

# ANSWERS TO STUDY QUESTIONS

## Chapter 6

- 6.1. Micro-level analyses focus on individual building sites or individual users of real estate. For example, a developer might want to examine the feasibility of building a particular type of development on one or more specific sites. The second type of analysis, general characterization of a real estate market, has as its purpose quantifying and forecasting the supply of and demand for space, typically including the forecast of future rents and vacancies in a particular geographic real estate market segment.
- 6.3. The variables and their definitions/explanations are as follows: (a) The *quantity of new construction starts and/or completions* represents the addition of new supply to the stock of space available in the market. (b) On the demand side, *space absorption* can be used to determine the amount of additional space that is occupied per year. It is useful, however, to distinguish between *gross and net absorption* in the market. *Gross absorption* measures the total amount of space for which leases were signed during the year, regardless of where the tenants came from. *Net absorption* is simply the net change in the amount of occupied space in the market. This takes into account the fact that many tenants move from one site to another within the same market, change in gross absorption would not imply a growth in the overall demand for space in the market. (c) When net absorption exceeds net construction completions, vacancy declines in the market, and when construction exceeds absorption, vacancy rises. Thus, another relevant variable is the *vacancy rate*, which refers to the percentage of the stock of built space in the market that is not currently occupied and available for occupancy. (d) Finally, the most important market indicator is the *current market rent*, which refers to the level of rents being charged on typical new leases currently being signed in the market.
- 6.5. For both the supply and demand sides of the market, profits will be maximized if landlords and tenants take some time to search for better deals. This search time results in space being held vacant, waiting (in effect) for better deals to show up. Another rational reason for vacancy in a market is growth in the demand side and the variable and unpredictable nature of that growth. Because of the time it takes to build, construction decisions must be made in the absence of perfect information about the future balance of supply and demand in the market at the time when the building will be completed. This also leads naturally to some excess space being provided in the typical real estate market from time to time.
- 6.7. The natural vacancy rate tends to be higher in faster-growing, more volatile markets and in markets where there are fewer regulatory or geographical constraints on new development.
- 6.9. Gross absorption doesn't take into account the fact that many tenants move from one site to another within the same market, so the signing of their lease would imply vacating one space in the market, as well as occupying another space in the same market. Thus, a change in gross absorption would not imply a growth in the overall demand for space in the market. Net absorption, on the other hand, measures the net change in the amount of occupied space in the market and is therefore a better measure of the growth in overall demand for space.
- 6.11.  $(1,000,000 + 2,000,000)/(1,500,000/12) = 24$  months' supply. This does not indicate an oversupply, as the MS only exactly equals the typical development project duration. This market would seem to be in approximate balance. There is room to pursue new

- development projects, as without more development, this market will have zero vacancy in two years, less than the natural vacancy rate in any market.
- 6.13. This is a discussion question with no single correct answer. Firms like Pixar, Google, Gensler, Miller-Hull, Facebook want to retain workers by making work fun and to instill loyalty, plus they want space to encourage collaboration and innovation. But how many firms need collaboration and innovation, now and in the future?
- 6.15. With simple trend extrapolation, one looks directly at the market supply and demand variables of interest and extrapolates these variables into the future based purely on their own past historical trends. For example, one would obtain data on the historical vacancy rate and rents in the market and project the future vacancy rate and rents based on the historical trend. The structural approach to market analysis, on the other hand, attempts to model the structure of the market by identifying and quantifying the underlying determinants of the variables of interest. This requires explicit quantification and forecasting of both the supply side and the demand side of the market, so that equilibrium indicators such as the vacancy rate and rent can be projected separately and then compared using the two forecasts.
- 6.17. The major drivers of demand are listed in Exhibit 6-5.
- \*6.19. The real estate cycle may be different from and partially independent of the underlying business cycle in the local economy. The cycle will be much more exaggerated in the construction and development industry than in other aspects of the real estate market, such as rents and vacancy. The vacancy cycle tends to lead the rent cycle slightly (vacancy peaks before rent bottoms). New construction completions tend to peak when vacancy peaks.
- 6.21. Cycles for a given property type could be faster or slower in some markets and should relate to how long it takes to get through entitlement in some markets that are supply inelastic versus those that are supply elastic. If a market has less supply and supply is less elastic in the intermediate term, then rents or prices move up more rapidly in response to an increase in demand.