Financing, Returns and Waterfalls

Interview preparation summary · RE track

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INT.EL.1.a · Debt

Size a property loan against loan to value, interest cover, debt service cover and debt yield, and say which test binds and why.

Lenders size a property loan with several tests at once and lend the lowest answer. Loan to value (LTV) is the loan divided by the value and limits the lender's loss if values fall. Interest cover ratio (ICR) is net operating income (NOI) divided by interest, and debt service cover ratio (DSCR) divides NOI by interest plus scheduled principal, so DSCR is the tighter test on an amortising loan. Debt yield is NOI divided by the loan: it ignores both the interest rate and the cap rate, so it shows what the income would return if the lender had to take the asset. Typical limits are around 55% to 70% LTV, 1.5x to 2.0x cover and 8% to 11% debt yield, tighter for short leases or weaker tenants. When rates are low LTV tends to bind; when rates rise, cover and debt yield bind first and proceeds fall even if values hold. The usual mistake is quoting only LTV, or measuring cover on projected rather than in-place income. Interviewers want the lowest of the tests and the reason it binds.

WORKED EXAMPLE: SIZING A LOAN ON WEXCOMBE TRADE PARK

You are buying Wexcombe Trade Park, an invented multi-let industrial estate, for 40.0m. In-place NOI is 2.6m. A lender will lend at most 60% LTV, subject to an interest cover of at least 2.0x at an interest rate of 5.5% and a debt yield of at least 10%. The loan is interest only. How much can you borrow, which test binds, and what does that do to your cash yield? Convention: price equals value, ignore fees and tax.

Answer: Borrow about 23.6m. The interest cover test binds (24.0m on LTV, 23.6m on cover, 26.0m on debt yield). That is a 59.0% LTV and leaves a cash yield on equity of 7.9%.

> **Interview tip:** Name every test, give each answer, then say which one binds and what changes if the rate or the NOI moves. Saying that cover binds because rates are high shows you understand why proceeds fall when rates rise.

INT.EL.1.b · Debt

Explain how floating-rate debt is hedged with swaps and caps, test interest cover against a rate shock, and choose a hedge to fit the business plan.

Most property loans float over a base rate, so a rise in rates cuts interest cover and can trigger a covenant breach even when the property performs. Lenders often require a hedge for part or all of the loan. A swap fixes the base rate for the term: it removes the risk and the upside, and if rates fall the swap loses value and has a break cost if you sell early. A cap sets a ceiling on the base rate for an upfront premium and keeps the benefit of falling rates, but the premium is spent whatever happens. A collar sells a floor to pay for the cap. Test the hedge, not the label: compute the base rate at which cover reaches its covenant with and without the hedge, check the hedge notional and term match the loan and the likely sale date, and allow for counterparty and break costs. The usual mistake is to hedge to the loan maturity when the business plan sells in two or three years, or to ignore the premium in returns.

WORKED EXAMPLE: HEDGING A 30.0M FLOATING LOAN

A fund holds a 30.0m interest-only loan on an invented office building, Corbel House, at a margin of 2.2% over a base rate that is now 4.0%. NOI is 3.3m. The covenant requires interest cover of at least 1.5x. The fund can buy a cap with a 4.5% strike for an upfront premium of 0.30m, or swap to a fixed base rate of 4.2%. Which protects the covenant, and which would you choose? Convention: annual figures, interest only, ignore tax.

Answer: Both protect the covenant: the cap limits cover to a worst case of 1.64x and the swap fixes it at 1.72x, while unhedged cover falls to 1.34x if the base rate reaches 6.0%. Choose the cap if the sale date is uncertain or rates may fall, the swap if certainty matters most.

> **Interview tip:** Quantify the rate at which the covenant breaks before you pick a hedge, then match the hedge to the exit date. Interviewers listen for the cost of being wrong in each direction.

INT.EL.1.c · Debt

Assess refinancing risk and the loan terms that shape it, including maturity, amortisation, covenants, cash traps, recourse and extension options.

Refinancing risk is the risk that when a loan matures the asset cannot support a new loan large enough to repay it. Most short-term property loans are interest only, so the balance at maturity equals the balance at the start, and the new loan is sized on that day's value, income and lending rules, not on the plan. A fall in income, a rise in yields or tighter lender appetite can leave an equity gap. Terms matter as much as the rate: maturity and extension options (and the tests to use them), scheduled amortisation, financial covenants that default or trap cash (a cash trap diverts surplus income to the lender or a reserve before an outright default), recourse to the sponsor, prepayment and break costs, and cross-default across loans. Ladder maturities, extend early, and stress the exit loan size before you sign. The usual mistake is to assume the refinance will be at the entry loan to value.

WORKED EXAMPLE: THE REFINANCING GAP AT MATURITY

A fund bought an invented business park for 50.0m with a 30.0m interest-only loan (60% LTV), maturing in five years. At maturity NOI is 3.4m and the market yield has moved out from 6.6% to 7.4%. A new lender would offer at most 55% LTV, a debt yield of at least 10% and cover of at least 2.0x at 6.5% interest. How big is any gap, and what would you do? Convention: value equals NOI ÷ the yield.

Answer: There is a gap of about 4.7m because the new loan is limited by 55% LTV to 25.3m against a 30.0m balance. Cure it with equity, a short extension, a junior layer or a part-sale.

> **Interview tip:** Always size the exit loan on all three tests, not just LTV, and say which binds. Then show you would have asked for extension options and a lower entry leverage at the start.

