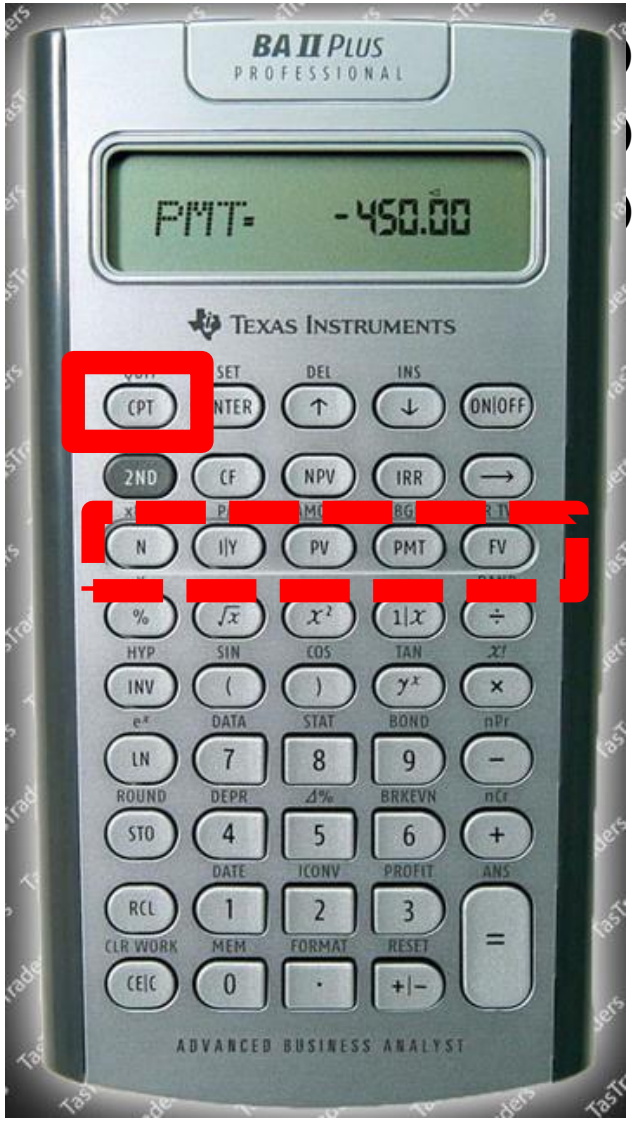


Face Value	100,000
Coupon	9%
Yield	10%
Term (Years)	5

- N = Number of Compounding Periods
- I/Y = Interest rate per compounding period
- PV = Present Value
- PMT = Annuity payments, or constant periodic cash flow
- FV = Future Value
- CPT = Compute

- N = 5
- I/Y = 10%
- PMT = 9,000
- FV = 100,000
- CPT → PV = -96,209

CALCULATOR. PREMIUM / PAR / DISCOUNT



Face Value	100,000
Coupon	9%
Yield	8%
Term (Years)	5

- N = Number of Compounding Periods
- I/Y = Interest rate per compounding period
- PV = Present Value
- PMT = Annuity payments, or constant periodic cash flow
- FV = Future Value
- CPT = Compute

- N = 5
- I/Y = 8%
- PMT = 9,000
- FV = 100,000
- CPT → PV = -103,992

A) PAR

MIDLAND EXERCISE

At the beginning of the year, Midland Corporation issued a 5 year 10% bond with a face value of $100,000 for $100,000.

$$\frac{10{,}000}{(1+10\%)} + \frac{10{,}000}{(1+10\%)^2} + \frac{10{,}000}{(1+10\%)^3} + \frac{10{,}000}{(1+10\%}$$

N =

I/Y =

PV =

PMT =

FV =

CPT →

Year	BoP	Interest	Amortization	EoP
1	100,000	10,000	0	100,000
2	100,000	10,000	0	100,000
3	100,000	10,000	0	100,000
4	100,000	10,000	0	100,000
5	100,000	10,000	0	100,000

MIDLAND EXERCISE

At the beginning of the year, Midland Corporation issued a 10% bond with a face value of $100,000 for $100,000 to yield 10%.

DEBIT	CREDIT
YEAR 1 . Beginning of Year	
CASH (100,000)	FINANCIAL DEBT (100,000)
YEAR 1 . End of Year	
INT. EXPENSE (10,000)	CASH (10,000)

Year	BoP	Interest	Amortization	EoP
1	100,000	10,000	0	100,000
2	100,000	10,000	0	100,000
3	100,000	10,000	0	100,000
4	100,000	10,000	0	100,000
5	100,000	10,000	0	100,000

B) DISCOUNT

MIDLAND EXERCISE

At the beginning of the year, Midland Corporation issued a 9% bond with a face value of $100,000 for $96,209 to yield 10%.

$$\frac{9{,}000}{(1+10\%)} + \frac{9{,}000}{(1+10\%)^2} + \frac{9{,}000}{(1+10\%)^3} + \frac{9{,}000}{(1+10\%)^4} +$$

N =

I/Y =

PV =

PMT =

FV =

CPT ⇨

Year	BoP	Interest	Amortization	EoP
1	96,209	9,621	621	96,830
2	96,830	9,683	683	97,513
3	97,513	9,751	751	98,264
4	98,264	9,826	826	99,091
5	99,091	9,909	909	100,000
		TOTAL	3,791	

B) DISCOUNT

MIDLAND EXERCISE

At the beginning of the year, Midland Corporation issued a 9% bond with a face value of $100,000 for $96,209 to yield 10%.

DEBIT	CREDIT
YEAR 1 . Beginning of Year	
CASH (96,209)	FINANCIAL DEBT (96,209)
YEAR 1 . End of Year	
INT. EXPENSE (9,621)	CASH (9,000)
	FINANCIAL DEBT (621)

Year	BoP	Interest	Amortization	EoP
1	96,209	9,621	621	96,830
2	96,830	9,683	683	97,513
3	97,513	9,751	751	98,264
4	98,264	9,826	826	99,091
5	99,091	9,909	909	100,000
		TOTAL	3,791	

C) PREMIUM

MIDLAND EXERCISE

At the beginning of the year, Midland Corporation issued a 5 year 9% bond with a face value of $100,000 for $103,993.

$$\frac{9{,}000}{(1+8\%)} + \frac{9{,}000}{(1+8\%)^2} + \frac{9{,}000}{(1+8\%)^3} + \frac{9{,}000}{(1+8\%)^4} + \frac{9{,}000+100{,}000}{} = 103{,}993$$

N =

I/Y =

PV =

PMT =

FV =

CPT ⇨

Year	BoP	Interest	Amortization	EoP
1	103,993	8,319	(681)	103,312
2	103,312	8,265	(735)	102,577
3	102,577	8,206	(794)	101,783
4	101,783	8,143	(857)	100,926
5	100,926	8,074	(926)	100,000

C) PREMIUM

MIDLAND EXERCISE KAPLAN

At the beginning of the year, Midland Corporation issued a 9% bond with a face value of $100,000 for $103,993 to yield 8%.

DEBIT	CREDIT
YEAR 1 . Beginning of Year	
CASH (103,993)	FINANCIAL DEBT (103,993)
YEAR 1 . End of Year	
INT. EXPENSE (8,319)	CASH (9,000)
FINANCIAL DEBT (681)	

Year	BoP	Interest	Amortization	EoP
1	103,993	8,319	(681)	103,312
2	103,312	8,265	(735)	102,577
3	102,577	8,206	(794)	101,783
4	101,783	8,143	(857)	100,926
5	100,926	8,074	(926)	100,000

D) ZERO COUPON

MIDLAND EXERCISE

At the beginning of the year, Midland Corporation issued a 3 year zero-coupon with a face value of $100,000 for $90,000.

