

# ANSWERS TO STUDY QUESTIONS

## Chapter 26

- 26.1. The three major property-level investment performance attributes, based on (and largely summing to) the since-inception internal rate of return (IRR), are: (1) the initial cash yield, labeled *IY*, (2) the cash flow change during the holding period, labeled *CFC*, and (3) the effect of the change in the cash yield between the acquisition and the disposition (or current appraisal if the property is still being held), labeled *YC*. The four fundamental responsibilities of property-level investment management are: Property selection, Picking “good” properties (e.g., bargains as found); Acquisition transaction execution, the skillful negotiation and due-diligence; Operational management during the holding period, including property-level marketing and positioning, leasing, expense management, profitable capital expenditure management, and so on; and finally, Disposition transaction execution, the successful timing, effective search for the right buyer, skillful and efficient sales management, and negotiation.
- 26.3. The two major portfolio level performance attributes are traditionally allocation and selection. Allocation refers to the weighting of the portfolio across the various major classes or segments or sectors within the relevant investment universe. Selection refers to the picking of specific assets within each of those classes or sectors.
- 26.5. a. Piet’s allocation effect relative to Yongheng based on Piet’s returns is:

$$\begin{aligned} A_P - A_Y &= r_{PE}(w_{PE} - w_{YE}) + r_{PW}(w_{PW} - w_{YW}) \\ &= 9\%(0.50 - 0.25) + 12\%(0.50 - 0.75) \\ &= 2.25\% - 3.00\% = -0.75\% \end{aligned}$$

Therefore, if we attribute the total differential only to this measure of allocation effect and the selection effect, then Piet’s selection effect relative to Yongheng must be +1.75% (the difference of the total differential minus this computation of allocation: 1.00% – (–0.75%)).

- b. Piet’s selection effect relative to Yongheng based on Piet’s allocations is:

$$\begin{aligned} S_P - P_Y &= w_{PE}(r_{PE} - r_{YE}) + w_{PW}(r_{PW} - r_{YW}) \\ &= 0.50(9\% - 8\%) + 0.50(12\% - 10\%) \\ &= 0.50\% + 1.00\% = +1.50\% \end{aligned}$$

Therefore, if we attribute the total differential only to this measure of selection effect and the allocation effect, then Piet’s allocation effect relative to Yongheng must be –0.50% (the difference of the total differential minus this computation of selection: 1.00% – 1.50%).

- c. The attribution of Piet’s total performance differential relative to Yongheng based on pure (unconditional) allocation and selection components plus the interaction (cross-product) effect, and taking Yongheng’s results as the benchmark or standard, would be:

$$\begin{aligned} A_P - A_Y &= r_{YE}(w_{PE} - w_{YE}) + r_{YW}(w_{PW} - w_{YW}) \\ &= 8\%(0.50 - 0.25) + 10\%(0.50 - 0.75) \\ &= 2.00\% + 2.50\% = -1.50\% \\ S_P - S_Y &= w_{YE}(r_{PE} - r_{YE}) + w_{YW}(r_{PW} - r_{YW}) \\ &= 0.25(9\% - 8\%) + 0.75(12\% - 10\%) \\ &= 0.25\% + 1.50\% = +1.75\% \end{aligned}$$

So, the overall 3-component attribution would be:

Allocation:	$A_p - A_Y = -0.50\%$ .
Selection:	$S_p - S_Y = +1.75\%$ .
Interaction:	$I_p - I_Y = -0.25\%$ (as the missing amount to equal the total).
Total:	$r_p - r_Y = +1.00\% = 10.50\% - 9.50\%$ .

Thus, Piet's overall performance of +100 basis points compared to the Yongheng benchmark is attributed to a negative 50 bp allocation effect (he chose unwisely to allocate equally when West did better than East), positive 175 bp selection effect (as his property performance *within* each region was superior to the Yongheng benchmark), and negative 25 bp interaction effect reflecting lack of favorable specialization as relative to the benchmark he allocated more to the region in which his selection performance was relatively poor (cross-product effect).

- 26.7. A passive index is one that does not try to beat the market but merely to replicate the market value-weighted performance of a given asset class or market segment using a passive buy-and-hold strategy of all the assets in the subject asset class or market segment. A peer universe index reflects the average performance of all the investment managers or investment funds (many of which may be "actively" managed, that is, trying to beat the market) in a given specified universe representing a relatively homogeneous style or segment of the investment industry. Peer universe indices can make sense as benchmarks because they represent the average performance of the relevant competing investment opportunities for the investor, in some sense, the "average" investment manager or fund they could invest in. Passive indices can make sense as benchmarks assuming investors have the ability to invest in such an index as one investment alternative. In private (direct) real estate investment, it is not possible to invest in a passive index, so peer universe benchmarks make relatively more sense than they do in the stock market.
- 26.9. The core fund index under-performed its underlying properties for two major reasons. First, the fund index tracks returns actually realized by the fund investors, which are net of the fees and expenses the investors must pay to the fund managers. These fees and expenses naturally reduce the net returns received by the investors below that of the properties as tracked by the NPI gross of such management and transaction costs. Second, although core funds don't employ as much financial leverage as the other styles, they do use some debt, and the amount of leverage they employed grew during the bull market of the mid-2000s decade. This leverage magnified or exaggerated the downfall when the financial crisis and recession struck in 2007. Subsequently, such funds had to de-lever or recapitalize, which inevitably diluted the pre-existing investors reflected in the fund index.
- 26.11. As elaborated in Chapter 9, TWRs do not reflect the timing of when capital is placed into (or taken out of) the investment. But the nature of many opportunistic funds is that they obtain a commitment from the investor and then they draw down, and liquidate and pay back, funds from/to the investor based on timing decisions at least partly under the control and authority of the fund management. Thus, capital flow timing is a source of fund performance that is appropriate to reflect in the tracking and evaluation of the fund management. Money-weighted multi-period return measures such as the IRR reflect this, and when controlled for vintage year and other constraints on the fund management can be a logical metric for benchmarking.
- 26.13. All of the following are reasons why it might make sense to pay something for the ability to take the long position. From the perspective of the party taking the long position:
- The swap contract allows the avoidance of real estate investment management fees and/or transaction costs and expenses associated with direct property investment or investment via funds.

- The swap contract can allow a more broadly diversified position in real estate to be taken even with a relatively small investment, thereby reducing excess volatility or “basis risk” associated with individual property or individual investment manager idiosyncratic performance.
- The swap allows the index buyer to invest synthetically in the target real estate index without danger of being taken advantage of by sellers in the private property market who have better information about specific properties in specific markets (avoids the “non-local” disadvantage).
- The swap contract allows a real estate investment position to be taken with little or no up-front cash, providing effective “leverage” possibly more effectively than other means of borrowing.

From the perspective of the party taking the short position:

- The swap contract allows hedging, or betting on a fall in the property market. This can be useful for various types of investors, including real estate investment managers who want to earn positive returns on their positive “alpha” even in a down-market.
- The swap contract effectively allows property market value “insurance” to be obtained, which may be useful for certain types of investors, such as non-real-estate corporations that need to own their corporate real estate but don’t want to be exposed to real estate market risk.