INT.EL.2.a · Returns

Calculate levered returns as IRR and equity multiple, and explain positive and negative leverage.

Levered return is the return on the equity after debt. The internal rate of return (IRR) is the discount rate that sets the present value of the equity cash flows to zero, and the equity multiple is total cash back divided by equity invested. IRR rewards early cash and ignores scale; the multiple ignores time, so quote both. Leverage is positive when the unlevered return is above the cost of debt and magnifies the equity return, and negative when it is below. Interviewers often test the income version: if the going-in yield is below the interest rate, cash yield on equity falls with every extra pound of debt, which is negative leverage on income. Total return can still be above the cost of debt if rents and exit value grow, so check the unlevered IRR against the debt cost as well as the yield. Leverage also magnifies losses, widens the gap between good and bad cases and raises the cost of a covenant breach. The usual mistake is judging leverage by the yield alone.

WORKED EXAMPLE: LEVERING QUENBY DISTRIBUTION CENTRE

An invented logistics asset, Quenby Distribution Centre, costs 50.0m. Year-one NOI is 3.0m and grows 3% a year. The fund sells at the end of year five at a 6.25% exit yield on year-six NOI. It can borrow 30.0m interest only at 4.5% or at 7.0%, with equity of 20.0m. Compare the unlevered and levered returns. Convention: year-end cash flows, ignore fees and tax.

Answer: Unlevered IRR is 8.3%. With 4.5% debt the equity IRR is 13.4% at 1.74x; with 7.0% debt it is 10.0% at 1.55x, so leverage still adds IRR but with lower income and more risk.

> **Interview tip:** Give IRR and multiple together, and compare the unlevered IRR with the debt cost, not just the yield with the rate. Then name the risk that growth does not arrive.

INT.EL.2.b · Returns

Run a joint-venture waterfall with a preferred return and promote, and explain how its structure aligns or misaligns sponsor and investor.

In a joint venture an institutional partner usually provides most of the equity and a sponsor sources and manages the asset, often with a small co-investment. A waterfall splits cash between them in tiers. First, capital and a preferred return (the pref, often around 6% to 9% a year compounded) go to all equity pro rata. Above that, a promote (carried interest) pays the sponsor a share, often 15% to 30%, of the extra profit, usually in steps as the investors' IRR crosses higher hurdles. The

sponsor also receives its own pro rata share on its co-invest. Check three things: whether hurdles are measured on IRR or on a multiple, whether the promote is paid deal by deal or after all capital is returned (with a clawback if later results disappoint), and whether the sponsor has real money at risk. A high promote on a short hold with an IRR hurdle can reward a quick sale. The usual mistake is to apply the promote to total profit instead of the profit above the hurdle.

WORKED EXAMPLE: A TWO-TIER WATERFALL ON A FOUR-YEAR JOINT VENTURE

An invented joint venture buys a retail warehouse with 20.0m of equity: an investor puts in 18.0m (90%) and the sponsor 2.0m (10%). There are no interim distributions and the asset is sold after four years for net equity proceeds of 34.0m. Tier one pays all equity pro rata until the investor has an 8% compounded return. Tier two pays 20% to the sponsor as promote and 80% pro rata. What does each side receive? Convention: annual compounding, no fees or tax.

Answer: The investor gets 29.38m (1.63x, 13.0% IRR) and the sponsor 4.62m, of which 1.36m is promote. The promote is 20% of the profit above the 8% pref, not of total profit.

> **Interview tip:** Walk through the tiers in order and keep the numbers simple. Finish by saying what the structure rewards, which shows you understand alignment rather than just arithmetic.

INT.EL.2.c · Returns

Compare selling, refinancing and holding an asset using forward returns, and explain what each does to IRR, multiple and risk.

Selling crystallises the gain, returns all capital and ends the risk. Refinancing raises new debt against a higher value and returns some equity while keeping the asset: it lifts IRR by returning cash early, but it adds leverage and interest, so the equity multiple does not rise and risk does. The right comparison is forward looking. Treat the sale proceeds you would receive today as new equity invested, less the cash you can take from a refinance, and compute the IRR on what remains over the further hold, using realistic income, exit yield and costs. Hold if that forward IRR beats the return you could earn elsewhere or the fund's target after allowing for risk. Also look at fund life, the debt market, the tax and cost of selling, and whether the value is yet to be realised or mostly already in the price. The usual mistake is to judge the decision on the return earned so far, when the money is already earned.

WORKED EXAMPLE: SELL OR REFINANCE A STABILISED ASSET

A fund bought an invented shopping parade, Marrow Cross Parade, five years ago. It is now worth 52.0m, the loan is 24.0m, NOI is 3.12m (6.0% yield) and selling costs are 1.5% of price. A new lender will lend 60% of value at 5.5% with a 1% fee. If the fund refinances and holds three more years, NOI grows 3% a year and it sells at the same 6.0% yield on the next year's income. Should it sell or refinance? Convention: year-end flows, ignore tax.

Answer: Selling nets 27.2m. Refinancing returns 6.9m now and leaves 20.3m working at a forward IRR of about 16.3%, above a 12% hurdle, so holding is justified if the yield assumption is sound.

> **Interview tip:** Frame it as forward IRR on the equity you leave in. Then state the sensitivity: say what exit yield would take the forward return below your hurdle.

Summary of the Charta interview-preparation topic. Companies and figures in the examples are invented. Draft content, not yet expert reviewed.