CHARTA LEARNING · LESSON NOTES

Hedge funds: strategies, fees, funds of funds and index bias

CFA Level I · Alternative Investments

You will learn: Explain what a hedge fund is and how its strategies work, calculate its fees under different terms, see why a fund of funds adds a second fee layer, and explain why published hedge fund indexes overstate what investors earned.

Running example: Examples follow the Larkspur Fund, a made-up hedge fund with $100m of investor money. Examples use made-up figures.

1. What a hedge fund is

- A hedge fund is a privately offered investment pool, usually open only to wealthy or professional investors, so it faces lighter rules than an ordinary fund. The word describes the freedom the manager has, not one recipe.
- Four features matter: leverage (borrowing to hold more than your own money buys); short selling (borrow a share, sell it, buy it back cheaper, gaining when the price falls); derivatives (contracts whose value depends on another price); and terms that protect the manager.
- Those terms are a lock-up (no withdrawals for a set time), a notice period (warning before you leave) and a gate (a cap on how much can leave at once). The price of the freedom is less liquidity and less visibility.
- Market neutral means holding equal longs and shorts, so profit comes from picking well, not from market direction.

LARKSPUR: $100M LONG AND $100M SHORT

Market up 10%: longs earn / shorts lose	12% × 100 / 10% × 100	**+$12m / −$10m**
Market down 10%: longs lose / shorts earn	8% × 100 / 10% × 100	**−$8m / +$10m**
Profit in either market	12 − 10 = −8 + 10	**+$2m**

2. Strategy families

- Equity hedge funds buy and sell short shares: market neutral (equal longs and shorts), long short (may lean to longs) or short bias (mainly shorts). Event driven funds bet on a trigger: merger arbitrage, distressed debt or activist stakes. The risk is that the event fails.
- Relative value funds bet that two related prices that drifted apart will meet, for example convertible arbitrage (long the convertible bond, short the shares) or fixed income arbitrage. The gaps are tiny, so leverage is heavy: that is the danger.
- Macro funds bet on rates, currencies and commodities. The curriculum also names opportunistic (macro and managed futures), specialist (one niche) and multi manager funds. The families describe how the fund hunts, not what it holds.
- Merger arbitrage: a bidder offers cash, the target trades a little below the offer (the spread), the fund buys the target, and keeps the spread if the deal closes. Small profits often, a large loss now and then.

Break-even chance of closing = loss ÷ (gain + loss)

MERGER SPREAD (CASH OFFER $50, TARGET AT $47, FALLS TO $38 IF THE DEAL FAILS)

Gain if the deal closes	50 − 47	**$3 = 6.4%**
Loss if it fails	38 − 47	**−$9 = 19.1%**
Break-even chance of closing	9 ÷ (3 + 9) = 9 ÷ 12	**75%**

3. Fees, hurdles and the order of charging

- The management fee is a percentage of assets under management, charged every year, win or lose. The incentive (performance) fee is a percentage of profit. Two and twenty means 2% and 20%. A flat year still costs the investor the management fee.
- A hurdle is a minimum return the fund must beat before any incentive fee is earned; below it there is no fee. With a hard hurdle only the gain above the hurdle counts. With a soft hurdle, once cleared, the whole gain counts, so the investor pays more.
- Read the terms: fees may be charged on starting, average or ending assets, and the incentive fee may be worked out before or after the management fee comes off.

Management fee = m × A; incentive fee = i × G, or i × (G − H) with a hard hurdle

LARKSPUR, $100M, GROSS RETURN 20%, 2 AND 20

No hurdle: net gain	20 − 2 − 20% × 20 (4)	**$14m = 14%**
Hard hurdle 5%: incentive	20% × (20 − 5)	**$3m, net $15m = 15%**
Soft hurdle 5%: incentive	20% × the whole 20	**$4m, net $14m = 14%**
Hard hurdle, fee after management fee	20% × (18 − 5) = 2.6	**net 15.4%**

Watch out: Thinking the management fee depends on performance; mixing up hard and soft hurdles; ignoring the order of the fees.

