Hedge fund strategies: equity, event and relative value

Alternative Investments

1 The one question that sorts every fund

- Ask first: what produces the return?
- Stock picking, a corporate event, a pricing gap
- A top down view, or a niche skill
- The instruments traded are only the tools

IN THE LESSON

- Imagine a food critic judging restaurants.
- She does not group them by which pans they own, because every kitchen owns the same pans.
- She groups them by the dish.
- Hedge funds work the same way.
- Two funds can both trade shares, yet one earns money by picking winners and losers, and the other earns money only when a takeover completes.
- The curriculum therefore sorts funds by one question: what actually produces the return?
- The answer may be stock picking, a corporate event, a pricing gap between related securities, a top down view on the economy, or a niche skill.
- The instruments traded are just the tools.

2 The family tree of hedge fund strategies

Studied in this lesson

Equity → Event-driven → Relative value

The other families

Opportunistic → Specialist → Multi-manager

IN THE LESSON

- Here is the family tree, drawn in the order the boxes appear.
- The top row holds the three families we study today.
- Equity strategies trade shares and differ in how much market exposure they keep.
- Event driven strategies profit from corporate events, such as mergers and bankruptcies.
- Relative value strategies profit when the prices of related securities drift apart and then come back together.
- The bottom row holds the other three.
- Opportunistic strategies take top down views across whole markets, and the two classic examples are global macro and managed futures.
- Specialist strategies need a niche skill, such as volatility trading or insurance related investing.
- Multi manager funds combine several of these.

3 Example 1: sorting four funds by the dish

Four funds, classified by the source of return

What the fund does	Family
Buys and shorts stocks it picks	Equity
Buys takeover targets	Event-driven
Futures on central bank views	Opportunistic
Convertible bond plus short shares	Relative value

IN THE LESSON

- Example one.
- A consultant has four funds to classify, and the trap is to sort them by what they hold.
- Fund one buys shares it likes and sells short shares it dislikes.
- That is stock picking, so it is an equity strategy.
- Fund two buys the shares of companies that have agreed to be taken over.
- The return depends on the deal closing, so that is event driven, specifically merger arbitrage.
- Fund three trades only interest rate and currency futures on a view about central banks.
- That is opportunistic, global macro, even though futures are traded.
- Fund four buys a convertible bond and shorts the shares, to capture a pricing gap.
- That is relative value.
- A fifth fund, one that sells catastrophe insurance risk, would be a specialist strategy.

4 Example 2: bonds, but not relative value

Both funds trade bonds. Which family?

Fund A: bankrupt companies' bonds	profit from restructuring	**Event-driven**
Fund B: old versus new bond	profit from a small price gap	**Relative value**
Other dimensions to note	liquidity, leverage, direction	

IN THE LESSON

- Example two is a classic trap.
- Fund A buys the senior bonds of companies that have filed for bankruptcy.
- A colleague says, it trades bonds, so it must be a fixed income relative value fund.
- Check the dish instead.
- Where does the profit come from?
- It comes from the restructuring process, which is a corporate event.
- The fund is event driven, a distressed securities strategy.
- Fund B also trades bonds.
- It buys an older government bond and sells the newly issued one with almost the same maturity, to collect a tiny price gap.
- Here the profit is a pricing gap between related securities, so that fund is relative value.
- Note too each fund's liquidity, leverage and direction.
- Same instrument, different family.
- The source of return decides.

5 Equity strategies: how much market is left on?

- Long short equity: buy winners, short losers, net long
- Short bias: net short, gains when shares fall
- Market neutral: longs and shorts balanced
- Measure each with net and gross exposure

IN THE LESSON

- Now the equity family.
- Picture three bakers who all buy flour from the same shop.
- One bakes mostly for customers who are hungry, one mostly for customers who are on a diet, and one makes a perfectly balanced menu.
- In the same way, three equity hedge funds trade the same shares but keep different amounts of market exposure in the book.
- A long short equity manager buys shares she likes and sells short shares she dislikes, and normally stays net long.
- A dedicated short bias manager is net short.
- An equity market neutral manager balances longs and shorts so that the market bet is close to zero.
- Before comparing them we need two numbers to measure exposure.

