Book Summary: Active Private Equity Real Estate Strategy (Frank J. Fabozzi Series) by David J. Lynn

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Note: This is a very concise paraphrased summary. Please support the author and buy the book.

- **A basic approach to real estate strategy embodies three key steps:**
  - First Step: Understand and establish clear goals and objectives.
  - Second Step: Understand the market (both the macroeconomic environment and real estate markets)
    - **The macroeconomic environment** includes political, economic, social, and technological factors.
      - This is also referred to as a "top-down" approach.
      - "Industry factors," owing to Michael Porter's five forces framework, are often considered.
      - These include barriers to entry, customers, suppliers, products, and competition.
    - The **real estate market analysis** is fundamental and includes factors such as supply, demand, vacancy, rent levels and growth/decline, comparable properties, and forecasts of many of these factors at the national, regional, and metropolitan statistical area (MSA) levels.
      - This may involve analysis of individual deals and comparable properties.
      - This is often referred to as a "bottom-up" approach.
  - Third Step: Strategy formulation.
    - Once a clear picture of the market is in hand, specific strategies, alternatives, and scenarios can be developed.

Overview of the U.S. Real Estate Market

- The largely stalled credit pipeline and financing activities during the 2007 recession severely curtailed investment and M&A projects.
- **Higher construction costs + more stringent local entitlement processes = restrained the supply pipelines.**
- Although construction activity has picked up, **demand is expected to outpace supply over the next five years, which should bode well for new and existing investments**.
  - Profitable opportunities should exist for selected core investments and well-sponsored value-added and development projects.
- Main Real Estate categories:
  - Apartments
  - Office
  - Industrial
  - Retail
  - Hotel

Apartments

- Look at demographic trends, the for-sale market and the construction pipeline.
  - Pipeline data are only good for short-term forecasting.

EXHIBIT 1.5 Growth Drivers by Region

Trend	Region	Comments
Expansion	Seattle/Portland	Strong high-tech, biotech, manufacturing, and trade
	San Francisco/San Jose	Strong high-tech, biotech, manufacturing, and trade
	Salt Lake City/Denver	Booming telecom, high-tech, commodity, and energy
	Texas	Booming energy, high-tech, high growth in population/jobs
	Atlanta/Carolinas	High growth in population/jobs
Mixed	So. Cal./Las Vegas/Phoenix	Negative impact of housing markets on local economies
	Florida	Negative impact of housing markets on local economies
	Boston/NYC/DC	Potential pullback from the financial industry
	Minneapolis/Chicago	Weak population and job growth
Contraction	Detroit/Cleveland	Decline in population/manufacturing jobs

- Vacant, single-family homes compete with Class A apartments.
- Investment in Class B apartments in core markets can present opportunities, as these properties may attract echo boomers who are graduating form college.

Hotels

- **An important measure is Revenue per available room (RevPAR).**
- Notable Transactions:
    - $26 billion privatization of the Hilton Hotels by Blackstone in 2007.
- The hotel sector is volatile because:
    - **hotels operate essentially by one-night leases and have more operating components.**
    - hotel demand is highly correlated with GDP growth.
        - Businesses and consumers normally reduce travel during a severe economic downturn.
- A recession presents excellent opportunities to buy high-quality hotel assets at reduced prices.
- **Hotel investment is considered to be both a real estate business as well as an operating business.**
- **Reasons for investing in hotels:**
    - Hotels can potentially generate attractive returns during cyclical upturns.
    - Hotels should be a component of a diversified real estate portfolio as they exhibit low correlations to other property types.
- **Four main drivers for hotel room demand:**
    - Business Travellers
    - Meetings
        - The group meeting business is most closely tied
    - Conventions
        - Business and convention travel demand tends to lag the economy by 6 to 12 months because of the advance booking nature of this segment.
    - Leisure Travellers
        - Leisure travel patterns are driven by household incomes, wealth effects, travel costs, and demographic structure.
        - Demand by wealthy individual travellers will change, but likely to a much milder degree.
- **The demand for each category is affected by the health of the economy.**
- **Branding**
    - More so than with other real estate assets, branding is important for hotel investments, especially business-oriented hotels. Business travelers often select a hotel based upon the rewards offered by the brand's frequent stay program. **Brands offer consistency of service and product, and strong branding creates customer loyalty that facilitates pricing premiums.**

EXHIBIT 1.15 SWOT Analysis of Hotel Market

Strengths	Opportunities
Strong RevPAR growth High occupancy	Cap rate compression Selective development
Weaknesses	**Threats**
Short-term leases Operating intensive	Large supply pipeline Recession risk

