

Problem Set 4
Due (end of lecture or beginning of recitation)

In this assignment you are to develop a multi-year cash flow proforma projection for an office building with multiple long-term leases, using an Excel spreadsheet. (Hopefully, later in this course you will duplicate this feat using Argus software. By having developed this spreadsheet, you will understand what Argus actually does.) The office building is Rentleg Plaza, which has 30,000 net rentable square feet divided into two office suites. Suite 100 is 20,000 SF and is leased out under a 5-year lease signed 2 years ago (3 more years left on the lease) at \$15.00/SF (per year). (Suppose it is the end of 2000, so the lease expires in 3 years at the end of 2003.) The other office, Suite 200, is 10,000 SF and is currently vacant.

In the land where Rentleg Plaza is located, the past few years have seen the office market softened greatly due to excess supply of newly-built space. As a result, rents have fallen. The currently typical rental rate in the market for buildings like Rentleg Plaza is \$14.00/SF on 5-year leases, with concessions amounting to one month free rent up front for each year of lease term (e.g., a 5-year lease would get the first 5 months rent free). In these conditions, you expect Suite 200 will not lease up for a year (i.e., expected occupancy after 12 months, at the beginning of 2002, in a 5-year lease running through 2006), and will require \$10/SF Tenant Improvement ("Tenant Finishing") expenditures by the landlord at that time.

With virtually no new office building development on the horizon, it is likely that the present modest growth in office demand will bring the rental market back into equilibrium within, say, 3 years, so that by 2003 we will be back into something like equilibrium. In these circumstances, it is reasonable to forecast no growth in (nominal) rental rates in the market for the next two years (2000-2002) followed by a rent growth "spike" of, let's say, 20%, in 2003, with then no further growth in rents for the next few years beyond that time. We would also expect the rent concessions (e.g., the free rent up front) to disappear from typical market deals by 2003.

Suppose it is reasonable to assume that when the lease on Suite 100 expires, there is only a 50% chance the existing tenant will renew. If they do not renew, there will be 6 months vacancy in the space, and it will require \$10.00/SF in tenant improvement expenditures (TI) paid for by the landlord (plus a 6% commission to a leasing broker) to obtain a new tenant. On the other hand, if the current tenant does renew (50% probability), it will only require \$3.00/SF in TI plus a 3% brokerage commission. (The brokerage commissions are paid by the landlord, up front at the time the lease is signed, based on the entire (undiscounted) cumulative revenue of the lease, less free rent concessions. For example a 5% commission on a 10-year, \$10.00/SF lease, would be \$5.00/SF if there were no concessions, or \$4.50/SF if there was 1-year free rent.)

The type of lease that is common in the market in which Rentleg Plaza competes is what is known as a "gross" or "full service" lease, with an "expense stop". This means that the landlord pays the building operating expenses, except that the tenant must pay their pro-rata share of any

expenses over and above a "stop" amount specified in the lease. The "stop" amount is typically defined at or near the annual operating expenses (per SF) which the building was experiencing as of the time when the lease was signed. The expense stop on the existing lease in Suite 100 is \$4.00/SF.

The current operating expenses of the building (projected for 2001) would be \$4.81/SF if the building were fully occupied all year. However, the building is expected to be 33% vacant during the year, which will keep operating expenses down a bit. In fact, 19% of the operating expenses are "variable", that is, directly proportional to occupancy, while the remaining 81% are "fixed" (independent of occupancy). Thus, the 2001 projected expenses are \$135,161 [calculated as: $30,000 * \$4.81 * (.81 + (2/3) * .19)$]. Operating expenses are expected to grow at the rate of 4% per year.

In addition to normal operating expenses and the previously noted leasing and tenant improvement expenditures, there is also expected to be \$1.00/SF/yr of general capital improvement expenditures.

Assuming reversion at the end of year 5, with a sale price equal to 10 times the following year's expected Net Operating Income (NOI), and at a discount rate of 12% per annum, you should be able to verify using your proforma that Rentleg Plaza has a present value of \$2,292,810.

In developing your Excel spreadsheet proforma, you should use the format indicated by the table on the following page, and employ the guidelines indicated in the footnotes to compute the tagged numbers. This is the type of pro forma that a broker would typically take to a potential investor, or a borrower would take to a lender. (Keep in mind that a real world pro forma is typically 10 years, not 5, and buildings often have dozens of spaces and leases (not just two), as well as several individual operating expense line items. Nevertheless, this simple example should be sufficient to help you to understand the basic "nuts and bolts".)

Rentleg Plaza, 5-year Pro Forma Cash Flow Projection:

Year:	2000	2001	2002	2003	2004	2005	2006
Market Rent		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn
Potential Gross Revenue:							
Rent Roll:							
Suite 100		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn
Suite 200		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn
Total		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn
Vacancy		(\$nnnn) ¹			(\$nnnn) ²		
Abatements			(\$nnnn) ³				
Reimbursements:							
Suite 100		\$nnnn ⁴	\$nnnn ⁴	\$nnnn ⁴	\$0 ⁵	\$nnnn ⁵	\$nnnn ⁵
Suite 200			\$nnnn ⁶	\$nnnn ⁶	\$nnnn ⁶	\$nnnn ⁶	\$nnnn ⁶
Total		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn
Total Revenue		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn
Operating Expenses							
		\$135,161	\$nnnn	\$nnnn	\$nnnn ⁷	\$nnnn	\$nnnn
NOI:							
		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn
Leasing & Capital Expenditures:							
TI			\$nnnn		\$nnnn ⁸		
Commissions			\$nnnn ⁹		\$nnnn ¹⁰		
Cap. Expenditures		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	
Total		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	
Operating PBTFCF							
		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	
Reversion							
						\$nnnn ¹¹	
PBTFCF							
		\$nnnn	\$nnnn	\$nnnn	\$nnnn	\$nnnn	
Present Value @12%:	\$2,292,810 ¹²						

¹Based on Suite 200 vacant all year.

²Based on Suite 100 expected vacancy (50%*6mo = 25% of Potential Gross Revenue from Suite 100).

³Based on free rent concession of 5 months offered to new lease in Suite 200.

⁴Based on expense stop of \$4.00/SF in the existing lease in Suite 100.

⁵Based on expense stop in new lease exactly equal to projected operating expenses per SF in 2004.

⁶Based on expense stop of \$5.00/SF in the new lease in Suite 200.

⁷Reflects expected vacancy of 50%*6 mo = 0.25yr in Suite 100 in 2004.

⁸Reflects expected renewal probability: (50%*\$10/SF + 50%*\$3/SF)*20,000 SF.

⁹Reflects free rent concession: 0.06*(5*14 - (5/12)*14)*10,000.

¹⁰Reflects expected renewal probability: (50%*0.06 + 50%*0.03)*(5*\$16.80/SF)*20,000 SF.

¹¹Reflects selling broker's commission of 5% taken from sales price equal to 10 times next year projected NOI.

¹²Assumes first cash flow occurs 1 year from present.