6 Net exposure and gross exposure

Net = long − short
Gross = long + short

Long positions	Shares bought, as % of capital
Short positions	Shares sold short, as % of capital
Net exposure	The market bet
Gross exposure	The leverage

IN THE LESSON

- Two formulas describe any equity book, and both are expressed as a percentage of the fund's own capital.
- Net exposure equals long positions minus short positions.
- It tells you the size of the bet on the market going up or down.
- Gross exposure equals long positions plus short positions.
- It tells you how much leverage the fund is running, meaning how much it is trading compared with its own money.
- The long positions are the shares bought.
- The short positions are the shares borrowed and sold.
- Net is the market bet, and gross is the size of the whole machine.
- A fund can have a net exposure of zero and a very large gross exposure at the same time.

7 Example 3: Larch Partners, net and gross

Capital $100m. Longs $140m, shorts $80m

Long positions		**$140m**
Short positions		**$80m**
Net exposure	140 − 80	**60% of capital**
Gross exposure	140 + 80	**220% of capital**

IN THE LESSON

- Example three.
- Larch Partners is a fictional long short equity fund with one hundred million dollars of capital.
- It holds one hundred and forty million dollars of long positions and eighty million dollars of short positions.
- Step one, net exposure.
- One hundred and forty minus eighty is sixty million, which is sixty per cent of capital.
- So the fund is net long sixty per cent.
- Step two, gross exposure.
- One hundred and forty plus eighty is two hundred and twenty million, which is two hundred and twenty per cent of capital.
- The fund trades more than twice its capital.
- A net long sixty per cent means that, roughly, sixty per cent of the market's move still flows into the fund.

8 Example 3, continued: a falling market

Market falls 10%. Longs fall 8%, shorts fall 13%

Longs lose	140 × 8%	**−$11.2m**
Shorts gain	80 × 13%	**+$10.4m**
Net result	−11.2 + 10.4	**−$0.8m**
Return on capital	−0.8 ÷ 100	**−0.8%**
The market itself		**−10%**

IN THE LESSON

- Now stress the book.
- The market falls ten per cent.
- Larch's longs happen to fall eight per cent, and the shares it sold short fall thirteen per cent.
- Longs lose eight per cent of one hundred and forty, which is eleven point two million dollars.
- Shorts gain thirteen per cent of eighty, which is ten point four million.
- The net result is a loss of zero point eight million dollars, or zero point eight per cent of capital.
- Compare that with a fund that simply owned the market and lost ten per cent.
- If both books had just followed the market, the loss would have been sixty per cent times ten per cent, which is six per cent.
- Stock selection added the other five point two.
- That is the point of long short.

9 Net exposure on one line

- Short bias −70%
- Market neutral 0%
- Long short +60%
- Equity fund +100%

IN THE LESSON

- Here are the equity strategies on one line, with net exposure running from net short on the left to net long on the right.
- Start in the middle.
- Equity market neutral sits at zero.
- The longs and shorts cancel, so the market bet is gone.
- To the right is long short equity, which in our example is net long sixty per cent.
- Further right, an ordinary equity fund is fully invested, with net exposure of one hundred per cent.
- Now go to the far left.
- A dedicated short bias manager is net short, here seventy per cent short, because it holds twenty per cent in longs against ninety per cent in shorts.
- Its returns tend to move opposite to shares.

10 The job each equity strategy does

- Long short: smaller drawdowns than equities, some beta
- Short bias: negative correlation, but costly in bull markets
- Market neutral: low volatility, bond like, uses leverage
- Low net exposure does not mean low risk

IN THE LESSON

- What role does each play in a portfolio?
- Long short equity returns come from stock selection plus some market exposure, which is beta.
- Because shorts offset part of the market, drawdowns tend to be smaller than in plain equities.
- But it still rises and falls with the market, only less.
- The dedicated short seller is the diversifier.
- Its returns are negatively correlated with equities.
- The cost is that shares drift upward over time and borrowing stock costs money, so it struggles in rising markets.
- Market neutral funds use pairs trading or statistical models, and apply leverage to magnify small spreads.
- The result is low volatility, bond like returns.
- The trap is to assume low net exposure means low risk.