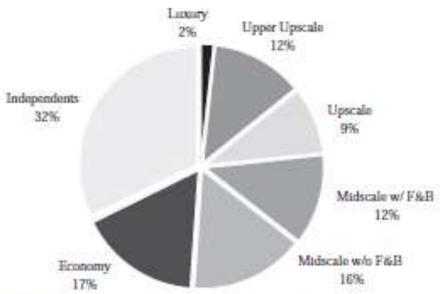


EXHIBIT 8.8 Supply of U.S. Hotel Rooms by Segment

Retail

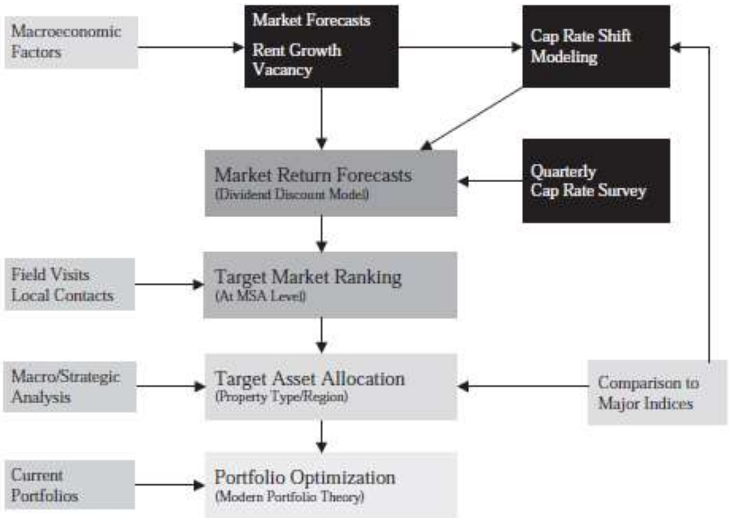
EXHIBIT 1.13 SWOT Analysis of Retail Market

Strengths	Opportunities
Growing disposable income Long-term leases	Redevelopment Selective development
Weaknesses	**Threats**
Negative wealth effects Slowing job growth	Lackluster consumer spending High energy/healthcare costs

Office

- The office sector is **highly sensitive to changes in the economy** and exhibits a **high correlation with GDP growth.**
- Notable Transactions:
    - $39 billion EOP (Equity Office Properties) transaction done by Blackstone.

Forecasting the U.S. Market



- Generally, market vacancy is derived from supply and demand forecasts; however, **demand forecasts are typically the weakest link because many heterogeneous forces drive space demand**, and traditional econometric models generally only capture macro-economic drivers, which also come from imperfect forecasts. As a result, significant adjustments have to be made after vacancy rates are calculated.

$$\text{New supply}_t = \text{Completions}_t - \text{Depletions}_t \pm \text{Conversions}_t$$

$$\text{Total stock}_t - \text{Total stock}_{t-1} + \text{New supply}_t$$

$$\text{Occupied stock}_t = \text{Total stock}_t \times (1 - \text{Vacancy}_t)$$

$$\text{Absorption}_t = \text{Occupied stock}_t - \text{Occupied stock}_{t-1}$$

- <u>**Rental Growth: Econometric Modelling**</u>
    - **Econometric models capture long-term relationships between rent growth and underlying** drivers (vacancy, vacancy change, employment, gross metro product [GMP] growth, etc.). We identify several underlying drivers for each property type and apply these same drivers across all markets to achieve consistency.
    - However, because rents respond to drivers differently in each market, we tailor a unique equation for each market with unique coefficients and varying lagging factors.
- <u>**Market Rent Forecast Methodology**</u>
    - **The demand for property space is primarily derived from employment within specific sectors of the economy.**
    - Using employment forecasts, we project the changes in employment structure likely to occur and derive future demand from these changes.
- <u>**Total Return**</u>
    - Total return is a function of the:
        - current cap rate, or going-in yield

