

CFA

LEVEL I

Financial Reporting & Analysis

毕老师



一级财报重难点——长期负债

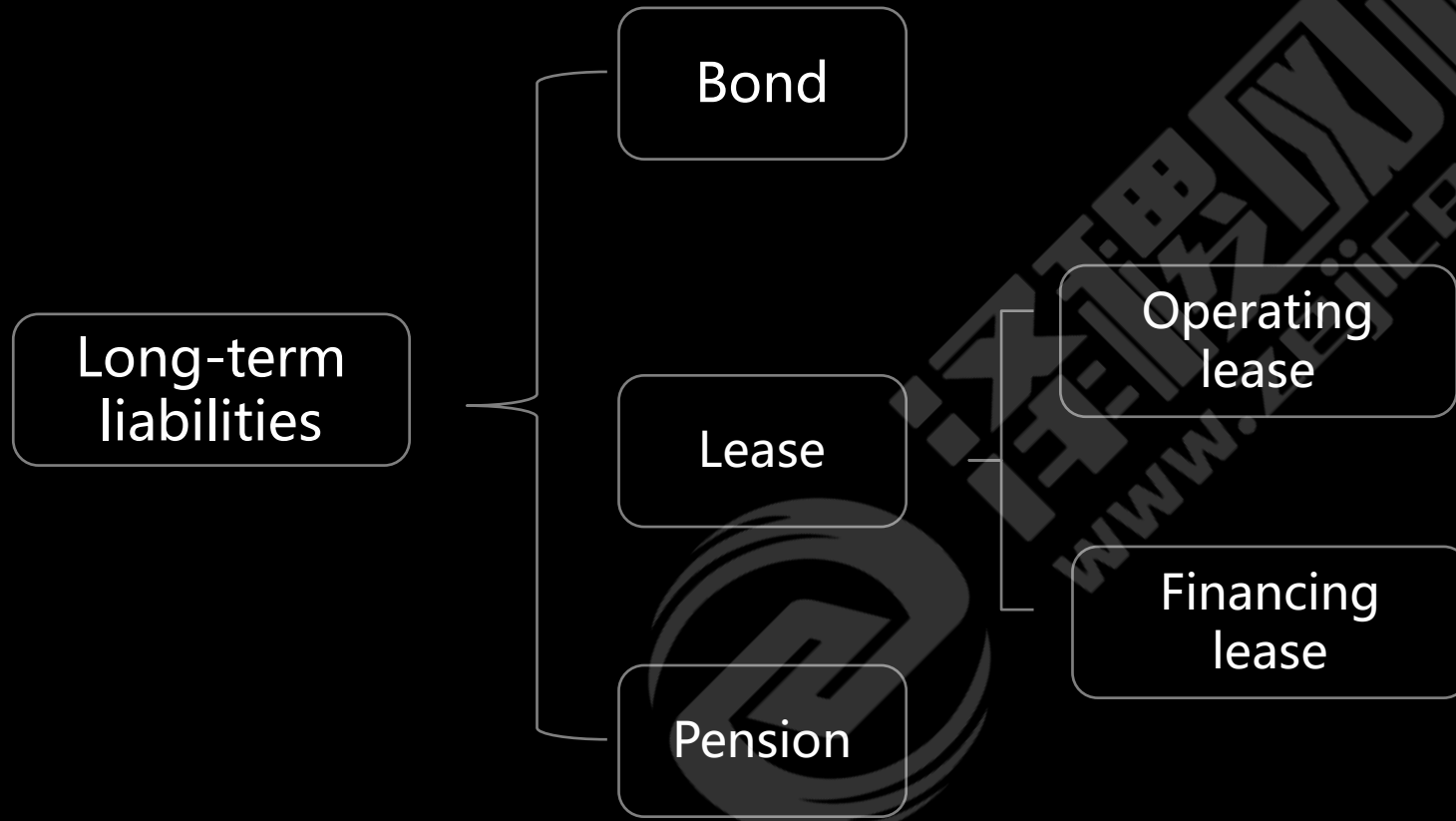
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Long-term Liabilities



Long-term Liabilities--Bond

	Bond (effective interest rate method)	
	IFRS	GAAP
Balance Sheet	创建长期负债bond payable，其价值等于债券发行 <u>收到的现金减去发行成本</u> （issuance cost）。Interest expense和coupon payment之差计入cumulative amortization，从而影响该负债的账面价值。	创建长期负债bond payable，其价值等于债券发行 <u>收到的现金</u> 。Interest expense和coupon payment之差计入cumulative amortization，从而影响该负债的账面价值。
Income Statement	$\text{Interest expense} = \text{bond payable} \times \text{effective interest rate}$	
Cash Flow Statement	$\text{Coupon payment} = \text{face value} \times \text{coupon rate}$	

Long-term Liabilities--Example

On 31 Dec 2002, a company issued a three-year 10% annual coupon bond with a face value of \$1,000.

- Market interest rate at issuance is 10%
- Market interest rate at issuance is 8%
- Market interest rate at issuance is 12%

Long-term Liabilities--Answer

Market interest rate at issuance is 10%. The bond is issued at par.