11 Example 4: market neutral, big gross, small spread

Capital $100m. Longs $250m, shorts $250m

Net exposure	250 − 250	**$0**
Gross exposure	250 + 250	**$500m, 5 times**
Longs +6%	250 × 6%	**+$15.0m**
Shorts +5%	250 × 5%	**−$12.5m**
Result on capital	(15.0 − 12.5) ÷ 100	**+2.5%**

IN THE LESSON

- Example four.
- A market neutral fund has one hundred million dollars of capital, with two hundred and fifty million of longs and two hundred and fifty million of shorts.
- Net exposure is zero.
- Gross exposure is five hundred million, five times capital.
- Suppose the longs rise six per cent and the shorts rise five per cent.
- The longs gain fifteen million.
- The shorts lose twelve point five.
- The net gain is two point five million, or two point five per cent on capital, from a one point gap in the two books.
- Now reverse it.
- If the longs rise only four per cent and the shorts rise six per cent, the longs make ten million and the shorts lose fifteen, a loss of five per cent.
- Leverage cuts both ways.

12 Event-driven: paid for judging a corporate event

- Bet on how a corporate event turns out
- Merger arbitrage: buy the target, collect the gap
- Distressed securities: buy debt of firms near bankruptcy
- Paid for judging the odds of completion or recovery

IN THE LESSON

- Now event driven funds.
- Imagine a house sale where the buyer has promised to pay three hundred thousand, but the contract is not yet signed.
- Sellers would accept two hundred and ninety thousand in cash today, rather than wait and risk the deal collapsing.
- Whoever buys at the discount is being paid to judge whether the sale will go through.
- Event driven managers do exactly this with corporate events.
- In merger arbitrage, the manager buys the shares of a company being acquired, and locks in the gap between the offer and the market price if the deal completes.
- In distressed investing, the manager buys the debt of troubled firms and hopes to profit when the restructuring is done.

13 Merger arbitrage: the offer and the spread

Offer = ratio × acquirer price
Spread = offer − target price
Short = ratio × target shares

Exchange ratio	Acquirer shares per target share
Acquirer price	Share price of the buyer
Target price	Share price of the company bought
Spread, the prize	What you earn if the deal closes

IN THE LESSON

- The merger arbitrage maths is short.
- In a cash deal the offer is simply the price per share.
- In a share for share deal, the offer value equals the exchange ratio times the acquirer's share price.
- The exchange ratio is how many acquirer shares each target share receives.
- The spread, which is the prize, equals the offer value minus the target's current price.
- In a share deal the manager also hedges.
- The number of acquirer shares sold short equals the exchange ratio times the number of target shares held.
- That short removes the effect of the acquirer's share price moving.
- The risk that is left is whether the deal completes.

14 Example 5: a cash deal

Cash bid $50.00. Target trades at $47.50

Spread per share	50.00 − 47.50	**$2.50**
Spread as a return	2.50 ÷ 47.50	**5.26%**
Deal closes: 10,000 shares	10,000 × 2.50	**+$25,000**
Deal breaks, target $38	10,000 × (38 − 47.50)	**−$95,000**

IN THE LESSON

- Example five, a cash bid.
- A buyer has agreed to pay fifty dollars in cash for each share of a target.
- After the announcement, the target trades at forty seven dollars fifty.
- Step one, the spread is fifty minus forty seven fifty, which is two dollars fifty a share.
- Step two, as a return it is two fifty divided by forty seven fifty, or five point two six per cent, earned only if the deal completes.
- A manager who buys ten thousand shares makes twenty five thousand dollars on completion.
- Now the other branch.
- If the deal breaks and the target falls back to thirty eight, the loss is ten thousand times nine fifty, which is ninety five thousand dollars.
- Small prize, big downside.

