CHARTA LEARNING · LESSON NOTES

Credit analysis: corporate, high yield and sovereign issuers

CFA Level I · Fixed Income

You will learn: Judge an ordinary borrower with the four Cs, switch to survival analysis for a high yield issuer, and assess a sovereign on ability and willingness to pay.

Running example: Worked examples follow a made-up packaged food maker, Kestrel Foods ($ millions): total debt 1,500, EBITDA 500, interest 100, rated BBB. Later Kestrel Holdings (after a leveraged buyout) and a made-up country, Norland.

1. The four Cs and capacity

- Credit risk is the chance the issuer does not pay interest or principal in full and on time; failing to pay is default. The four Cs are a checklist: capacity (can it pay?), collateral (what if it cannot?), covenants (what limits it?), character (will it pay?).
- Capacity is the ability to pay from operating cash flow, and for safe borrowers it does most of the work. Judge it in layers: the industry (steady demand, few rivals and high barriers are safer), the company's position (market share, brands, low costs, diverse sales), then management's strategy and funding.
- Leverage = debt ÷ EBITDA (years of operating profit to repay the debt); lower is safer. Coverage = EBITDA ÷ interest; higher is safer. EBITDA is earnings before interest, taxes, depreciation and amortisation. The direction of the ratios matters as much as the level.

Leverage = Debt ÷ EBITDA; Coverage = EBITDA ÷ Interest expense

KESTREL: DEBT 1,500, EBITDA 500, INTEREST 100, EBIT 400, CASH TAX 70		
Leverage	1,500 ÷ 500	**3.0x**
Coverage: EBITDA; EBIT	500 ÷ 100; 400 ÷ 100	**5.0x; 4.0x**
FFO ÷ debt	330 ÷ 1,500	**22.0%**
Debt ÷ capital	1,500 ÷ 3,000	**50.0%**
Leverage, years 1 to 4	falling is good news	**4.0x, 3.6x, 3.3x, 3.0x**

2. Collateral, covenants and character

- Collateral is assets pledged so lenders can sell them to be repaid. Order of payment in default: secured debt first, then senior unsecured, then subordinated, then shareholders last. Collateral cannot stop a default; it only reduces the loss.
- Covenants are promises in the indenture. Affirmative: pay, insure, report. Negative: do not over-borrow, over-pay shareholders or sell off assets. A financial test is often a leverage limit. A breach lets lenders step in early.
- Character is management's integrity, record with lenders and appetite for rewarding shareholders at creditors' expense. A debt-funded buyback shows it: the business is unchanged but lenders are worse off, even though the covenant still allows it.

KESTREL: COVENANT DEBT ≤ 4.0 × EBITDA, THEN A BUYBACK		
EBITDA where covenant breaks	1,500 ÷ 4.0	**375**
Headroom	(500 − 375) ÷ 500	**25.0%**
Borrow 400 at 7% for a buyback: debt	1,500 + 400	**1,900**
Leverage; coverage	1,900 ÷ 500; 500 ÷ (100 + 28)	**3.8x; 3.9x**
New headroom	(500 − 475) ÷ 500	**5.0%**

Watch out: Believing a covenant protects you: the buyback was allowed under the limit of 4.0x, yet headroom fell from 25% to 5%.

3. High yield: the question becomes survival

- Investment grade is rated BBB− or better; default is remote and the risk priced is migration to a lower rating. High yield is rated below BBB−; default is a real chance, so the question is whether the issuer survives and what creditors recover.
- A downgrade widens the spread and cuts the price with no default: the price change is about minus duration times the change in spread.
- Liquidity coverage: cash plus undrawn credit lines plus expected free cash flow, divided by debt due in the period. Above one, near-term payments can be met without new borrowing; below one, the issuer depends on lenders refinancing.
- The maturity wall is a date when a large amount of debt falls due. It is dangerous if markets are closed when it arrives.

Liquidity coverage = (Cash + Undrawn lines + Free cash flow) ÷ Debt due

KESTREL HOLDINGS: DEBT 3,500, EBITDA 500, EBITDA ÷ INTEREST 1.7X (LEVERAGE 7.0X), RATING SINGLE B		
Investment grade bond: duration 6.0, spread 1.00% to 1.50%	−6.0 × 0.50%	**−3.0%**
Free cash flow, two years	2 × 41	**82**
Sources: cash 150, undrawn line 250, free cash flow 82	150 + 250 + 82	**482**
Debt due in two years	100 + 150	**250**
Liquidity coverage	482 ÷ 250	**1.9x**
Debt due by year: 1; 2; 3; 5; 7	total 3,500	**100; 150; 1,550; 1,200; 500**

4. Capital structure, recovery and the equity cushion

- In a buyout, debt sits in different companies. The operating company owes the secured term loan (1,800); the holding company owes the senior notes (1,200) and junior notes (500). Operating company lenders are paid first and only the rest flows up: structural subordination.
- For high yield, recovery is modelled, not assumed. Expected loss is the chance of default times one minus recovery, so recovery swings the loss a lot when default is likely.
- Shareholders are the residual claim and absorb losses first. Equity = asset value − debt. With thin equity, a small fall in value nearly wipes it out, so the share price is a strong warning for weak credits.