- ❖ The current cap rate is a measure of income return
    - the forward earnings growth &
    - the cap rate shift.
        - ❖ while earnings growth and cap rate shift compete to determine whether the property appreciates or depreciates in value.
- o The real estate version of the Dividend Discount Model (DDM), which was developed for stock valuation:

$$
\begin{aligned}
Total\ Return_t &= Income\ Return_t + Value\ Return_t \\
&= \frac{NOI_t}{Value_{t-1}} + \frac{Value_t}{Value_{t-1}} - 1 \\
&= \frac{NOI_t}{\dfrac{NOI_t}{Cap\ Rate_{t-1}}} + \frac{\dfrac{NOI_{t+1}}{Cap\ Rate_t}}{\dfrac{NOI_t}{Cap\ Rate_{t-1}}} - 1 \\
&= Cap\ Rate_{t-1} + \frac{NOI_{t+1}}{NOI_t} \times \frac{Cap\ Rate_{t-1}}{Cap\ Rate_t} - 1 \\
Total\ Return_t &= Cap\ Rate_{t-1} + \frac{1 + g_{t+1}}{1 + Cap\ Rate\ Shift_t} - 1
\end{aligned}
$$

In which,

$$
g_{t+1} = \frac{NOI_{t+1}}{NOI_t} - 1 \qquad Cap\ Rate\ Shift_t = \frac{Cap\ Rate_t}{Cap\ Rate_{t-1}} - 1
$$

- **Market Rankings**
    - Based upon the total returns calculation, we are able to rank markets in each sector by the average total return over three-year and five-year periods.
    - **The total return rankings are then used to develop priorities for both acquisitions and portfolio management activities.**

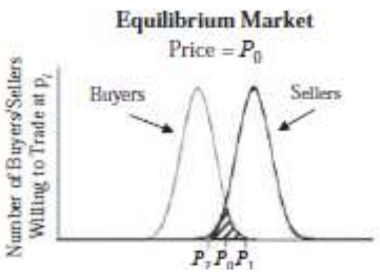
Recession and its Effect on Real Estate

- **Decline in property demand -> increase in vacancy rates -> decline in rents.**
    - However, a recession's impacts differ across property types and markets.
- During past recessions, the Fed has aggressively cut interest rates. As a result, yields of 10-year T-notes dropped substantially, which typically makes commercial real estate relatively more attractive than other asset classes.
- **Subprime Fallout**
    - The phenomenal expansion of the U.S. housing market beginning in the late 1990s was fueled by **40-year-low mortgage rates**, the participation of speculators in some markets, and buyers of second homes, particularly by Baby Boomers.
    - Rapid capital appreciation of this buoyant national housing market caused many borrowers to be priced out of the market.
    - **Some financial institutions responded by offering creative financing** such as no documentation of income, adjustable mortgages with lower teaser rates, no down payment, zero interest for the first year(s), and interest-only loans with negative amortization.
    - Subprime mortgages now total $1.2 trillion, or 12.8% of total outstanding mortgage debts, according to *Inside Mortgage Finance.*
- **Subprime Credit Pipeline**
    - **The subprime market has been dominated by independent mortgage companies specializing in subprime mortgages.**
    - These companies typically make loans to subprime borrowers and then sell the high-yield subprime loans to Wall Street investment banks.
    - The investment banks repackage pools of loans and mortgages into structured credit products such as asset-backed securities (ABS), residential mortgage-backed securities (RMBS), and collateralized debt obligations (CDO).
    - Structured credit products are designed for different investors with varying risk appetites.
        - Pension funds and insurance companies typically buy the high investment-grade tranches of structured products
        - . Conversely, hedge funds and other opportunistic investors prefer the low investment-grade and nonrated equity tranches. Under normal default rates, this high-risk/high-return strategy has the potential to yield an annual return of more than 20%.

- Without demand for structured products, credit markets are left with a significant amount of debt in the pipeline. Consequently, some subprime lenders have been forced out of business.
- On August 10, 2007, the Fed increased liquidity in the credit market through the direct purchase of $38 billion of MBS
- Rising subprime delinquencies have led to a stalled credit pipeline and a dramatic widening of credit spreads of all non-Treasury debt.
  - **Widening credit spreads and tightening lending standards require more equity, lower loan-to-values (LTVs), and higher debt service coverage ratios for new investments.**

Market Analysis and Forecasts

- **Liquidity varies over time and is typically driven by the number of potential buyers, and changes in cash flows and debt capacity.**
- **In a recession, owners of quality buildings do not want to sell their assets for less than their perceived value. Instead, sellers are opting to pull their properties from the market and continue to reap the cash flows from the rent roll.**
  - Indeed, for well-leased buildings with sustainable capital structures, there is very little incentive to sell.
  - Many sellers are maintaining high price expectations, and therefore as buyers' price expectations decrease negotiations often result in rejected offers and strategic delay, in other words a widening bid-ask spread.
- <u>Reservation Price</u>
  - When in the market, if a buyer's reservation price is higher than a seller's reservation price, a trade will occur.