15 Example 6: a share for share deal

Acquirer $60. Offer: 0.5 shares per target share. Target $26

Offer value	0.5 × 60	**$30.00**
Spread	30 − 26	**$4.00**
Buy 10,000 target shares	10,000 × 26	**$260,000**
Short acquirer shares	0.5 × 10,000	**5,000**
Profit if the deal completes	10,000 × 4	**+$40,000**

IN THE LESSON

- Example six, a share deal.
- The acquirer trades at sixty dollars and offers zero point five of its shares for each target share.
- The target trades at twenty six dollars.
- Step one, offer value is zero point five times sixty, which is thirty dollars.
- Step two, the spread is thirty minus twenty six, four dollars.
- Step three, the manager buys ten thousand target shares for two hundred and sixty thousand dollars, and sells short five thousand acquirer shares, zero point five times ten thousand.
- If the deal completes, the profit is ten thousand times four, forty thousand dollars, whatever the acquirer's price has done.
- Why?
- A fall in the acquirer's price shrinks the offer, but the short gains the same amount.

16 Two endings, very different sizes

Dollars at stake

If it completes	**+40,000**
If it breaks	**−70,000**

The prize is small and the penalty is large

IN THE LESSON

- Here are the two endings of that share deal, drawn as bars.
- The vertical axis shows the dollars at stake.
- The green bar on the left is the case where the deal completes.
- The gain is forty thousand dollars.
- The red bar is the case where the deal breaks.
- Suppose the target falls back to twenty dollars, which is where it traded before the bid, and the acquirer rises to sixty two.
- The target shares lose ten thousand times six, sixty thousand dollars, and the short loses five thousand times two, ten thousand.
- The total loss is seventy thousand dollars, nearly twice the gain.
- The hedge cannot fix this, because it only removes the acquirer's price risk.
- The deal risk remains.

17 Example 7: odds and break-even

Gain $40,000, loss $70,000, chance of completion 90%

Expected gain	0.9 × 40,000	**$36,000**
Expected loss	0.1 × 70,000	**$7,000**
Expected profit	36,000 − 7,000	**$29,000**
Break-even chance	70 ÷ (40 + 70)	**63.6%**

IN THE LESSON

- Example seven, using the odds.
- Suppose the manager puts the chance of completion at ninety per cent.
- The expected gain is zero point nine times forty thousand, which is thirty six thousand dollars.
- The expected loss is zero point one times seventy thousand, seven thousand dollars.
- The expected profit is therefore twenty nine thousand dollars.
- Now ask how low the odds can go before the trade stops paying.
- Let p be the chance of completing.
- The trade breaks even when p times forty thousand equals one minus p, times seventy thousand.
- That gives p equal to seventy over one hundred and ten, or sixty three point six per cent.
- The market price is quietly telling you the odds it believes.

18 Distressed securities: how the trade unfolds

Left to right, over a year or more

Firm in trouble, bonds fall → Manager buys debt at a deep discount → Restructuring pays out cash or new securities

IN THE LESSON

- The second event driven strategy is distressed securities.
- Here is the sequence, drawn left to right.
- First, a firm is in trouble or already in bankruptcy, and the market is frightened, so its bonds and loans trade at a deep discount to face value.
- Second, the manager studies the legal ranking of claims and buys the debt, often the senior bonds, which are paid first.
- Third, a restructuring plan is agreed.
- The creditors are paid in cash or in new securities, or both, and the manager hopes to receive more than was paid.
- This takes time, and the positions are hard to sell in the meantime.
- That is why distressed funds need long lock ups.