N =

I/Y =

PV =

PMT =

FV =

CPT →

Year	BoP	Interest	Amortization	EoP
1	90.000,00	3.216,98	(3.216,98)	93.216,98
2	93.216,98	3.331,96	(3.331,96)	96.548,94
3	96.548,94	3.451,06	(3.451,06)	100.000,00
4				
5				

D) ZERO COUPON

MIDLAND EXERCISE

At the beginning of the year, Midland Corporation issued a 3 year zero-coupon with a face value of $100,000 for $90,000.

DEBIT	CREDIT
YEAR 1 . Beginning of Year	
CASH (90,000)	FINANCIAL DEBT (90,000)
YEAR 1 . End of Year	
INT. EXPENSE (3,216)	CASH (0)
	FINANCIAL DEBT (3,216)

Year	BoP	Interest	Amortization	EoP
1	90.000,00	3.216,98	(3.216,98)	93.216,98
2	93.216,98	3.331,96	(3.331,96)	96.548,94
3	96.548,94	3.451,06	(3.451,06)	100.000,00
4				
5				

explain the derecognition of debt;

When a bond matures → No gain or loss recognized in the balance sheet → Cash flow reported in the financing cash flow

If a firm redeems a bond before maturity (typical if interest rates fall) → A loss is registered in the income statement if redemption price is higher than the book value of the bond at the acquisition price → A gain is registered in the income statement if redemption price is lower than the book value of the bond at the acquisition price

Year	BoP	Interest	Amortization	EoP
1	103,993	8,319	(681)	103,312
2	103,312	8,265	(735)	102,577
3	102,577	8,206	(794)	101,783
4	101,783	8,143	(857)	100,926
5	100,926	8,074	(926)	100,000

explain the derecognition of debt; **ISSUANCE COSTS**

US GAAP before 2016

ISSUANCE COSTS CAPITALIZED AS AN ASSET AN ALLOCATED TO P&L OVER THE LIFE OF THE BOND

US GAAP after 2016

LIKE IFRS but still permits former treatment

IFRS

BOND LIABILITY IS REDUCED BY ISSUANCE COSTS

EFFECTIVE INTEREST RATE IS INCREASED

TREATED AS AN UNAMORTIZED DISCOUNT

COSTE AMORTIZADO

- EL BANCO ME PRESTA 500.000 EUROS
- AMORTIZACIÓN LINEAL 5 AÑOS
- 5% DE INTERÉS
- 0.5% GASTOS DE FORMALIZACIÓN

REALIDAD ECONÓMICA

①

DEBO 500.000 EUROS MÁS INTERESES

②

COBRO 500.000 EUROS MENOS LOS GASTOS DE FORMALIZACIÓN

	BoP	Payment	Principal	Interest	EoP
1	500,000	115,487	90,487	25,000	409,513
2	409,513	115,487	95,012	20,476	314,501
3	314,501	115,487	99,762	15,725	214,738
4	214,738	115,487	104,750	10,737	109,988
5	109,988	115,487	109,988	5,499	0

COSTE AMORTIZADO

CAPITALIZED COST

- EL BANCO ME PRESTA 500.000 EUROS
- AMORTIZACIÓN LINEAL 5 AÑOS
- 5% DE INTERÉS
- 0.5% GASTOS DE FORMALIZACIÓN

DEBIT	CREDIT
CAJA→ 497,500	Deudas a c/p → 100,000
GDVE→ 2,500	Deudas a l/p → 400,000
Gasto→ 500	GDVE→ 500

COSTE AMORTIZADO

CAPITALIZED COST LIABILITY

	BoP	Payment	Principal	Interest	EoP
1	500,000	115,487	90,487	25,000	409,513
2	409,513	115,487	95,012	20,476	314,501
3	314,501	115,487	99,762	15,725	214,738
4	214,738	115,487	104,750	10,737	109,988
5	109,988	115,487	109,988	5,499	0

EFFECTIVE INTEREST LIABILITY

	BoP	Payment	Principal	Interest	EoP
1	497,500	115,487	89,709	25,778	407,791
2	407,791	115,487	94,357	21,130	313,434
3	313,434	115,487	99,247	16,241	214,187
4	214,187	115,487	104,389	11,098	109,798
5	109,798	115,487	109,798	5,689	0

DEBIT

CAJA 497.500

CREDIT

DEUDA 497.500

N =

I/Y =

PV =

PMT =

FV =

CPT

COSTE AMORTIZADO

COSTE AMORTIZADO

- EL BANCO ME PRESTA 500.000 EUROS
- AMORTIZACIÓN LINEAL 5 AÑOS
- 5% DE INTERÉS
- 0.5% GASTOS DE FORMALIZACIÓN

DEBIT	CREDIT
CAJA → 497,500	Deudas a c/p → 89,709
	Deudas a l/p → 407,791

DEUDA INFRAVALORADA

- Both US GAAP and IFRS allow firms to report debt at Fair Value (irrevocable option).

- If this option is chosen, increases in bond liability (due to a decrease in the bond yield) are reported both in the balance sheet (FV) and as an expense in the Income Statement (and vice versa).

2

THEORY

Debt covenants → Restrictions imposed by the lender on the borrower to protect the lender´s position

Affirmative Covenants

1. Make timely payments of principal and interest.
2. Maintain certain ratios within specified levels (current ratio, debt-to-equity ratio,etc…)
3. Maintain collateral

Negative Covenants

1. Not increasing dividends or repurchasing shares
2. Not issuing more debt
3. Not engaging in M&A activities

If a firm violates a covenant → Bondholders can demand immediate payment

When valuing a firm → Covenant analysis can be important

Disclosures in the Footnotes

1. The nature of the liability
2. Maturity dates
3. Stated and effective interest rate
4. Call provisions and convertible principles
5. Restrictions imposed by creditors
6. Assets pledged as collateral
7. The amount of debt maturing in each of the next five years

A discussion of the firms long term debt is also included in MD&A

REQUIREMENTS FOR A CONTRACT TO BE CONSIDERED A LEASE

① It must refer to a specific asset

② It must provide the lessee with all the economic benefits (of the leased asset) during the lease's term

③ It must provide the lessee with the right to decide how to use the asset during the term of the lease

Leasing Benefits

① **Less initial cash outflow.** Only a small initial payment and oftentimes no initial payment

② **Less-costly financing.** Lower interest rate due to the asset securing the contract

③ **Reduced risk of obsolescence.** At the end of the lease, the asset can be returned to the lessor