    - **Under imperfect information, each party uses offers and counter offers to learn information about the counterparty's valuation** as well as to signal whether they are in a strong bargaining position.
        - This strategic delay in bargaining is extending negotiations, which is partly responsible for the current slowdown in transaction volume.
- **Inside Options**
    - In a negotiation, the seller has what is known as an ***inside option,* the option to retain ownership of the asset.**
    - This option allows the seller to continue collecting whatever utility he receives by owning the asset.
    - In commercial real estate, this option is especially valuable because leased assets produce a steady cash flow.
    - The inside option increases a seller's bargaining power, and in today's environment many are using this strategy to their advantage.
    - The strength of the inside option is a unique feature of bargaining in commercial real estate.
    - Residential real estate generally does not produce income. Consequently, single-family sellers are left with an inside option to either continue living in the home or to rent the home. **The relative weakness of the single-family sellers' inside option may help to explain the faster pricing adjustment in the for-sale housing market.**
- **Outside Options**
    - **The option to cease negotiation with the current counterparty and find another counterparty to bargain with is known as an *outside option.***
    - **If a buyer or seller feels that he can increase his payoff by bargaining with a different counterparty in the future, then this option is valuable.**
        - The value of the outside option depends on the degree of competition in the property market. Competition affects the length and costs of the search for a new counterparty. As markets become more competitive it is easier to find a new counterparty, which makes search costs lower.
        - **Lower search costs effectively increase the value of the outside option.**
    - Under this circumstance, the sellers' strategy is to ask for higher prices, because they have a better chance of getting the desired price from one of the many other buyers. The buyers, on the other hand, can make relatively lower bids (than in a less competitive market), because they have a better chance of getting their desired price accepted by some other seller.

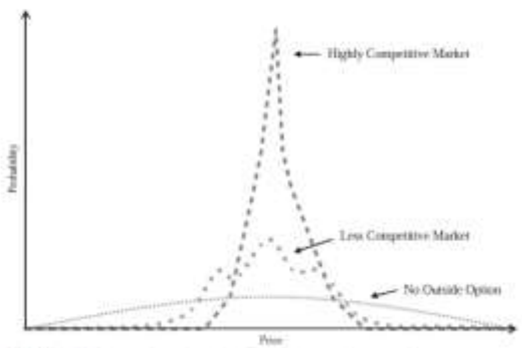


EXHIBIT 6.5 Transaction Price Volatility by Degree of Competition

    - The primary bargaining costs for sellers are:
        - property carrying costs
        - debt coverage
        - redemption requirements (if the asset is held in a fund)

Residential Land Investment

- **Distress in the housing market is presenting increasing opportunities to acquire land intended for future residential development at a discount.**
- **The general approach is simple: Take control of land at reduced prices due to the current market distress and resell the land at a higher price when the market returns. Adding value by increasing the permitted intensity of development allows for increased potential returns.**
- Even with recent declines in the market, housing remains the second largest asset class in the United States, just under the fixed income market and larger than the equities market.
- Relative to other real estate sectors, **the single-family housing market is far larger; more than four times the market value of all commercial real estate** and dwarfing the public equity (REIT) market.

- In the United States, more than three-quarters of the population now live in urban areas, with the trend toward urbanization expected to continue.
- **LEED – Leadership in Energy & Environmental Design:** A program of the U.S. Green Building Council that offers third-party certification as a means to benchmark the design, construction, and operation of green buildings.
- <u>Land as % of the total housing cost</u>
  - Where land is abundant (both physically and free from regulatory constraints) and thus, inexpensive, the construction cost of housing represents a more significant portion of house value.
    - New homes on readily available high-quality land can be built relatively easily and cheaply.
  - Where land is scarcer, and therefore expensive, the land price represents a higher portion of the overall price, and drives down the elasticity of supply for new housing.
  - Land accounted for an average of 32% of the total housing cost across the markets in 1984, but nearly 51% in 2004.
- **The process of taking raw land through the development process to create a residential community is lengthy, complicated, and risky. The timeline from the initial purchase of land through the construction of homes can take many, many years.**
  - The process will vary considerably by community and based on the specific characteristics of the property and the proposed development, but will generally include the five basic phases shown in the graph below.