19 Example 8: a distressed bond, two outcomes

Buy $10m face at 40 cents on the dollar

Cost	10 × 40%	**$4.0m**
Recovery 65: receive	10 × 65%	**$6.5m**
Gain	6.5 − 4.0	**+$2.5m, 62.5%**
Recovery 25: receive	10 × 25%	**$2.5m**
Loss	2.5 − 4.0	**−$1.5m, −37.5%**

IN THE LESSON

- Example eight.
- A manager buys ten million dollars of face value of a bankrupt company's senior bonds at forty cents on the dollar.
- That costs four million dollars.
- Suppose the restructuring plan pays sixty five cents on the dollar.
- The manager receives six point five million, a gain of two point five million, or sixty two point five per cent.
- Now suppose the recovery is only twenty five cents.
- The manager receives two point five million and loses one point five million, which is thirty seven point five per cent.
- The range of outcomes is wide, the wait may be years, and the bonds cannot be sold easily if the manager is wrong.
- This is why the strategy suits investors who can lock up their money.

20 Example 9: why a smooth record can deceive

Ten identical deals: nine complete, one breaks

Outcome	Result
Nine deals complete	+$360,000
One deal breaks	−$70,000
Ten deals together	+$290,000
Average per deal	+$29,000

IN THE LESSON

- Example nine, the role of event driven funds.
- Take ten identical merger deals from our share example.
- Nine complete, each earning forty thousand dollars.
- That is three hundred and sixty thousand in total.
- One breaks and loses seventy thousand.
- The ten deals together earn two hundred and ninety thousand, an average of twenty nine thousand a deal, which matches the expected profit we found earlier.
- Notice the shape.
- Nine of ten months look wonderful, and one looks terrible.
- The returns are negatively skewed, like selling insurance on completion.
- Deals tend to break in a stock market crisis, so the correlation with equities rises just when you need diversification most.
- A smooth record can hide a left tail.

21 Mistakes to avoid so far

- 1. Sort by the source of return, not the instrument
- 2. Low net exposure is not low risk: check gross and beta
- 3. Smooth merger arbitrage record hides deal-break losses
- 4. Short the acquirer: ratio × target shares held
- 5. Market neutral is not riskless

IN THE LESSON

- Time to stop and collect the mistakes that cost marks.
- One.
- Classifying a fund by the instruments it holds rather than by the source of its return.
- A fund trading bankrupt companies' bonds is event driven, not fixed income arbitrage.
- Two.
- Treating low net exposure as low risk.
- Look at gross exposure and at beta as well.
- Three.
- Trusting a smooth record in merger arbitrage.
- The trade is like selling insurance, small gains most months and a large loss when a deal breaks.
- Four.
- Forgetting that in a share deal the hedge is shorting the acquirer, not the target, and that the number of shares is the exchange ratio times the target shares held.
- Five.
- Believing market neutral means riskless.

22 Relative value: small gaps, big positions

- Buy the cheap security, sell the related dear one
- Hedge out the market direction, keep only the gap
- Gaps are small, so leverage is high
- Two classics: fixed income and convertible arbitrage

IN THE LESSON

- Now relative value.
- Picture two shops on the same street selling the same loaf of bread, one for two dollars and the other for two dollars ten.
- You buy at the cheaper shop and sell at the dearer one, and keep the difference.
- The gap is tiny, so to make it worthwhile you would need to trade a lot of bread.
- Relative value managers do the same with related securities.
- They buy the one that looks cheap, sell the one that looks dear, and hedge out the broad market direction so that only the gap matters.
- Because the gaps are small, the positions are usually leveraged.
- The two classic examples are fixed income arbitrage and convertible bond arbitrage.

23 Fixed income arbitrage: where the gaps hide

- On the run versus off the run bonds
- Yield curve kinks and swap spreads
- Carry trades: earn the yield difference
- Gaps are tiny, so leverage can be very high

IN THE LESSON

- Fixed income arbitrage looks for small anomalies in the bond market.
- A newly issued government bond, called on the run, is in heavy demand and often trades at a slightly higher price than an older, nearly identical bond, called off the run.
- A manager buys the cheaper older bond and sells the newer one, expecting the gap to close.
- Other targets are kinks in the yield curve, where one maturity looks out of line with its neighbours, and swap spreads, which are the gap between swap rates and government bond yields.
- A carry trade earns the yield difference between a higher yielding and a lower yielding security.
- The price gaps are tiny, often a fraction of one per cent, which leads to heavy leverage.