3

LEASE ACCOUNTING

REQUIREMENTS FOR A CONTRACT TO BE CONSIDERED A LEASE

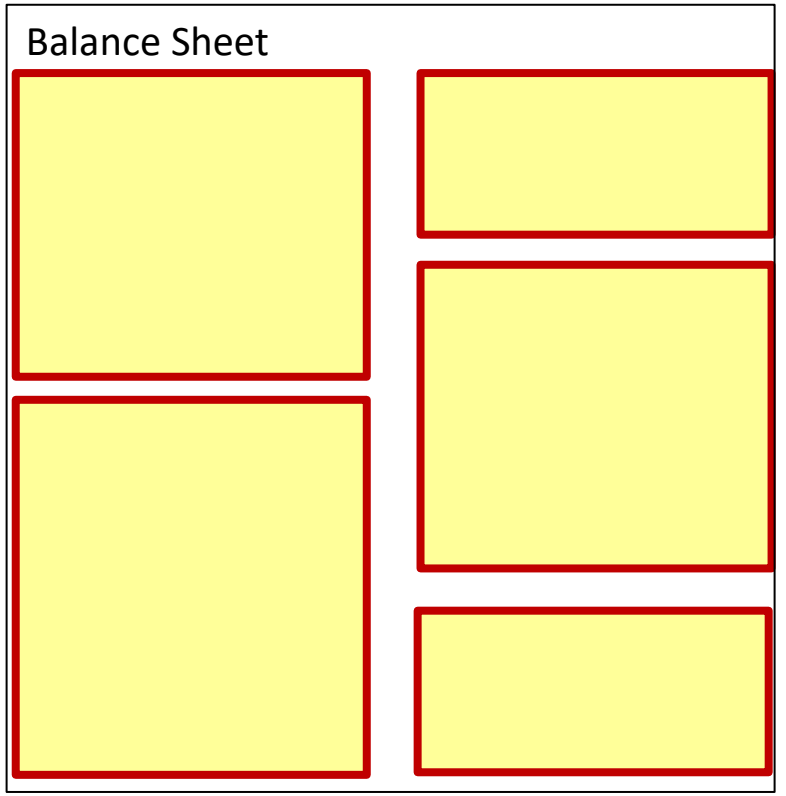
① It must refer to a specific asset

② It must provide the lessee with all the economic benefits (of the leased asset) during the lease's term

③ It must provide the lessee with the right to decide how to use the asset during the term of the lease

BIG PICTURE EXPLANATION

Income Statement	
Sales (+)	
COGS (-)	
Gross Profit	
Personnel Expenses(-)	
OPEX (-)	
EBITDA	
Depreciation (-)	
EBIT	
Financial Result	
EBT	
CIT	
Net Income	



distinguish between a finance lease and an operating lease from the perspectives of the lessor and the lessee;

IFRS

Operating Lease or Finance Lease ?

*Examine the economic substance of the contract.

*If substantially all rights and risks of ownership are transferred to the lessee, the lease is treated as a finance lease

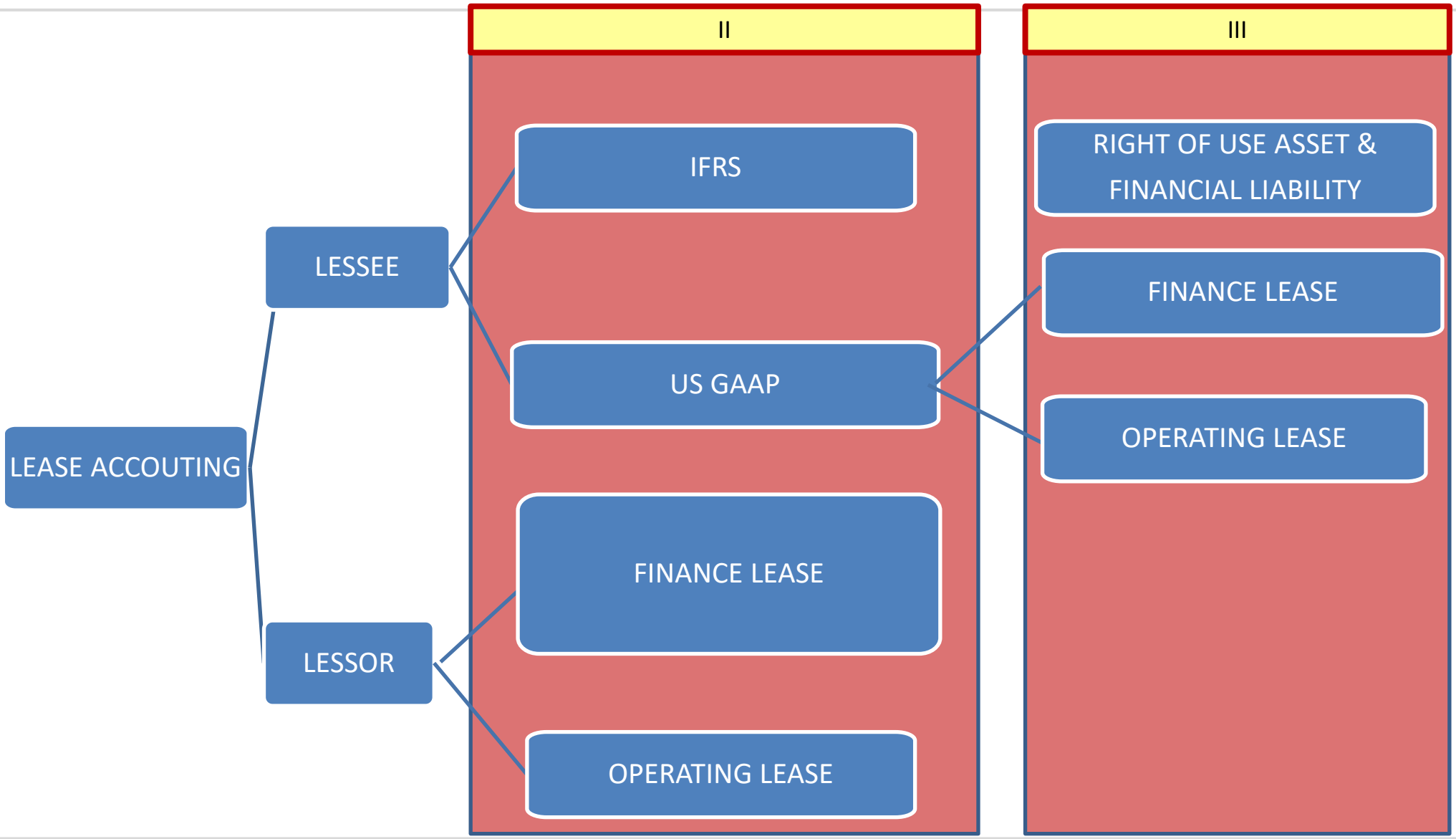
US GAAP

Finance (capital) Lease

If any of the following criteria is met

1. Title to the leased asset is transferred to the lessee
2. The lessee has an option to purchase the asset and is expected to exercise it
3. The lease period is for most of the assets life
4. The present value of the lease payments >= to the fair value of leased
5. The lessor has no alternative use for the asset

LEASE ACCOUNTING SUMMARY



LEASE ACCOUNTING.