4. The high-water mark

- The high-water mark is the highest value the fund has reached at the point a fee was paid. No incentive fee is due until the fund climbs above it. It stops a second fee on the same recovery.
- It protects the investor after a loss, but not against the management fee, which keeps running. Below the mark there is no incentive fee even when the year was a good one.

INCENTIVE 20%, NO HURDLE, VALUES BEFORE THE INCENTIVE FEE

Year 1: 100 to 130	20% × 30	**$6m (mark now 130)**
Year 2: 130 to 110	loss, below mark	**$0**
Year 3: 110 to 128	still below 130	**$0**
Year 4: 128 to 150	20% × (150 − 130)	**$4m**
Saved by the mark	(3.6 + 4.4) − 4	**$4m**

5. Funds of funds and the fee stack

- A fund of funds invests in other hedge funds: one commitment spread over many managers, with its own due diligence. Benefits: diversification, access to funds closed to newcomers, and a smaller minimum than many single funds.
- Costs: a second layer of fees, less transparency, and it is only as good as the managers it picks. A multi strategy fund is one firm running many strategies in one fund with one set of fees.
- Total fees are the sum of the underlying managers' management and incentive fees plus the fund of funds' own management and incentive fees. Incentive fees are owed manager by manager, with no netting across managers, so a flat year can still cost several per cent.

Total fees = underlying management + underlying incentive + fund of funds management + fund of funds incentive

$100M SPLIT EQUALLY BETWEEN TWO MANAGERS (2 AND 20); FUND OF FUNDS CHARGES 1 AND 10

Flat year: A +30% (incentive 20% × 15), B −30%	100 − 3 − 2 − 1	**$94m, a 6% cost**
Good year, both +20%: managers' fees	mgmt 2 + incentive 4	**$6m**
Fund of funds incentive	10% × (20 − 6)	**$1.4m**
Fund of funds management	1% × 100	**$1m**
Net gain to investor	20 − 6 − 1.4 − 1	**$11.6m (fees 42% of the gain)**

6. Why index returns look too good

- No law forces a hedge fund to report. Funds report if and while they choose. Three biases all push reported returns up, so they add rather than cancel.
- Survivorship bias: funds that close, usually after poor results, drop out of the database. Backfill (instant history) bias: a fund joins and its earlier, usually good, record is added. Selection bias: managers with weak results are less likely to report.
- Smoothing is a further issue: illiquid holdings are valued by appraisal, which lags the market, so returns look steadier and less risky than they are. Read an index figure as an upper bound on the investor's experience.

SURVIVORSHIP AND BACKFILL (MADE-UP FIGURES)

Survivors 400 at 8%, closed 260 at 2%	(400×8 + 260×2) ÷ 660 = 3,720 ÷ 660	**true average 5.64%**
Index reports 8%	8 − 5.64	**overstates by 2.36 points**
Backfill: years 14, 12, 10 added to 6, 5, 4	(14+12+10+6+5+4) ÷ 6	**8.5% shown, investor got 5%**
Flattery from backfill	8.5 − 5	**3.5 points**
Index 11.0% less survivorship, backfill, selection	−2.2, −1.4, −0.9	**6.5%**

Key takeaways

- A hedge fund is defined by its freedom to use leverage, short selling and derivatives, paid for with limited liquidity and lock-ups.
- Strategy families: equity hedge, event driven, relative value, macro.
- Management fee is charged on assets win or lose; incentive fee is a share of profit. Hard hurdle: fee on the excess only. Soft hurdle: on the whole gain once cleared.
- The high-water mark stops a second incentive fee on a recovery, but the management fee still runs.
- A fund of funds adds a second fee layer with no netting across managers, so a flat year can cost several per cent.
- Index returns are biased up by survivorship, backfill and selection; treat them as an upper bound.

Quick check

1. 2 and 20, no hurdle, gross 15% on $100m. Net return?
   Answer: Fee 2 + 3 = 5, so net 10%.
2. Hard hurdle 4%, gross 10%, fee on gross gain. Net return?
   Answer: 2 + 20% × (10 − 4) = 3.2, so net 6.8%.
3. Closed funds drop out of the index. Which bias, which way?
   Answer: Survivorship bias, return pushed up.