24 Example 10: leverage magnifies the spread

Capital $20m. Positions $400m

Leverage	400 ÷ 20	**20 times**
Spread earned 0.10%	400 × 0.10%	**$0.4m**
Return on capital	0.4 ÷ 20	**+2.0%**
Gap widens by 0.50%	400 × 0.50%	**−$2.0m**
Return on capital	−2.0 ÷ 20	**−10%**

IN THE LESSON

- Example ten shows why leverage is the heart of the story.
- A fixed income arbitrage fund has twenty million dollars of capital and four hundred million of positions.
- That is twenty times leverage.
- Suppose the trade earns a spread of zero point one per cent on the positions.
- That is four hundred million times zero point one per cent, four tenths of a million dollars, or two per cent on the fund's own capital.
- A nice return from a tiny gap.
- Now suppose a crisis hits and the gap, instead of closing, widens by half of one per cent.
- That costs four hundred million times zero point five per cent, which is two million dollars.
- On twenty million of capital that is a loss of ten per cent.
- Same tiny gap, five times the pain.

25 Convertible bond arbitrage: what is being traded

- Convertible = bond plus an option to swap into shares
- Buy the bond if the option looks cheap
- Short issuer shares to hedge the share price risk
- Keep coupon income and gains from adjusting the hedge

IN THE LESSON

- A convertible bond is an ordinary bond with a built in option.
- The holder can swap each bond for a fixed number of the issuer's shares, called the conversion ratio.
- So it pays a coupon like a bond, and if the share price soars, it behaves like the shares.
- A convertible arbitrage manager looks for convertibles whose embedded option looks cheap.
- She buys the bond and sells short some of the issuer's shares to cancel the share price risk.
- What is left is the coupon, plus the option, and trading gains from adjusting the hedge as prices move.
- The key question is how many shares to short.
- The answer depends on delta, the sensitivity of the option to the share price.

26 How many shares to short

Shares to short = delta × conversion ratio × number of bonds

Delta	Option sensitivity, 0 to 1
Conversion ratio	Shares per bond if converted
Number of bonds	Bonds the fund holds
Shares to short	The hedge

IN THE LESSON

- Here is the hedge formula.
- The number of shares to short equals delta times the conversion ratio times the number of bonds.
- Take the terms one at a time.
- Delta is between zero and one, and tells you how many shares the option behaves like, for each share it could be swapped into.
- A delta of zero point six means the option gains about sixty cents when the share gains a dollar.
- The conversion ratio is the number of shares each bond converts into.
- The number of bonds is simply how many the fund holds.
- Multiply the three together and you have the shares to sell short.
- The result changes as delta changes, so the hedge has to be adjusted.

27 Delta moves with the share price

Chart: Delta vs Share price

- Like a bond
- Like the shares
- Delta 0.6

IN THE LESSON

- Here is the picture of delta.
- The share price runs along the bottom, and delta runs up the side, from zero to one.
- The curve is S shaped.
- On the left, the share price is low, the option is far out of the money, and the convertible behaves mostly like an ordinary bond.
- Delta is small, so only a few shares need to be sold short.
- On the right, the share price is high, the option is deep in the money, and the convertible behaves almost like the shares.
- Delta is close to one, so nearly a full hedge is needed.
- In the middle, the point marked is delta of zero point six.
- As the share price moves, the hedge must be topped up or trimmed.

28 Example 11: setting the hedge

2,000 bonds, converts into 25 shares each, share $40

Delta		**0.6**
Shares to short	0.6 × 25 × 2,000	**30,000**
Value of the short	30,000 × 40	**$1.2m**
Share falls $2: short gains	30,000 × 2	**+$60,000**

IN THE LESSON

- Example eleven.
- A convertible arbitrage fund holds two thousand bonds.
- Each converts into twenty five shares, and the issuer's shares trade at forty dollars.
- The delta of the embedded option is zero point six.
- Step one, shares to short equals zero point six times twenty five times two thousand, which is thirty thousand shares.
- Step two, the value of the short is thirty thousand times forty, one point two million dollars.
- Now test the hedge.
- The share falls by two dollars.
- The short gains thirty thousand times two, sixty thousand dollars.
- The convertible bonds, which behave like the shares in proportion to delta, lose about the same amount, zero point six times twenty five times two thousand times two.
- The hedge works to a first approximation.