EXHIBIT 7.15
Development Process

- <u>Market Analysis and Site Selection</u>
  - Because of the inherent risks in the land development play, **a thorough strategic analysis of supply and demand drivers across markets and product types is essential, along with a detailed financial feasibility analysis.**
- <u>Acquisition</u>
  - Any purchase should include a three-stage contract offering:
    - free-look period
    - a period during which earnest money is forfeitable &
    - a closing.
  - Extending the initial period through options allows the purchaser to control the land while minimizing capital outlays and risk. **The option provides a mechanism to control the land but does not obligate the buyer to complete the sale unless certain conditions are met. Conditioning the sale upon**

entitlement approvals and financing and tying the sales price to the actual number of units entitled offer additional means to mitigate risk.

- Entitlements
  - **The process of adding value to a site by increasing the permitted density or intensity of uses through rezoning or subdivision.**
  - This process typically occurs in two stages: (1) an initial approval (zoning and subdivision) that sets the general parameters for the range of uses, density, and infrastructure improvements, and (2) a second approval, in the form of building permits that allow for the construction of individual buildings.
- Construction
  - **Construction occurs in two stages: first the development of lots and on-site infrastructure and then construction of buildings.**
  - Both stages of construction are optional, depending on the specific land development strategy.
- Disposition
  - Sale of the property, either as a single parcel or as subdivided lots, with or without entitlements and infrastructure construction.
- **Institutional Investors typically establish joint ventures or partnerships with a few large, well-established operating partners.**

EXHIBIT 7.16 Types of Land Investors

	Types of Land Investors			
	Land Speculator	Predeveloper	Land Developer	Builder/ End User
Major Function	Holds the property waiting for growth to approach	Analyzes market and plans development; clears all regulatory hurdles	Installs utilities; completes subdividing program	Builds structures for sale, rent, or own use; may employ general contractor
Typical Financing	Non-institutional	May attract institutional investment on selective basis	May be able to obtain construction loans and long-term real estate investors	May be able to obtain construction loans and long-term real estate investors
Typically Sells To	Predeveloper	Land developer or end user	Other (smaller) builders or end users	Other (smaller) builders or end users
Typical Length of Tenure:	8–10 years	2–5 years	1+ years	Indeterminate
Minimum Expected Return:	30%	30%	20%	Varies

The Entitlement Process

- Entitlement Returns
  - **Land prices in communities with more onerous regulatory schemes and longer review times reflect a wider range between the cost of entitled versus unentitled land**, often reflected in a "multiple"; that is, the difference in value between unentitled versus entitled land.
  - For example, the National Association of Realtors reports a multiple of 7× in Hawaii and 5× in California, both notoriously highly regulated states. The difference in value in more developer friendly states like Florida, Texas, and Tennessee, in contrast, are only around 2×.
  - **Negotiating the maze of entitlements—federal, state, and local, and going beyond zoning to often include a variety of environmental regulations—is daunting.** As such, many developers choose to enter into the land play only after at least some element of the project entitlements has been secured.
- Regulations
  - **Master Plans:** Also called comprehensive plans or general plans, these documents lay out desired development patterns, generally looking out 15 years or more. The plans are adopted by a City Council or other elected or appointed governmental body based on input from the community.
  - **Zoning:** Zoning regulations implement the master plan policies and map.

- **Subdivision:** Subdivision regulations provide the procedures and standards for dividing a large parcel of land into smaller parcels for sale and development.

- <u>Review Process</u>
  - **Preapplication:** Many jurisdictions encourage, and some require, an informal consultation with the planning staff or representatives of an approval body such as the planning commission prior to official application for a subdivision. The preapplication step is intended to introduce the project, identify key concerns, and establish the roadmap for the development review process.
  - **Application:** Most jurisdictions have at least a two-stage subdivision process requiring review of a tentative or preliminary plan and a final plan. Each will require a separate application with supporting documents, which will vary by community. The preliminary plan typically includes a map or drawing of a proposed subdivision, laying out the location and width of proposed streets, lots, blocks, easements, infrastructure, and environmentally sensitive features such as floodplains. Increasingly, communities are also requiring general information on the character of the development, including conceptual architecture and landscaping plans. The final plan will include the previous information with additional detail.
  - **Preliminary Plan:** Because of the public nature of the approval process, it is essential for the developer to be proactive in securing support for the project. This may include holding community meetings at the initial stages of the project design to solicit input and educate the public on the plan.
  - **Final Plan:** The final plan is reviewed through a similar public hearing process, but final approval authority typically lies with the elected body of the community such as city council.
- **The statement that all real estate is local is especially true in the context of a land play. Sourcing deals and negotiating the entitlement process demands local partners who know both the place and the players.**
- <u>Pursue entitlements during a slowdown</u>
  - The process may be quicker and smoother, as the pipeline is less clogged, local governments are more concerned with current revenues than future impacts, and the general public may not be as opposed to development proposals.
  - But the risk remains that even entitled land will not be in demand if the market continues to suffer.
  - Infill property in prime markets will always be the first to recover and should be given priority over land on the fringes.