KESTREL HOLDINGS IN DISTRESS: EBITDA 400 × 6.0		
Value of the business	400 × 6.0	**2,400**
Secured loan paid; left for the notes	1,800; 2,400 − 1,800	**100%; 600**
Senior notes recover; junior notes	600 ÷ 1,200	**50%; 0%**
Investment grade equity after a 10% asset fall (4,000 to 3,600)	3,600 − 1,500 = 2,100 vs 2,500	**−16%**
High yield equity after the same fall	3,600 − 3,500 = 100 vs 500	**−80%**

Watch out: Judging a weak issuer by the ratio trend alone; treating recovery as a constant; treating all unsecured bonds alike.

5. Sovereign credit: ability and willingness to pay

- A sovereign is a national government. Usually no court can compel it to pay. Ability to pay: does it have the resources? Willingness to pay: will it choose to repay? A government that can pay may still decide not to.
- Five areas of evidence: institutions and politics (a record of past defaults speaks mostly to willingness); the economy; fiscal position (deficit, debt path, interest burden); external position (reserves, foreign debt); monetary flexibility (own currency and central bank).
- Compare everything with the size of the economy (GDP). The primary balance is the budget before interest.

NORLAND (BILLIONS): GDP 1,000, DEBT 600, DEFICIT 40, INTEREST 36, TAX REVENUE 250		
Debt ÷ GDP	600 ÷ 1,000	**60.0%**
Deficit ÷ GDP	40 ÷ 1,000	**4.0%**
Interest ÷ revenue	36 ÷ 250	**14.4%**
Primary deficit	40 − 36	**4**
Import cover (reserves 90, imports 360 a year)	90 ÷ (360 ÷ 12)	**3.0 months**
Reserves ÷ short-term foreign debt (60)	90 ÷ 60	**1.5x**

6. Debt path and local versus foreign currency debt

- The trajectory matters. Here d is the debt ratio, r the average interest rate, p the primary deficit as a share of GDP and g nominal GDP growth. When the interest rate is above growth, debt compounds faster than the economy unless there is a primary surplus.
- A government can create its own currency to pay local currency debt, so outright default is unlikely, but the cost is inflation. Foreign currency debt must be paid from reserves, exports or new borrowing, which can run out, so its rating is usually lower. Local defaults have still happened.
- A missed payment is not the only loss: for local currency bonds the real return after inflation matters more than the rating.

> **Next year's debt ratio = [d × (1 + r) + p] ÷ (1 + g)**

NORLAND: INTEREST RATE 6% (36 ÷ 600), PRIMARY DEFICIT 0.4% OF GDP		
Debt ratio in five years, growth 5%	from 60.0%	**64.9%**
Debt ratio in five years, growth 2%	from 60.0%	**74.8%**
Real return: yield 5%, inflation 8%	1.05 ÷ 1.08 − 1	**−2.8%**
100 repaid in year 3 buys	$100 \div 1.08^3$	**79.4**

Key takeaways

- The four Cs: capacity, collateral, covenants, character. For safe borrowers capacity dominates.
- Leverage = debt ÷ EBITDA and coverage = EBITDA ÷ interest; watch the direction, not just the level.
- Collateral cuts the loss but does not stop a default; negative covenants and headroom limit harm, but character still matters.
- Investment grade asks about migration; high yield asks about survival: liquidity, maturity wall, structure, recovery.
- Structural subordination puts holding company debt behind operating company debt; equity is the first cushion.
- Sovereigns: ability and willingness to pay; local currency can be printed (inflation risk), foreign currency cannot.

Quick check

1. Debt 2,400, EBITDA 600, interest 120. Leverage and coverage?
   Answer: 2,400 ÷ 600 = 4.0x. 600 ÷ 120 = 5.0x.
2. Value 900, secured debt 600 owed first, unsecured 600. Unsecured recovery?
   Answer: (900 − 600) ÷ 600 = 50%.
3. Reserves 60, short-term foreign debt 40. Cover? Why is local debt rated higher?
   Answer: 60 ÷ 40 = 1.5x. It can print local currency.

Summary notes for the Charta whiteboard lesson. Examples use made-up figures. Watch the full lesson at charta-learning.com.