LESSEE

IFRS. REPORTING BY THE LESSEE

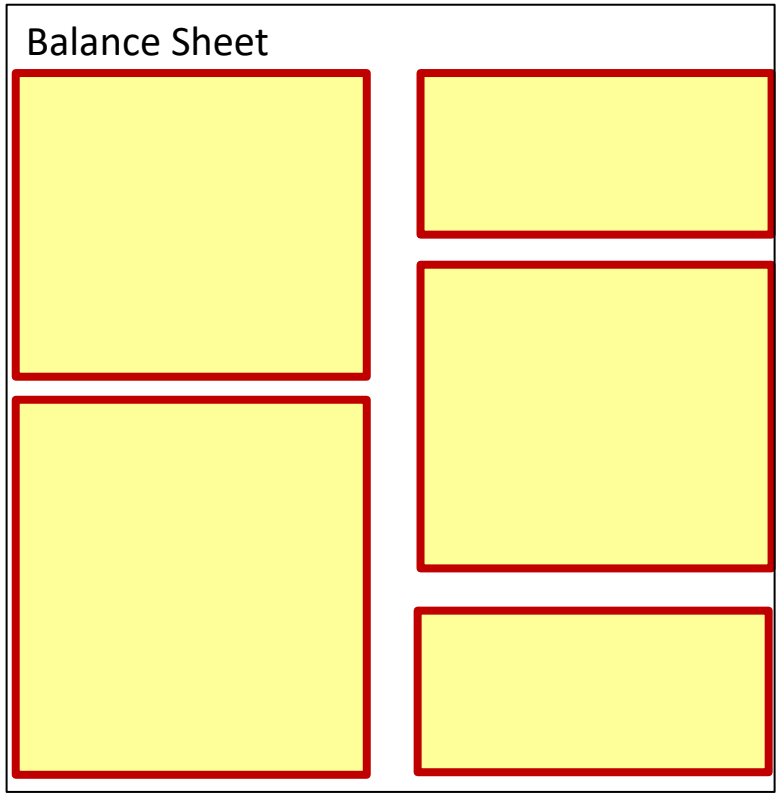
TERM (years)	3
Lease Annual Payments ($)	1,000
Implied Discount rate	5%

$$PV = \frac{1{,}000}{(1+5\%)^1} + \frac{1{,}000}{(1+5\%)^2} + \frac{1{,}000}{(1+5\%)^3} = 2{,}723$$

Asset Depreciation			
Year	Cost	A. Dep	NBV
1	2.723	908	1.815
2	2.723	1.815	908
3	2.723	2.723	-

Liability					
Year	BoP L	Interest	Principal	Payment	EoP L
1	2.723	136	864	1.000	1.859
2	1.859	93	907	1.000	952
3	952	48	952	1.000	-

Income Statement	
Sales (+)	
COGS (-)	
Gross Profit	
Personnel Expenses(-)	
OPEX (-)	
EBITDA	
Depreciation (-)	
EBIT	
Financial Result	
EBT	
CIT	
Net Income	



US GAAP. REPORTING BY THE LESSEE. FINANCE LEASE

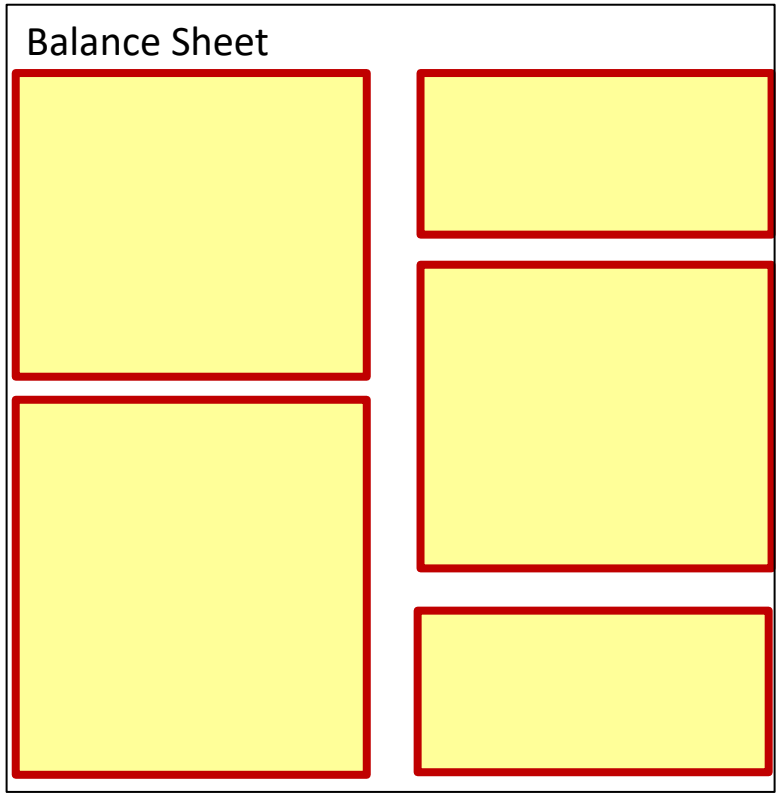
TERM (years)	3
Lease Annual Payments ($)	1,000
Implied Discount rate	5%

$$PV = \frac{1{,}000}{(1+5\%)^1} + \frac{1{,}000}{(1+5\%)^2} + \frac{1{,}000}{(1+5\%)^3} = 2{,}723$$

Asset Depreciation			
Year	Cost	A. Dep	NBV
1	2.723	908	1.815
2	2.723	1.815	908
3	2.723	2.723	-

Liability					
Year	BoP L	Interest	Principal	Payment	EoP L
1	2.723	136	864	1.000	1.859
2	1.859	93	907	1.000	952
3	952	48	952	1.000	-

Income Statement	
Sales (+)	
COGS (-)	
Gross Profit	
Personnel Expenses(-)	
OPEX (-)	
EBITDA	
Depreciation (-)	
EBIT	
Financial Result	
EBT	
CIT	
Net Income	



US GAAP. REPORTING BY THE LESSEE. OPERATING LEASE

TERM (years)	3
Lease Annual Payments ($)	1,000
Implied Discount rate	5%

$$PV = \frac{1{,}000}{(1+5\%)^1} + \frac{1{,}000}{(1+5\%)^2} + \frac{1{,}000}{(1+5\%)^3} = 2{,}723$$

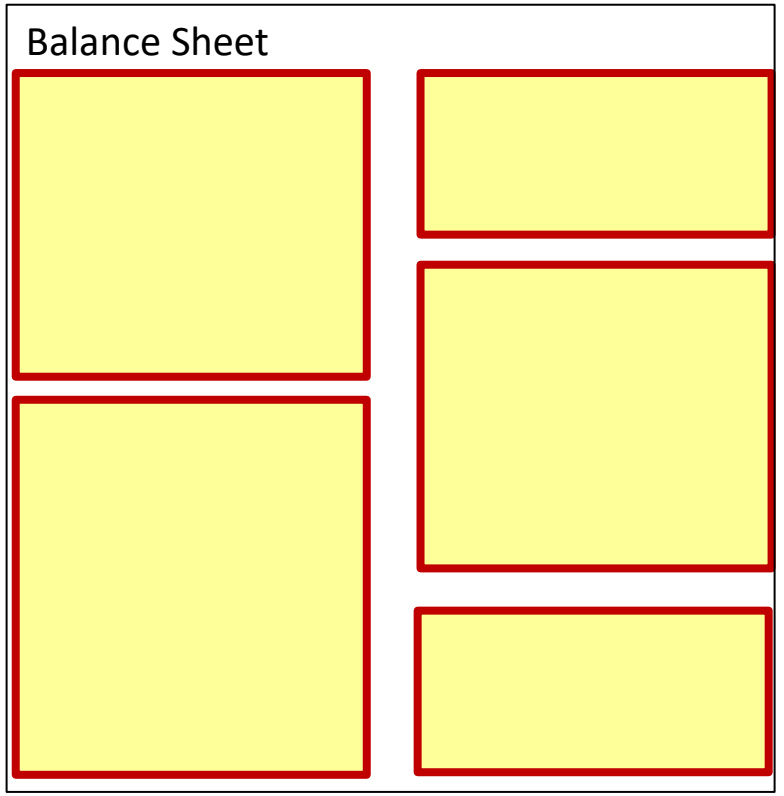
Liability

Year	BoP L	Interest	Principal	Payment	EoP L
1	2.723	136	864	1.000	1.859
2	1.859	93	907	1.000	952
3	952	48	952	1.000	-