<u>Industrial Market Investment</u>

- **Traditionally, the distribution of goods has been linked to the place of production. As a result, warehouses and other types of industrial space have been established near manufacturing centres. Those manufacturing centres, in turn, selected locations based on proximity to natural resources, labor pools, and transportation corridors.**
  - The location of distribution centres is largely dictated by JIT.
- The geography of distribution within mega-urban regions is changing as many freight distribution activities are being relocated to increasingly suburban areas. Traditionally, distribution centres were located close to central urban areas to enhance market proximity. As the size of warehouse and distribution centres expands, the ability to locate these facilities in central cities has diminished, given high land costs.
  - The New Jersey Turnpike (I-95) functions as the backbone for the phenomenon where distribution centres have been pushed out of the core region.

EXHIBIT 9.1 Major Global Gateway Markets
Source: ING Clarion Research & Investment Strategy, May 2008.

- <u>Containerization</u>
    - **Containerization is a system of intermodal cargo transport using standardized containers (known as *shipping containers* or *isotainers*) that can be loaded and sealed intact onto container ships, railroad cars, planes, and trucks**. The standardization of these containers allows for improved efficiency in transporting materials across shipping modes—ship, rail, and trucking.

EXHIBIT 9.2 U.S. and Global Port Rankings by Volume, 2007

Top U.S. Ports by Volume (2007)			Top Global Ports by Volume (2007)		
Port	Total TEU (000s)	Percent of U.S. Total	Port	Country	Total TEU (000s)
Los Angeles	8,355	18.6%	Singapore	Singapore	24,792
Long Beach	7,316	16.3%	Hong Kong	China	23,539
NY/NJ	5,299	11.8%	Shanghai	China	21,710
Savannah	2,604	5.8%	Shenzhen	China	18,469
Oakland	2,388	5.3%	Busan	S. Korea	12,039
Hampton Roads	2,128	4.7%	Kaohsiung	Taiwan	9,775
Seattle	1,974	4.4%	Rotterdam	Netherlands	9,655
Tacoma	1,925	4.3%	Dubai	UAE	8,923

- Three factors determine the ability of ports to accommodate larger ships:
    - **water draft:** depth of the water channel
    - **air draft:** height of any surrounding bridges or overpasses
    - **turn-around:** required space to maneuver the ships.

