Case Study #1: Security Knowledge, Trade Construction and Portfolio Impact

Consider the following security LVWR_11.5_2026_WT (Bloomberg Ticker: LVWR/WS).

1. Quantify this security's theoretical delta using a Black-Scholes model based on recent observable data (approximations are fine, no need to derive BS model here).

2. Quantify this security's observed (realized) delta over recent history

3. How do these measures compare?

4. What factors do you believe are affecting security pricing?

Now consider the following equally weighted portfolio of warrants (assume 1M warrants per ticker). We have provided a file that includes YTD price history for both the warrant and the underlying stock for each position in this mock portfolio to guide your analysis.

Ticker	Quantity
LVWR/WS	1,000,000
TLSIW	1,000,000
AFRIW	1,000,000
CLBTW	1,000,000
GRND/WS	1,000,000

5. Quantify the theoretical delta 1% risk of this portfolio using real world inputs. Please detail any assumptions that you make

6. Would the answer change if you were asked for the delta 10% or delta 20%? If so, why?

7. What has the observable (realized) $ delta of this portfolio been YTD?

8. If individual stock shorts were not available to hedge this portfolio but the broad market ETFs SPY and IWM (your only 2 choices) were available, how would you hedge this risk and why? Please quantify your recommendations.

9. What additional risks does hedging in this manner introduce?

Case Study #2: System Design, Allocation Logic and Real World Portfolio Experience

Consider the firm's need to allocate trades methodically and "fairly" among the various funds that it manages pursuant to their individual mandates

Suppose we have the following 5 funds to manage with the NAVs below (these update monthly).

Name	Code	NAV
US CB Fund	USCB	1,128,462,384
Global CB Fund	WWCB	389,452,323
Multi-strat Fund	MSFD	2,879,546,658
Drawdown Fund 1	DDFD	200,000,000
Drawdown Fund 2	DFD2	104,000,000

The firm has the following holdings and position targets at start of day.

Fund code	Security	Type	Mark	Quantity	Notional	Market value
USCB	ABSD_4.25_1/26	Convertible Bond	106.25	1,000.00	1,000,000.00	1,064,093.75
WWCB	ABSD_4.25_1/26	Convertible Bond	106.25	5,000.00	5,000,000.00	5,320,468.75

Fund	Security	Default Exposure Target % NAV
USCB	ABSD_4.25_1/26	2.00%
WWCB	ABSD_4.25_1/26	1.50%
MSFD	ABSD_4.25_1/26	0.75%
DDFD	ABSD_4.25_1/26	3.00%
DFD2	ABSD_4.25_1/26	5.00%

Today, the firm has executed the following trade facing the market.

Security	Type	Price	Quantity	Notional	Timestamp
ABSD_4.25_1/26	Convertible Bond	105.375	10,000	10,000,000	10:15 AM

1. Sketch a logic framework that will provide the basis to allocate this trade based on the information given and any necessary assumptions
    a. What goals does your allocation framework achieve?
    b. What are the key assumptions you made to build this framework?
    c. Do any of these assumptions give you pause? If so, why?

Later in the same day, the following trade was executed (Note: a negative quantity indicates a short sale):

Security	Type	Price	Quantity	Market value	Timestamp
ABSD.US	Stock	25.4687	(65,384)	(1,665,245)	11:00 AM

2. How would you allocate this trade?
    a. How do the goals of your allocation framework change?
    b. What are the key assumptions you made to adjust your framework?
    c. Do any of these assumptions give you pause? If so, why?

3. What difficulty can you foresee with a manual (think excel spreadsheet) implementation of your framework?

4. Alternatively, if you were to automate this process, what real-world pain points do you envision with its creation?
    a. What data, systems, and processes would you need to build and maintain in order to automate this process?

Now, consider a hedged warrant investment like those explored in Case Study 1, however in this instance the warrant is hedged with its underlying stock, not an ETF.

Security	Type	Price	Quantity	Market value	Timestamp
LVWR/WS	Warrant	0.25	1,000,000	250,000	9:44 AM
LVWR US	Stock	6.25	(40,000)	(250,000)	9:44 AM

5. As a thought exercise (no need to build another framework) what approach would you use to allocate these two trades assuming they needed to be paired and were eligible for multiple funds?

6. What makes this question more difficult than the earlier allocation decisions?

7. What simplifying assumption could you make in order to arrive at a reasonable answer?

8. What additional information would you like to know to complete this exercise more accurately?