Asset Depreciation

Year	Cost	A. Dep	NBV
1	2.723	864	1.859
2	2.723	1.771	952
3	2.723	2.723	-

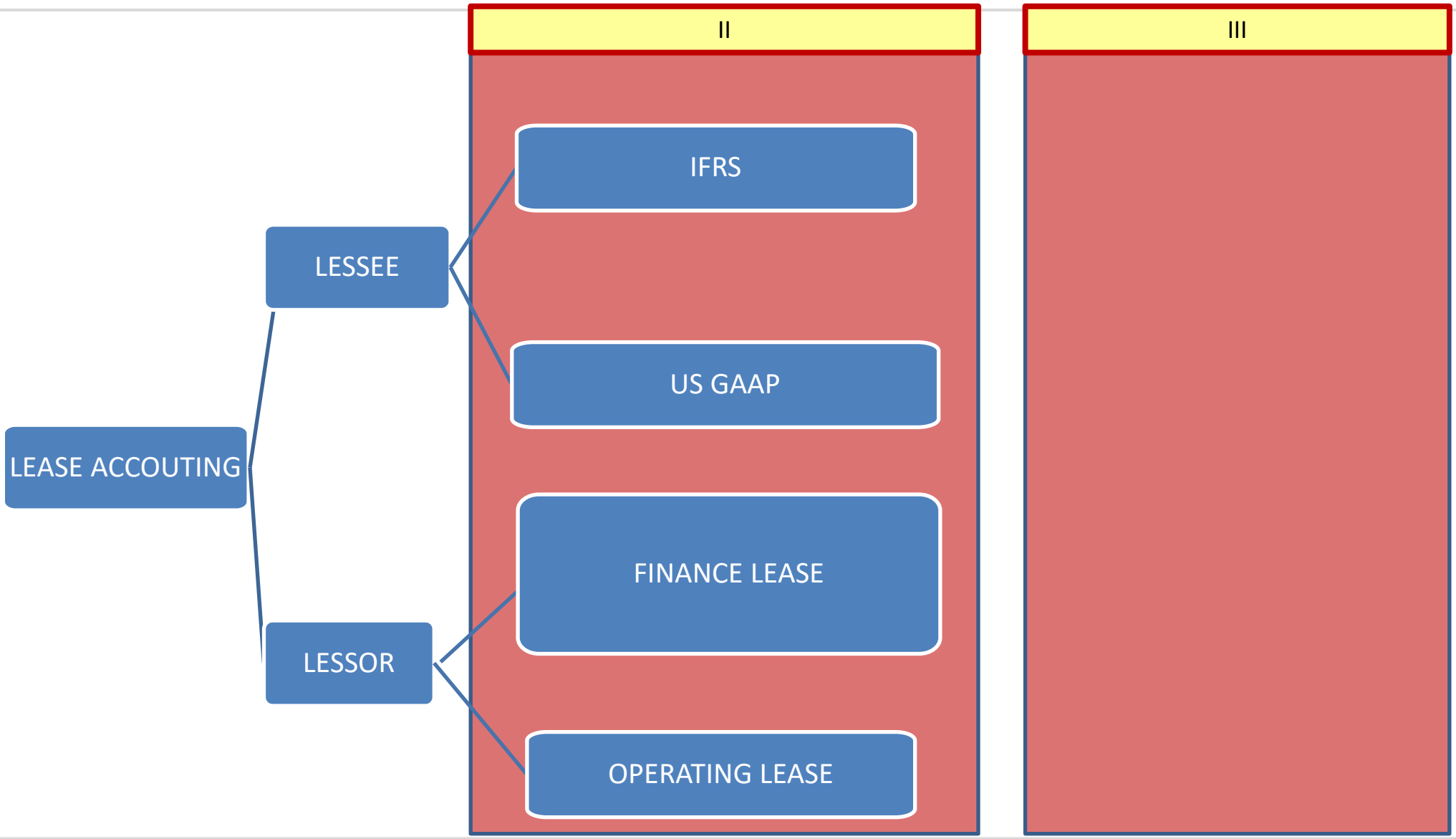
Income Statement	
Sales (+)	
COGS (-)	
Gross Profit	
Personnel Expenses(-)	
OPEX (-)	
EBITDA	
Depreciation (-)	
EBIT	
Financial Result	
EBT	
CIT	
Net Income	



LEASE ACCOUNTING.

LESSOR

LEASE ACCOUNTING SUMMARY



REPORTING BY THE LESSOR. FINANCE LEASE

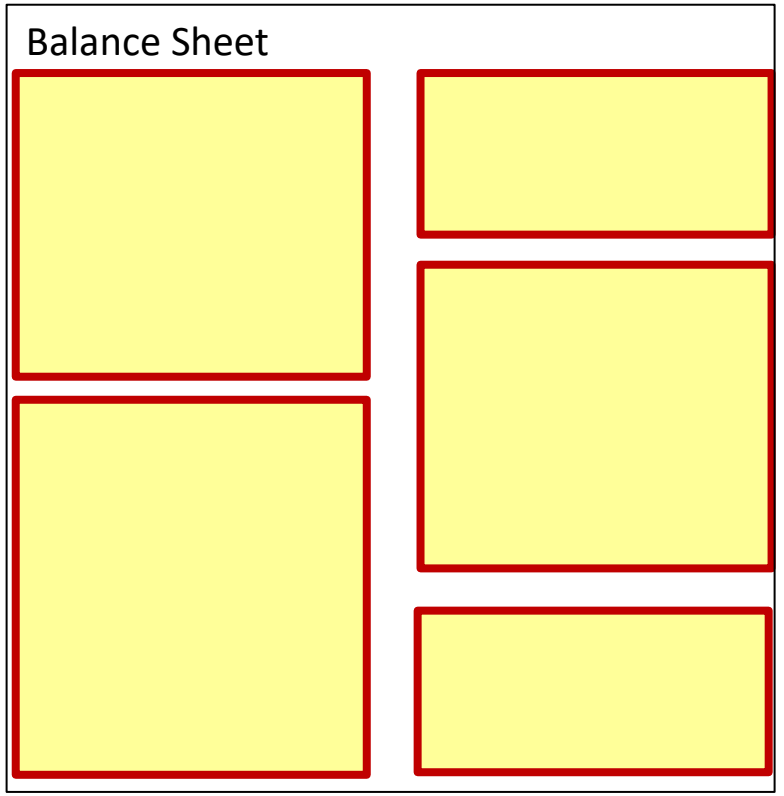
LEASE TERM (years)	5
ECONOMIC LIFE OF ASSET	6
CARRYING VALUE OF ASSET	4,000
Lease Annual Payments ($)	1,100
Implied Discount rate	7,04%

$$PV = \frac{1{,}100}{(1+7.04\%)^1} + \frac{1{,}100}{(1+7.04\%)^2} + \frac{1{,}100}{(1+7.04\%)^3} + \frac{1{,}100}{(1+7.04\%)^4} + \frac{1{,}100}{(1+7.04\%)^5} = 4{,}505$$

