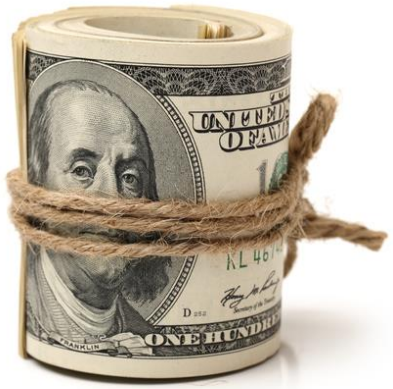
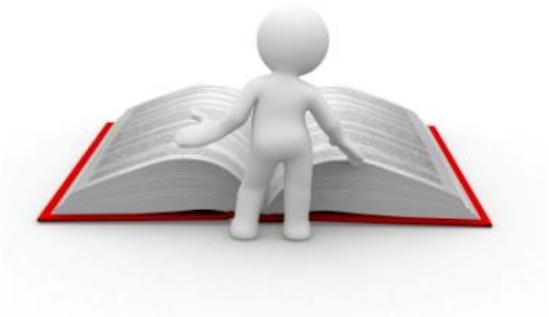


Book Value vs Market Value vs Face Value of Bonds: How to Keep Them All Straight



The Question…

"What's the difference between the **book value**, **market value**, and **face value** of a bond? What appears on a company's financial statements?"

"How do these concepts change the Interest Expense and other calculations for the Debt?"

The Short Answer: Book vs Market vs Face Value

- **NOTE:** These terms also apply to Equity and some other items – but we are focusing exclusively on a company's **Debt** here

- **Face Value:** This is the amount of Debt that a company *issues*, *pays interest on*, and *must repay* upon maturity

- **Book Value:** This is the Debt that shows up on a company's Balance Sheet under Liabilities & Equity, but it is **NOT** necessarily the amount it pays Interest on or what it must eventually repay

- **Market Value:** This is what *someone else* would pay to buy the company's Debt on the secondary market, if it trades like that

The Short Answer: Book vs Market vs Face Value

- **Face Value:** *Only* affected by Debt issuances, principal repayments, and Accrued or "Paid-in-Kind" (PIK) Interest

- **Book Value:** Affected by all of those, plus *Issuance Fees*, any *Discount* or *Premium* when the bond is first issued, and the *amortization* of both those items

- **Market Value:** Based on future interest payments, market interest rates on similar Debt, and future repayment upon maturity

- **So:** Bond's coupon rate vs. market rates and credit default risk of issuer make the biggest impact

Excel Example #1: Debt Issuances/Repayments

- **Situation:** This company (Toro) is spending a lot and needs to issue additional Debt in several years

- **Face Value:** Goes up when new Debt is issued and down when there's a repayment or maturity

- **Book Value:** That, *plus* we need to deduct the 2% financing fee on new issuances, and add the amortization of those financing fees over 10 years (since we're assuming an average 10-year maturity)

- **Market Value:** No idea! Need to know current market interest rates vs. the 6.1% the company is paying – you normally *look this up*

Excel Example #2: Convertible Bond

- **Situation:** This company (Atlassian) issued a Convertible Bond that matures in 5 years, if it's not converted into Equity before then

- **Convertible Bonds:** Often separated into Equity and Debt components to reflect their dual nature

- **Debt Component or Book Value:** Face Value minus the Unamortized Issuance Fees, minus the "Debt Discount"

- **Debt Discount:** Represents *how much more* the Bond would be worth if it had a normal interest rate of 4.560% rather than the very low rate of 0.625% (due to the conversion option)

Excel Example #2: Convertible Bond

- **Face Value:** Never changes until the end because there are no additional issuances, there's no accrued interest, and there's only the single maturity at the very end

- **Cash Interest:** Never changes since it's always based on this constant Face Value

- **Book Value:** Keeps increasing as the Debt Discount is amortized over time, and as the Issuance Fees are also amortized!

- **But** it finally reaches $0 at the same time as the Face Value, when the Convertible Bond matures in Year 5

Excel Example #2: Convertible Bond

- **Market Value:** Again, no idea – we'd probably look it up on Bloomberg or another financial news source, or see if the company gives an estimate in its filings

- **Market Value:** If we knew prevailing interest rates on similar bonds and the probability of Atlassian repaying the bond, we could estimate it ourselves as well

- **Market Value of Convertible Bond:** You need to count *all components* of the bond, so it would be closer to the Face Value if the bond is not yet convertible and you're therefore counting it as Debt, not assuming additional shares

One Example to Rule Them All

- Company issues a $1,000 10-year bond at a 5.00% coupon rate vs. prevailing market rates of 6.35% on similar bonds; no repayments
- Due to the below-market rate, the bond's issued at a **$100 Discount**

- **Face Value:** $1,000 initially, and it *never changes* until maturity

- **Cash Interest:** 5% * $1,000 = $50 per year until maturity

- **Book Value:** $1,000 Face Value – $100 Discount – $20 Issuance Fee = $880 initially

One Example to Rule Them All

- Company issues a $1,000 10-year bond at a 5.00% coupon rate vs. prevailing market rates of 6.35% on similar bonds; no repayments

- **Market Value:** Initially, it's the $1,000 Face Value minus the $100 Discount (verify with the PRICE function in Excel), so $900

- **Book Value:** Will change according to the amortization of the Discount and the amortization of the Issuance Fees each year

- **Book Value, Year 1:** $880 + $100 / 10 + $20 / 10 = $892
- **Book Value, Year 2:** $892 + $100 / 10 + $20 / 10 = $904

One Example to Rule Them All

- Company issues a $1,000 10-year bond at a 5.00% coupon rate vs. prevailing market rates of 6.35% on similar bonds; no repayments

- **Market Value:** We can't tell exactly how this will change because we don't know how future interest rates will change – not something you can "project" in most cases

- **High Level:** If interest rates go up, the Market Value will fall because investors can get higher rates elsewhere; opposite if interest rates fall

- **High Level:** If credit default risk rises, the Market Value will fall because there's a lower repayment probability; opposite if risk falls

Does Any of This **Matter**?

- In most cases, **no**, these distinctions don't make a huge difference

- If you're under time pressure, you can simplify all this and just include Issuances and Repayments to project "Debt"

- **BUT**… interview questions on these topics could still come up

- **And** if a company has a Convertible Bond or a Bond issued at a big discount or premium, Book Value vs Face Value definitely matters

- **So:** Yes, be familiar with Book Value vs Market Value vs Face Value, but don't obsess over it too much

Recap and Summary

- **Face Value:** This is the amount of Debt that a company *issues*, *pays interest on*, and *must repay* upon maturity – affected by issuances, repayments, and accrued interest

- **Book Value:** This is the Debt that shows up on a company's Balance Sheet under Liabilities & Equity – affected by everything above, plus issuance fees, issuance discount/premium, and amortization of those items

- **Market Value:** This is what *someone else* would pay to buy the company's Debt on the secondary market, if it trades like that; changes based on interest rates and credit default risk