	Beginning book value on 1 st Jan	Interest expense 10%	Coupon 10%	Ending book value on 31 st Dec
Year 2003	1,000	100	(100)	1,000
Year 2004	1,000	100	(100)	1,000
Year 2005	1,000	100	(100)	1,000

B/S: The bond liability remains at face value over the life of the bond.

I/S: Interest expense = Coupon payment = \$100

CFS: CFO cash outflow → \$100 = Coupon payment

CFF cash inflow → \$1,000 on 31st Dec 2002 = Issue price

cash outflow → \$1,000 on 31st Dec 2005 = Redemption price

Long-term Liabilities--Answer

Market interest rate at issuance is 8%. The bond is issued at premium.

	Beginning book value on 1 st Jan	Interest expense 8%	Coupon 10%	Ending book value on 31 st Dec
Year 2003	1,051.54	84.12	(100)	1,035.66
Year 2004	1,035.66	82.85	(100)	1,018.52
Year 2005	1,018.52	81.48	(100)	1,000

B/S: the bond liability will decrease towards the face value over the life of the bond.

I/S: Interest expense < Coupon payment. The amortization of premium will reduce the interest expense as shown.

Long-term Liabilities--Answer

CFS: CFO outflow = Coupon payment = \$100 p.a.

For analysis purpose, the interest expense and the amortization of the premium should be separated.

e.g. Year 2003

Cash outflow	Original CFO		CFO for F/A		CFF for F/A
	100	=	84.12	+	15.88

Without adjustment: CFO is understated and CFF is overstated.

Long-term Liabilities--Answer

Market interest rate at issuance is 12%. The bond is issued at discount.

	Beginning book value on 1 st Jan	Interest expense 12%	Coupon 10%	Ending book value on 31 st Dec
Year 2003	951.96	114.24	(100)	966.2
Year 2004	966.2	115.94	(100)	982.14
Year 2005	982.14	117.86	(100)	1,000

B/S: the bond liability will increase towards the face value over the life of the bond.

I/S: Interest expense > Coupon payment. The amortization of discount will increase the interest expense as shown.

Long-term Liabilities--Answer

CFS: CFO outflow = Coupon payment = \$100 p.a.

For analysis purpose, the interest expense and the amortization of the discount should be separated.

e.g. Year 2003

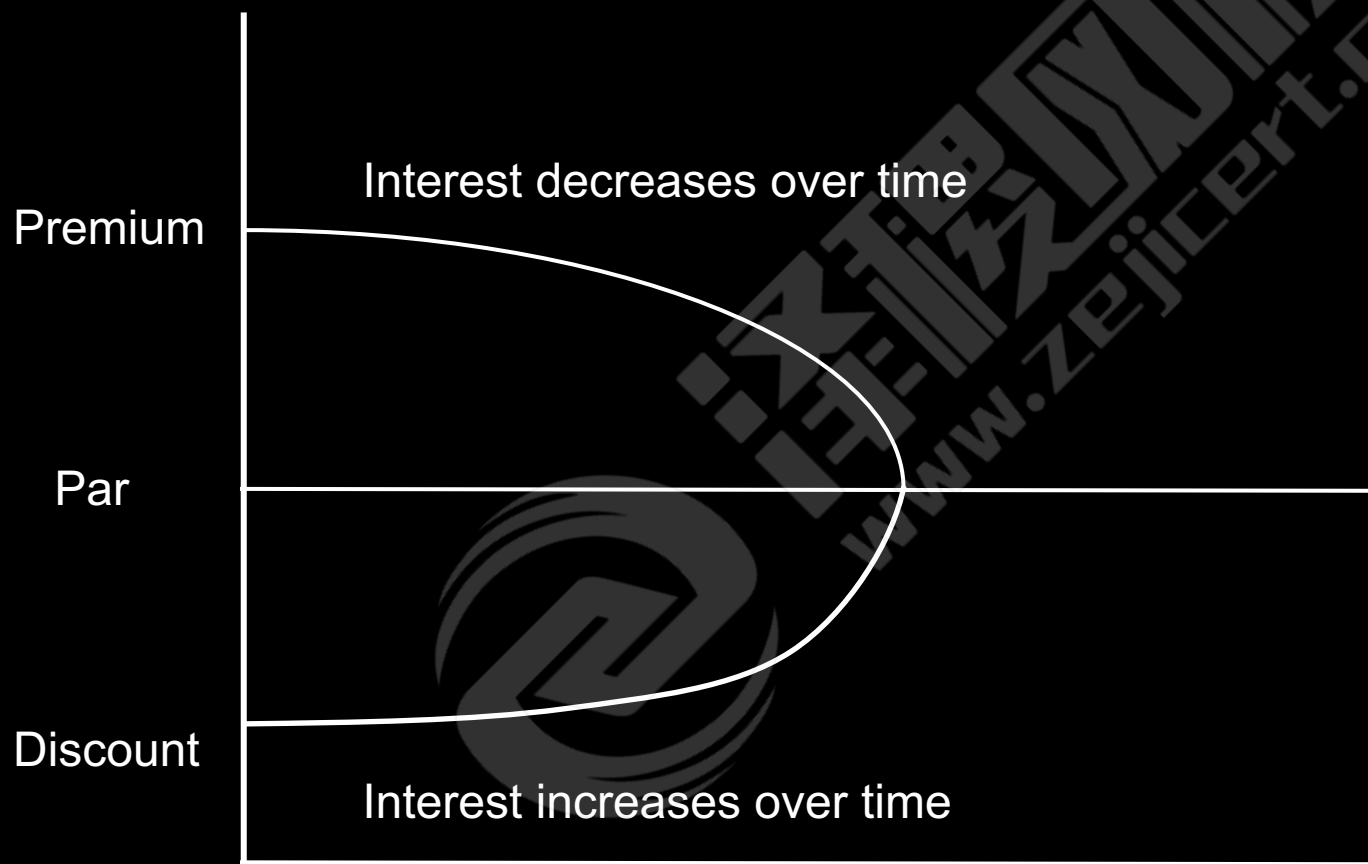
Cash outflow/ inflow	Original CFO		CFO for F/A		CFF for F/A
	100	=	114.24	-	14.24