Receivable Life

Year	BoP Balance	Ing.	Principal	Total	EoP Balance
1	4.505,4	317,2	782,8	1.100,0	3.722,6
2	3.722,6	262,1	837,9	1.100,0	2.884,6
3	2.884,6	203,1	896,9	1.100,0	1.987,7
4	1.987,7	139,9	960,1	1.100,0	1.027,7
5	1.027,7	72,3	1.027,7	1.100,0	-

Income Statement	
Sales (+)	
COGS (-)	
Gross Profit	
Personnel Expenses(-)	
OPEX (-)	
EBITDA	
Depreciation (-)	
EBIT	
Financial Result	
EBT	
CIT	
Net Income	



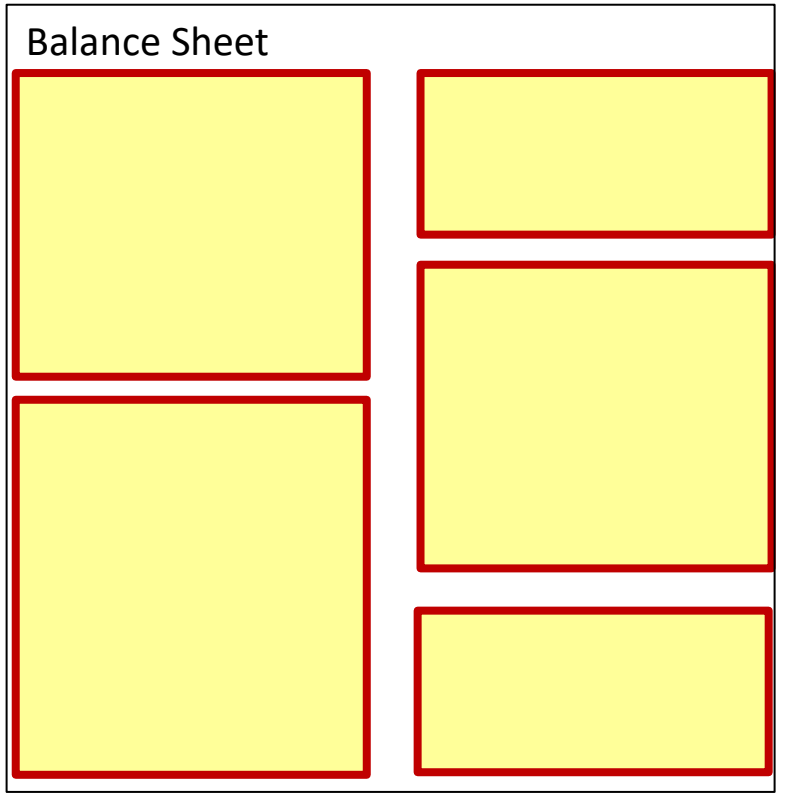
REPORTING BY THE LESSOR. OPERATING LEASE

LEASE TERM (years)	5
ECONOMIC LIFE OF ASSET	6
CARRYING VALUE OF ASSET	4,000
Lease Annual Payments ($)	1,100
Implied Discount rate	7,04%

$$PV = \frac{1{,}100}{(1+7.04\%)^1} + \frac{1{,}100}{(1+7.04\%)^2} + \frac{1{,}100}{(1+7.04\%)^3} + \frac{1{,}100}{(1+7.04\%)^4} + \frac{1{,}100}{(1+7.04\%)^5} = 4{,}505$$

Asset Life			
Year	**BoP Balance**	**Depreciation**	**EoP Balance**
1	4.000,0	666,7	3.333,3
2	3.333,3	666,7	2.666,7
3	2.666,7	666,7	2.000,0
4	2.000,0	666,7	1.333,3
5	1.333,3	666,7	666,7

Income Statement	
Sales (+)	
COGS (-)	
Gross Profit	
Personnel Expenses(-)	
OPEX (-)	
EBITDA	
Depreciation (-)	
EBIT	
Financial Result	
EBT	
CIT	
Net Income	