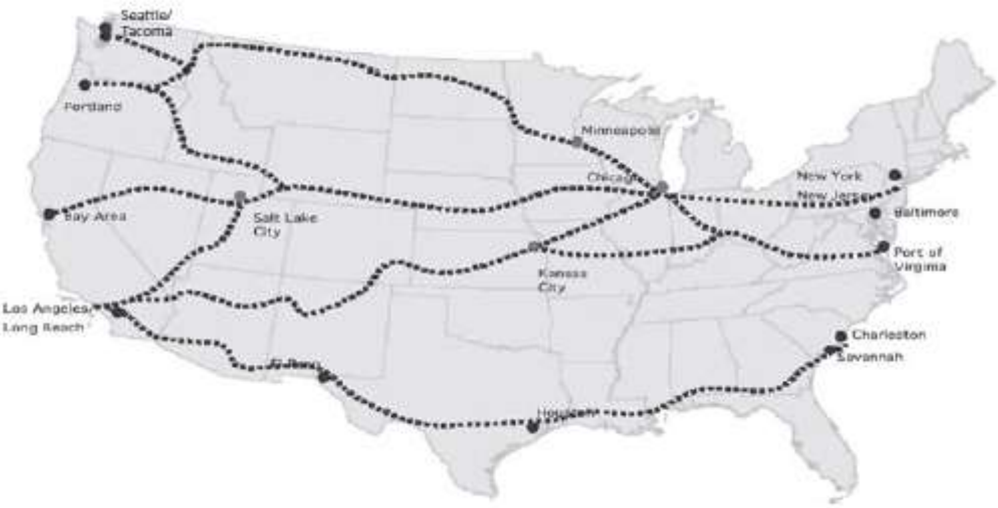


EXHIBIT 9.3 U.S. Land Bridges

- **Land Bridges**: Long-distance rail corridors.
- The land bridge provides an alternative to freight shipments across the Panama Canal.
    - The 50-mile canal shortens the trip distance for transoceanic shipments. For example, a ship sailing from Los Angeles to New York via the canal travels approximately 7,500 miles, half the distance it would take through the previous 15,000-mile trip route around Cape Horn.
- <u>North American Free Trade Agreement (NAFTA) Impact</u>
    - NAFTA was established in 1994, creating a trade bloc including Canada, Mexico, and the United States.
    - Trade with NAFTA partners now accounts for more than 80% of Canadian and Mexican trade, and more than a third of U.S. trade.
- <u>Foreign Trade Zones (FTZs)</u>
    - A Foreign Trade Zone (FTZ) is a port of entry, where "foreign and domestic merchandise is considered to be outside the country, or at least, outside of U.S. Customs territory."

<u>Senior Housing</u>

- The total pool of seniors is actually much larger than the number of seniors currently residing in senior housing.
- There is a renewed focus on ownership models such as condos and co-ops in senior housing because 80% of seniors age 65 and older are accustomed to being homeowners rather than tenants.

EXHIBIT 10.2 Product Offering among Segments

	Active Adult	Independent Living	Assisted Living	Skilled Nursing
Target age group	55–65	65–75	75+	As needed
Service level	No	Medium	High	High
Care level	No	No	Medium	High
Structure	Condo Rental (limited)	Rental Condo (limited)	Rental	Rental
Real estate product	Single-family, Multifamily	Multifamily	Multifamily	Multifamily
Recreational amenities	Clubhouse	Typically on 1st floor	Typically on 1st floor	Typically on 1st floor

Active Portfolio Management

- **First Step:** Define an investment universe.
  - **By Sector:** Consider the appropriate balance between the apartment, industrial, office, retail, and hotel sectors.
  - **By Region**
  - **By Metro**
- The selection of sales candidates can be based on any four basic strategies:

Strategies	Primary Impact
1. Sell assets with the lowest expected returns.	Return
2. Sell assets with the lowest Sharpe ratios.	Return, risk
3. Sell assets with the lowest Sharpe ratios in "Dogs."	Return, risk
4. Sell "Quadrant I" assets that hurt the portfolio.	Return, risk, correlations

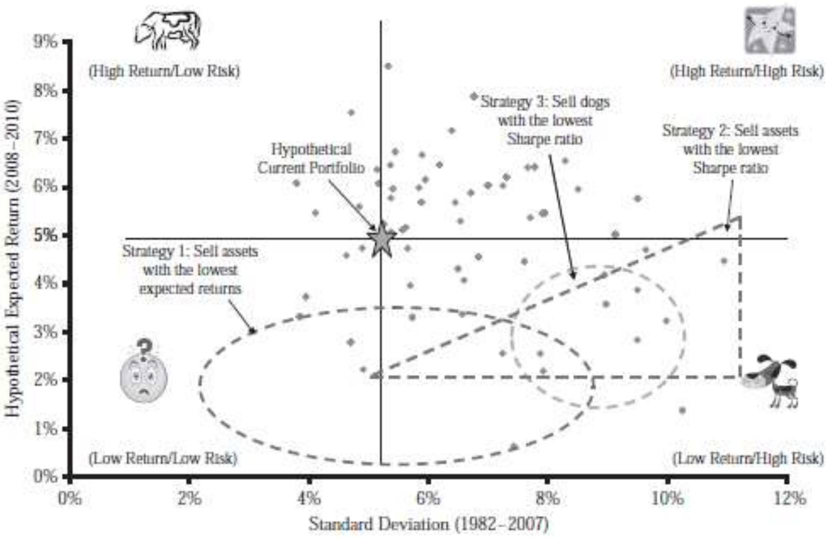


EXHIBIT 11.27 Assets in Dogs-Cows Quadrants

Derivatives in Private Equity Real Estate

- Derivatives are not a completely novel concept in real estate investment. In fact, they are already widely used in the form of **forward contracts**, **options on land**, and **interest rate swaps.**
- **The total return swap is the most prevalent structure for property derivatives**. It involves one party paying the total return of an asset or index to another in exchange for a fixed- or floating-rate payment. **Property derivatives are based off of indexes that measure changes in real estate prices** (residential or commercial).
- The most common types of derivatives are:
  - forwards
  - futures

    - options
    - swaps
- Transaction costs for private real estate investment are higher in the UK due to the stamp tax, which makes property derivatives relatively more attractive.
- The most active players in the U.S. property derivatives market have generally been **investment banks** and **interdealer brokers**.
- **Basis Risk**
    - **For a hedging strategy to be effective there should be a high correlation between the underlying exposure (e.g., a real estate portfolio) and the hedging instrument** (contract based on a real estate index). The hedge is only effective if these move together closely.