Cash
inflow

Without adjustment: CFO is overstated and CFF is understated.

Long-term Liabilities--Bond

Carrying value of bond on B/S



To maturity

Long-term Liabilities--Bond

Innovative Inventions, Inc. needs to raise \$10 million and typically would issue coupon-bearing bonds at par value. If the company chooses to issue zero-coupon bonds instead, its debt-to-equity ratio will

- A. ✓ rise as the maturity date approaches.
- B. decline as the maturity date approaches.
- C. remain constant throughout the life of the bond.

Long-term Liabilities--Lease

■ Finance versus operating leases

- A finance lease is equivalent to the purchase of some asset by the buyer (承租人) that is directly financed by the seller (出租人).
- An operating lease is an agreement allowing the lessee to use the asset for a period of time.

Long-term Liabilities--承租人对于租赁的账目处理

	Finance Lease	Operating Lease
Balance Sheet	创建长期资产及负债，其价值 $\text{Leased asset} = \text{Lease liability} = \text{PV of Minimal lease payment (MLP)}$ $\text{MLP} = \text{Future lease payment over lease term}$ 长期资产在租赁期内折旧。负债及其在租赁期内产生的利息通过支付的租金来偿还。	No effect
Income Statement	Depreciation expense + Interest expense $\text{Interest expense} = \text{Beginning lease liability} \times \text{discount rate}$	Rental expense
Cash Flow Statement	支付的租金中用于支付Interest的部分计入CFO，剩余的部分用于Principal repayment，计入CFF。	CFO outflow

Long-term Liabilities--租赁对财务报表的影响 (承租人角度)

		Finance lease	Operating lease
B/S	Assets	Higher	
	Liabilities	Higher	
I/S	EBIT	Higher	Reverse
	Net income in early years	Lower	
	Net income in later years	Higher	
	Total net income	Same	Same
CFS	CFO	Higher	Reverse
	CFF	Lower	
	Total CF	Same	Same

Long-term Liabilities--租赁对比率的影响 (承租人角度)

	Finance lease	Operating lease
Current ratio	Lower	Reverse
Working capital	Lower	
Asset turnover	Lower	
ROE (in early years)	Lower	
Debt/asset	Higher	
Debt/equity	Higher	

Long-term Liabilities--Lease

■ 租赁对出租人 (lessor) 的影响

- 在US GAAP下，对于出租人，融资性租赁可以分为两种：
 - When the present value of lease payments **equals** the carrying amount of the leased asset, it is a **direct financing lease (DFL)**.
 - When the present value of lease payments **exceeds** the carrying amount of the leased asset, it is a **sales-type lease (STL)**.
- 在IFRS下，对融资性租赁不做上述区分。

Long-term Liabilities--出租人对于租赁的账目处理

	Finance Lease		Operating Lease
	Direct financing lease	Sales-type lease	
Balance Sheet	抹掉出租的资产，同时创建lease receivable，其价值为PV of Minimal lease payment (MLP) $MLP = \text{Future lease payment over lease term}$ 每期收到的租金，一部分是lease receivable产生的利息收入，剩余的部分抵消lease receivable的账面价值。		No effect
Income Statement	Interest income = $\text{Beginning lease receivable} \times \text{discount rate}$	Revenue = lease receivable COGS = 资产账面价值 两者之差在第一年计profit。 以后各年计interest income	Rental income
Cash Flow Statement	收入的租金中属于Interest的部分计入CFO，剩余的部分用于抵lease receivable，计入CFI。		CFO inflow

Long-term Liabilities--Lease

In the early years, compared to a lessee that uses finance (capital) leases, a lessee that uses operating leases will have a lower:

- A. return on assets.
- B. current ratio
- ✓ C. debt-to-equity ratio.



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