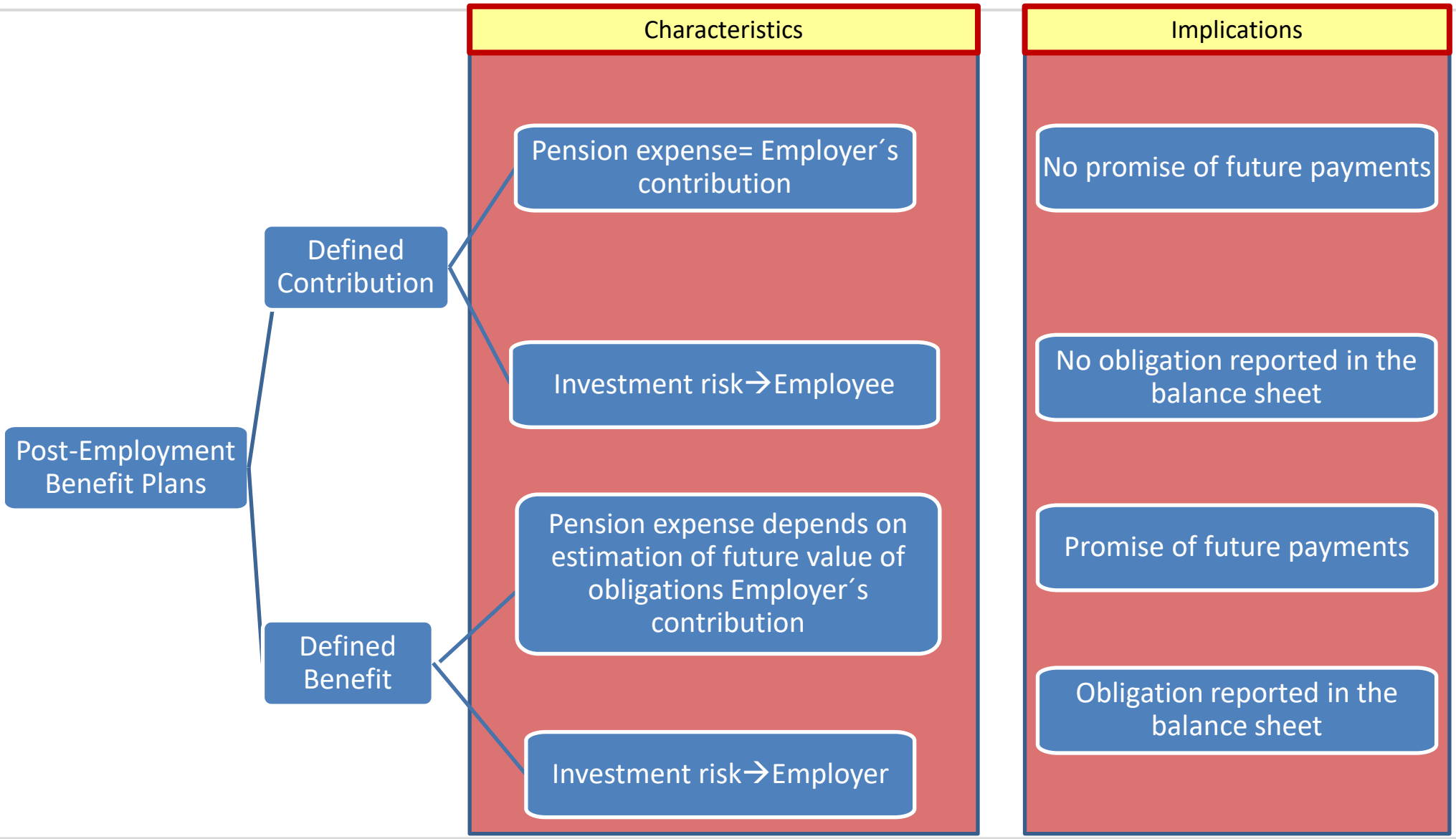


4

PENSION PLANS

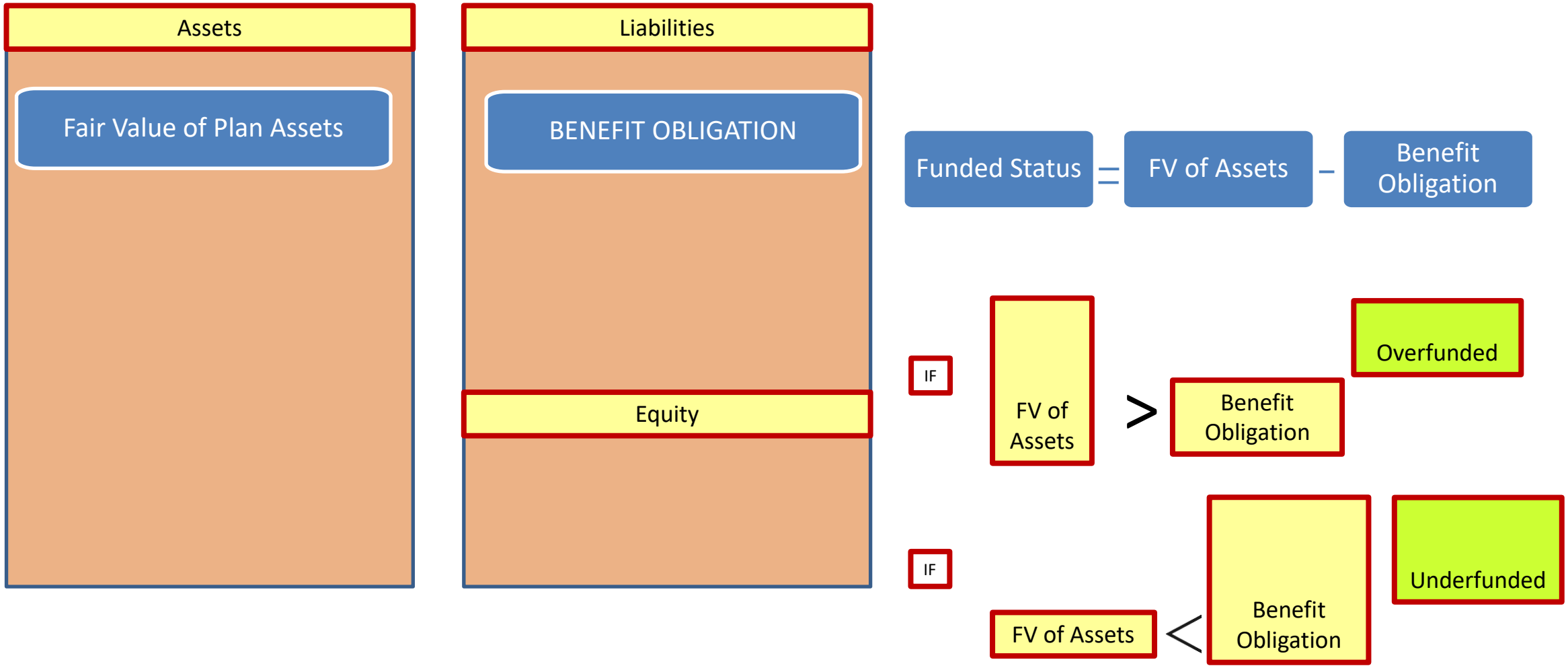
BIG PICTURE EXPLANATION

Pension Plans

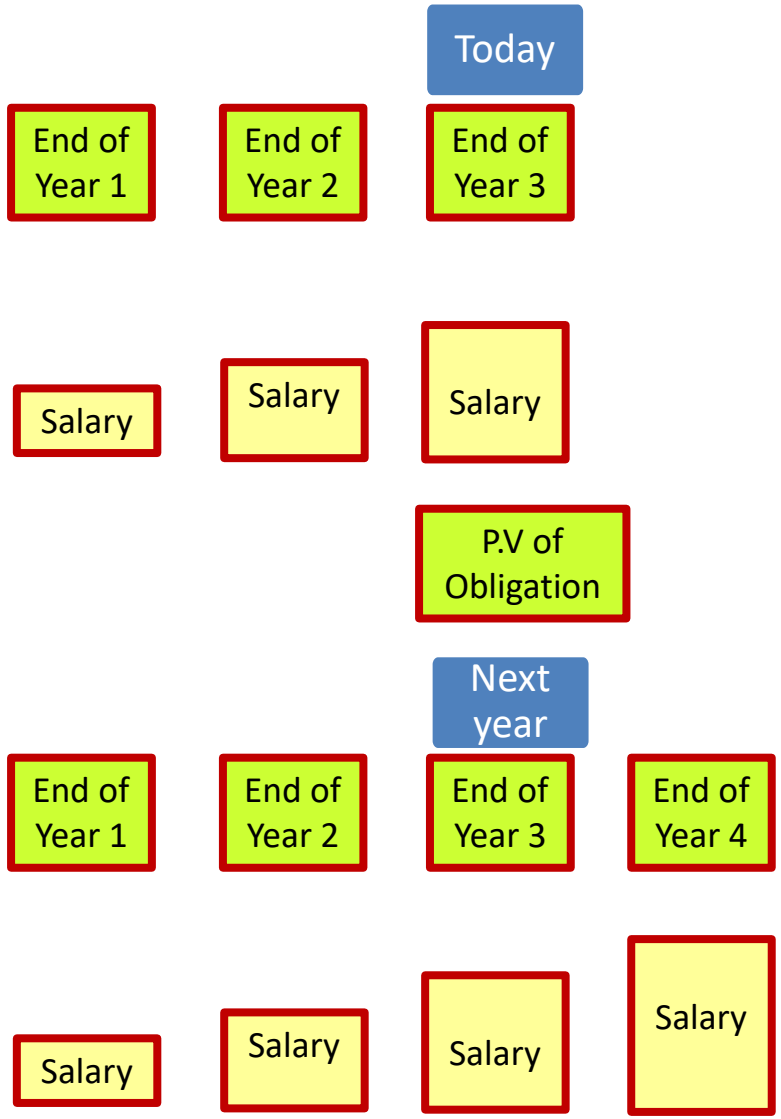


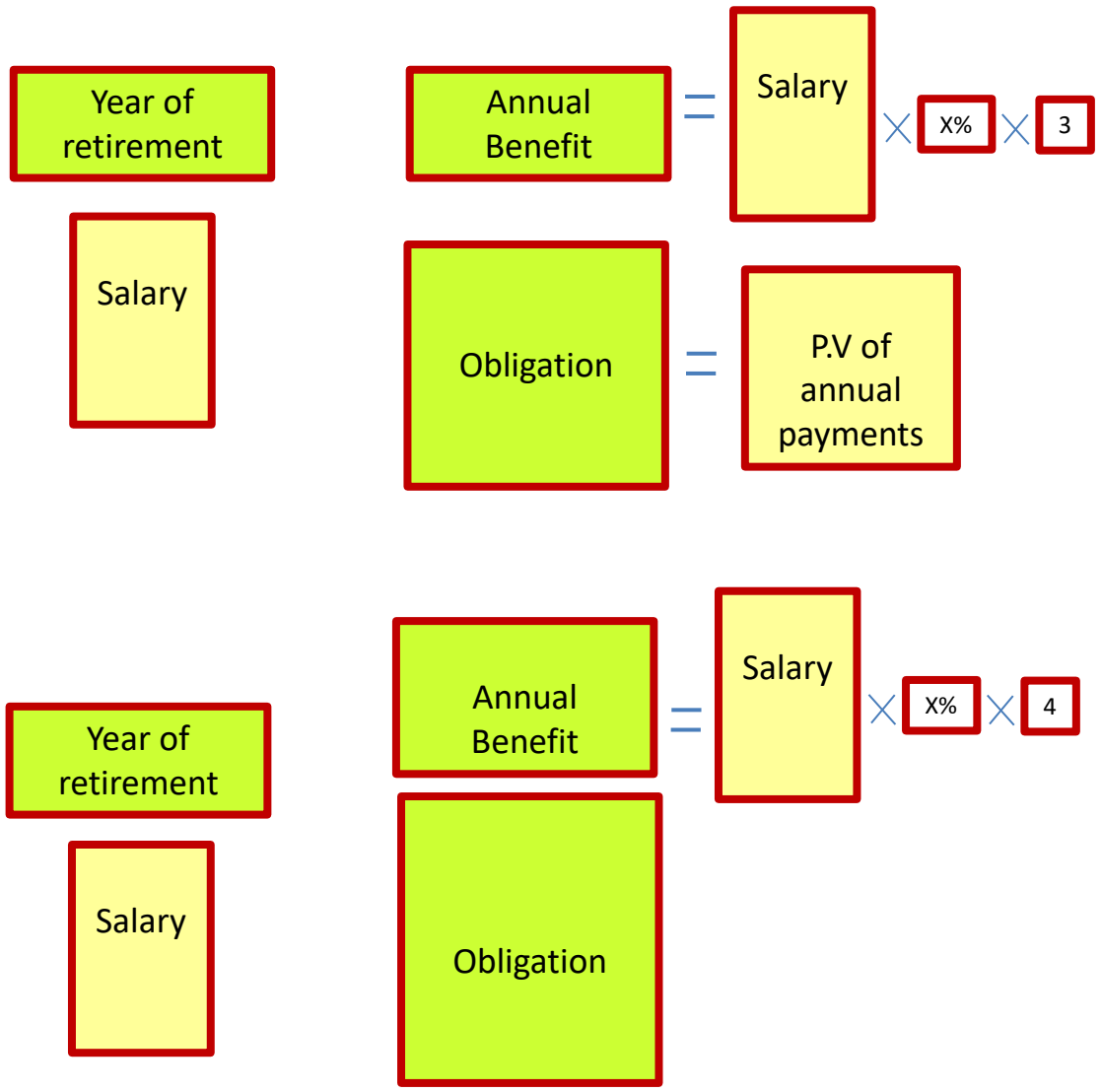
ENTENDEMOS LOS BASICS DE DB PLANS

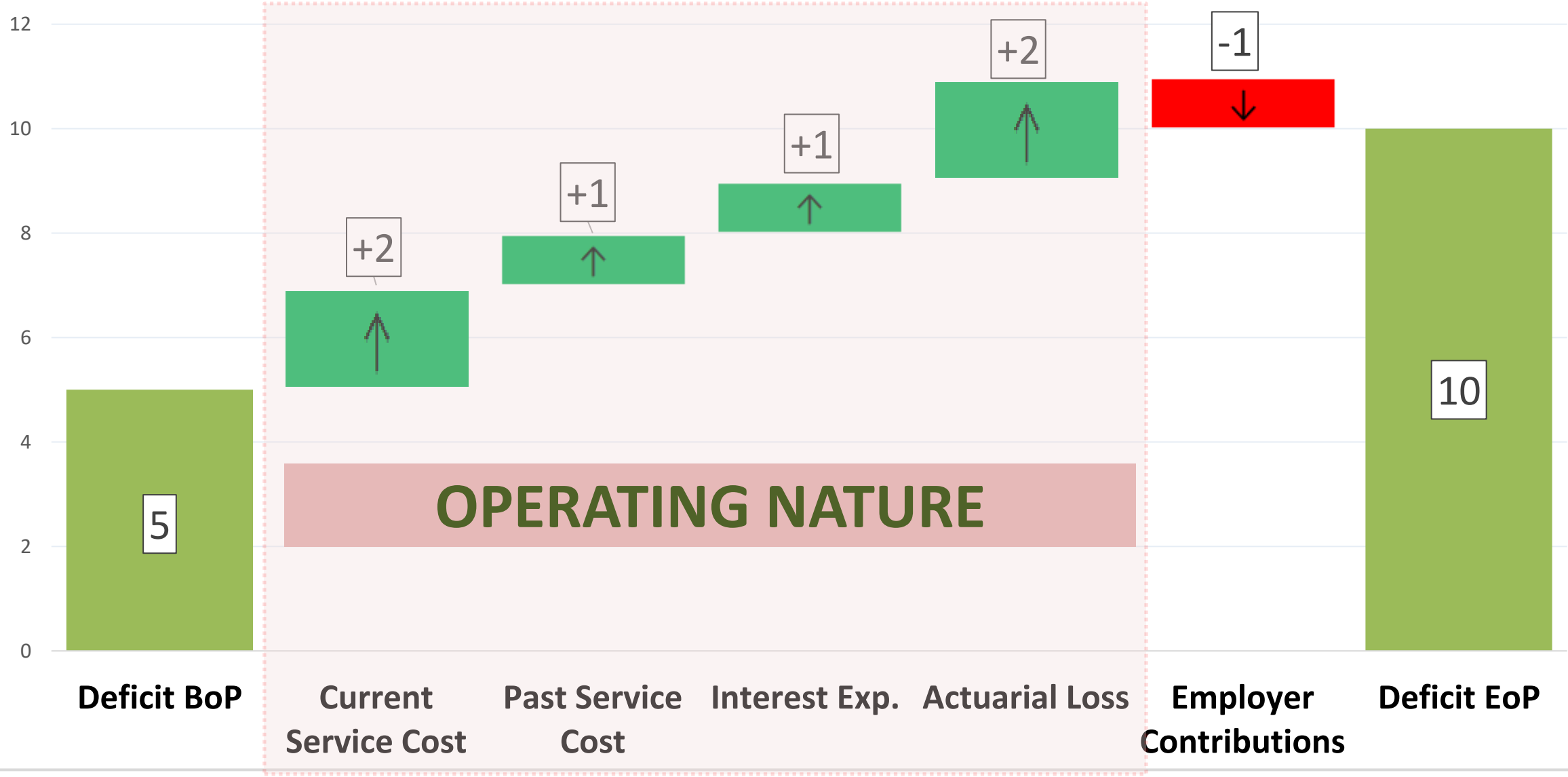
Defined Benefit Pension Plans



Defined Benefit Pension Plans- PBO






12
10
8
6
4
2
0
5
+2
+1
+1
+2
-1
10
OPERATING NATURE
Deficit BoP
Current Service Cost
Past Service Cost
Interest Exp.
Actuarial Loss
Employer Contributions
Deficit EoP

COVERED IN FINANCIAL ANALYSIS TECHNIQUES

¡GRACIAS!