

RE 618 / Fin 618 – Real Estate Investment Analysis
Homework – Commercial Property Markets and Leases – Solutions

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- 1) In class we discussed that there is no such thing as a single real estate market. Instead, real estate space markets are typically defined by three characteristics. What are they?

Property type, geographic location, and use or quality within a type.

- 2) Consider a lease for 120,000 square feet of space and specifies base rent of \$5 psf. In addition, the lease provides for percentage rent of 3% of sales in excess of the natural breakpoint.

- a) Calculate the natural breakpoint for this lease.

The annual base rent is $120,000 \times \$5 = \$600,000$. Thus, the natural breakpoint is $\$600,000 / 0.03 = \20 million.

- b) Calculate the total rent to be paid on this lease if annual sales are \$15 million.

Because \$15 million is below the natural breakpoint of \$20 million, total rent is simply the annual base rent, or \$600,000.

- c) Suppose instead that the lease specifies a breakpoint of \$12 million. What will be the total rent paid if annual sales are \$15 million?

Total rent = $\$600,000 + 0.03 \times (\$15,000,000 - \$12,000,000) = \$690,000$.

- 3) You would like to rent 3,500 square feet of *usable* area for an office. You are considering space in a Class-B office building containing 60,000 square feet of rentable area, of which 2,000 square feet is a central lobby that is used by all tenants in the building. The space you have seen is on the second floor, which contains a total of 19,000 square feet of usable area for tenants and 1,000 square feet of floor common area. This floor would be shared with several other tenants that currently lease 15,500 square feet of usable area. The leasing broker indicated that base rents will be \$18 per square foot (psf) of *rentable area*.

- a) What is the floor load factor for this space?

Total rentable area on the floor is $19,000 + 1,000 = 20,000$. The floor load factor is therefore $20,000 / 19,000 = 1.0526$.

- b) What is the building load factor?

The total rentable area in the building is 60,000. Of this, 2,000 square feet are in the lobby, while the remaining space contains 58,000 square feet. Thus, the building load factor is $60,000 / 58,000 = 1.0345$.

- c) What is the total load factor for a tenant on the second floor of this building?

$1.0526 \times 1.0345 = 1.0889$

- d) If you sign a lease for this space, how much total rentable area will the landlord try to assign to you?

$$3,500 \times 1.0889 = 3,811 \text{ square feet}$$

- e) What will your total annual rent be for this space?

$$3,811 \times \$18 = \$68,600$$

- f) What is the efficiency percentage of this building?

The efficiency percentage of this building is 91.84 percent. This is simply the inverse of the load factor.

- g) What is the total rent psf of usable space?

You can use the building load factor to calculate this: $\$18 \times 1.0889 = \19.60 psf of usable area.

- h) You are considering alternative space in a building with an efficiency percentage of 87.50 percent. This space would rent for \$17.50 psf of rentable area. Assuming that you require the same 3,500 square feet of usable area, which space is less expensive for you? Show calculations to support your conclusion.

The total load factor for this building is $1 / 0.8750 = 1.143$. Thus, the rent psf of usable space is $\$17.50 \times 1.143 = \20.00 . This second building is more expensive of a usable square foot basis.

- 4) Problem 4 on page 293 in the text: CAM charges for retail leases in a shopping mall must be calculated. The retail mall consists of a total area of 2.8 million square feet, of which 800,000 square feet has been leased to anchor tenants that have agreed to pay \$2 per rentable square foot in CAM charges. In-line tenants occupy 1.3 million square feet, and the remainder is common area, which the landlord believes will require \$8 per square foot to maintain and operate each year. If the owner is to cover total CAM charges, how much will in-line tenants have to pay per square foot?

$$\text{Common area} = 2,800,000 - 800,000 - 1,300,000 = 700,000 \text{ sf}$$

$$\text{Common area operating costs} = 700,000 \times 8 = \$5.6 \text{ million}$$

$$\text{Operating costs charged to in-line tenants} = 5,600,000 - 800,000 \times 2 = 4,000,000$$

$$\text{In-line CAM charges} = 4,000,000 \div 1,300,000 = \$3.08 \text{ psf}$$