EXHIBIT 12.6 Derivatives Strategies by Investment Style

Investment Style	Strategy
Core	Hedging
	Asset allocation and rebalancing
	Index-linked structured note
Value-add	Hedging
	Asset allocation and rebalancing
Opportunistic	Speculation (long or short positions)
	Hedging
	Asset allocation and rebalancing

EXHIBIT 12.11 Hypothetical Fund Allocation

Sector	Current Allocation	Target Ranges
Apartment	22%	15%–20%
Industrial	18%	15%–20%
Office	31%	30%–40%
Retail	20%	20%–25%
Hotel	9%	5%–10%

Infrastructure Investment

EXHIBIT 13.1 Infrastructure Investment Categories[a]

Transportation	Utilities	Communications	Social Facilities	Specialty
Toll roads	Gas	Cable and satellite networks	Health care	Forestry
Bridges	Electricity		Recreational	Car parks
Tunnels	Water treatment/ distribution	Transmission/ broadcast towers	Educational	Storage
Airports			Correctional	
Seaports	Renewable energy			
Rail networks				

- Reasons for investing in infrastructure:

    - *Monopolistic* market positions are often held by infrastructure investors due to high initial fixed costs, resulting in substantial barriers to entry for potential competitors.
    - *Stable and predictable* cash flows are only minimally impacted by changes in the overall economy, thereby reducing volatility; this bond-like quality is comparable to a fixed-income investment.
    - Rent escalations are typically CPI-linked, acting as a *hedge against inflation.*
    - The lifetime of infrastructure assets often spans decades, providing a *long-term* investment horizon that is appealing to many institutional investors, specifically pension funds, which need to match assets with liabilities.
    - *Demand is somewhat inelastic,* as infrastructure assets, with little or no risk of technological obsolescence, provide essential services to consumers.
    - A *low correlation* to equity and fixed-income securities benefits portfolio diversification.

- **Private equity investments in infrastructure are typically made in three ways:**
    - **Privatization** allows private investors to acquire public infrastructure assets or invest in state-owned companies.
    - **Public-private partnerships (PPP)** enable private companies to build or operate new infrastructure developments or existing assets under concession agreements with the government.
    - Finally, **private-to-private transactions** facilitate the transfer of interests between two private parties.
- **The PPP model has recently been the method of choice for private investors looking to add infrastructure assets to their portfolios.**
- <u>Returns</u>
    - What kind of returns can institutional investors expect when investing in infrastructure assets? The answer to this question **typically depends on the stage of the developmental or operational life cycle of the asset.**
    - **Existing, or mature, infrastructure assets** can be considered similar to core real estate assets in that they have long lease terms and stable cash flows.
    - Alternatively, investments in **infrastructure development** are comparable to opportunistic real estate on the risk-return spectrum.
    - Falling between these two categories is a third subset that focuses on operational enhancements of existing assets.
    - While investments in mature infrastructure assets can offer annualized returns in the mid to high single digits, investments in infrastructure development can produce annualized gains in the high teens or above in some cases.
- <u>**Risks when investing as a PPP:**</u>

- *Long-term uncertainty*. With concession contracts stretching for as long as 99 years, the accuracy of forecasting decreases as political, economic, and other future events deviate from initial assumptions.
- *Revenue risk*. Revenues could fall short of projections if public demand and willingness to pay do not meet expectations.

- *Operational risk*. It is essential that the private partner in a PPP has the requisite competence, experience, resources, and skills to effectively operate the infrastructure asset.
- *Political risk*. Governments, in some cases, may not hold up their end of the contract for reasons that range from corruption to a change in administrations or internal political pressures.
- *Environmental risk*. Environmental reviews and approvals can increase the project budget while delaying start dates for new developments; significant capital expenditures may be incurred if unforeseen environmental hazards arise.
- *Community acceptance risk*. High usage fees for infrastructure assets may generate community opposition, especially if the operator's profits are perceived to be excessive.
- *Refinancing risk*. As many infrastructure projects are leveraged in excess of 50 percent, refinancing at higher interest rates could increase risk exposure.