29 Example 11, continued: adjusting the hedge

Share falls to $38, delta falls to 0.5

Shares needed now	0.5 × 25 × 2,000	**25,000**
Cover 5,000 at $38	sold earlier at $40	**+$10,000**
Back at $40, delta 0.6	30,000 needed	**short 5,000 more**
Coupon for a year	4% × 2m par	**+$80,000**

IN THE LESSON

- Now the hedge must move with delta.
- Suppose the share has fallen to thirty eight dollars and delta has dropped to zero point five.
- The new hedge is zero point five times twenty five times two thousand, which is twenty five thousand shares.
- The manager has thirty thousand shares short, so she covers five thousand shares at thirty eight.
- Those shares were sold at forty, so she locks in a gain of five thousand times two, ten thousand dollars.
- Later the share returns to forty and delta returns to zero point six.
- She sells short the five thousand shares again at forty.
- She has bought low and sold high without any view on the market.
- Add the coupon, four per cent on two million of par, eighty thousand a year.
- Shorting costs fees too.

30 The job relative value does, and what hurts it

- Role: low correlation income in normal times
- Crisis: gaps widen, liquidity dries up, credit spreads widen
- Hard to borrow stock when the hedge matters most
- Small spreads plus leverage: never riskless

IN THE LESSON

- What is the role of relative value in a portfolio?
- In normal times these funds offer low correlation income.
- Steady small gains, little direction, and a return that comes from the gaps rather than from the market.
- But the losses cluster in crises.
- When credit spreads widen, convertibles fall without any share price move to be offset.
- When liquidity dries up, the gaps in the bond market get bigger, not smaller, and the fund may be forced to sell into a falling market.
- Borrowing stock for the shorts gets hard just when the manager needs it.
- With leverage on top, a small adverse move can be a large loss.
- The trap is treating these trades as riskless.

31 Recap: three families and a grouping rule

Sort by the source of return, then read the risk

Grouping	Return source, not instrument
Equity	Net and gross exposure
Event-driven	Deal spread, left tail
Relative value	Small gaps, high leverage
The trap	Smooth record, hidden tail

IN THE LESSON

- Let's pull it together.
- The grouping rule is to sort funds by the source of their return, and not by what they hold.
- Equity strategies are described by net and gross exposure.
- Long short is net long, short bias is net short, and market neutral is near zero net with high gross and low volatility.
- Event driven strategies are paid for judging a corporate event.
- Merger arbitrage earns the spread with a hedge of the acquirer, and risks a large loss when the deal breaks.
- Distressed investing buys the debt of troubled firms and needs long lock ups.
- Relative value earns small gaps with leverage.
- The trap throughout is believing that a smooth record means low risk.

32 Try three quick questions

1. Capital $100m, longs $150m, shorts $90m. Net and gross?
   Answer: Net 60%, gross 240%.
2. 1,000 bonds, 20 shares each, delta 0.5. Shares to short?
   Answer: 0.5 × 20 × 1,000 = 10,000 shares.
3. A fund buys bonds of bankrupt firms. Which family?
   Answer: Event-driven: distressed securities.

IN THE LESSON

- Now try three quick questions yourself.
- Pause after each one.
- Question one.
- A fund has one hundred million dollars of capital, one hundred and fifty million of longs and ninety million of shorts.
- What are its net and gross exposures?
- The answer is net sixty per cent, gross two hundred and forty per cent.
- Question two.
- A convertible fund holds one thousand bonds, each converts into twenty shares, and the delta is zero point five.
- How many shares does it short?
- Zero point five times twenty times one thousand is ten thousand shares.
- Question three.
- A fund buys the bonds of bankrupt firms.
- Which family does it belong to?
- Event driven, in the distressed securities strategy.