

Development of an Effective Rent (Lease) Index for the Chicago CBD

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Introduction

This paper estimates changes in effective rental rates for the period 1985 to 1991 for office space in the Chicago CBD using lease data provided by the Rubloff Company in Chicago. It is the first study to use detailed lease level data to estimate changes in effective rents for a metropolitan area.

The term *effective rent* is defined as the annual-equivalent cash flow of the present value of *all* cash flows that are explicitly identified in a lease contract. Real estate indices based on changes in effective rents rather than property values are unaffected by changes in market capitalization rates (and do not rely on appraised values). This provides a measure of changes in the market for space that is independent of changes in the market for capital.

Effective rents take into consideration *all* cash flows that are explicitly identified in lease contracts - including the contract rental rate, graduations in the contract rate, tenant improvements, moving allowances, buyout allowances, expense stops, broker commissions, and any other conditions of the lease that generate specific dollar receipts or expenditures. The owner's perspective is taken since the owners make the investment decisions that can lead to an over-supply (or under-supply) of space.

Calculation of Effective Rents

Effective rents are calculated as follows:

- 1) Explicit cash flows associated with individual leases are identified for each month the lease is in effect. The contract rental rate is adjusted on a month-by-month basis for any free rent, explicit changes (graduations) in the contract rental rate that occur

through time, and/or brokerage fees that are to be paid in the future. Tenant improvements, moving allowances, buyout allowances, and initial brokerage fees are also considered.

- 2) The cash flows from step 1 are discounted at the treasury-bond rate that is in effect when the lease is signed which has the same maturity as the lease. For example, the 5-year treasury bond yield in June of 1988 is the selected discount factor for a 5-year lease that begins in June of 1988.
- 3) The present value from step 2 is spread out over the term of the lease (using the same treasury-bond rate) to arrive at a level equivalent annual rental rate.¹

Because the particular space within the building being leased differs each year, a regression model is used to control for factors such as the location of the building, quality of space within the building, and characteristics of the tenant. This allows the resulting index to track changes in effective rents through time on a "standard" unit of space.²

Data

The buildings in the sample are very diverse - ranging from a multi-story warehouse that was built in the early 1900s and converted to office space in the 1950s, to a very modern and functional class A office tower. Owners of the properties include U.S. and Dutch pension funds, Japanese conglomerates, offshore private investors, and a U.S. savings & loan. Three of the offices are located in the west loop submarket, five are in the central loop submarket and one is in the Michigan Avenue submarket. Total space in the buildings ranges from 150,000 to 794,000 square feet and the number of floors from 12 to 36. Controlling for the cross-sectional differences for this

¹That is, the equivalent annual rental stream will have the same present value as the original rental terms which included concessions occurring at different points in time.

²The regression model derived for this research can be expressed in general terms as: $\text{EffRent}_{it} = f(\text{Building}_i, \text{Tenant}_i, \text{Space}_i, \text{Terms}_i, \text{Time}_i)$, where EffRent_{it} is the effective rent as discussed above. The term Building_i represents dummy variables for each of the buildings represented in the sample; Tenant_i controls for whether the space is being leased to a new or existing tenant, is an expansion of space by an existing tenant, or is a renewal of an existing lease. Space_i controls for differences in the quality and location of the space *within the buildings*. Terms_i are variables to control for characteristics of the leases that do not involve explicit cash flows but may effect the level of the contractual cash flows to be received. Time_i identifies the year when the lease is negotiated. The parameters on these time-series dummy variables provide the estimates of effective rental rates through time that are the focus of this research.

diverse sample of buildings is a challenging task. A more homogeneous sample of properties (possibly only class A buildings in one sample and class B in another) might be preferable for development of effective rent indices in the future.

Results

The results suggest that effective rents in the Chicago CBD declined almost 50% from 1985 to 1988, increased slightly over the 1988 to 1990 time period, and fell again in 1991. Asking rents, on the other hand, were fairly constant over the same time interval. The average base (contract) rent calculated from the sample of leases was lower than the average asking rents (as might be expected), and had more volatility. Base rents were still greater (and had less volatility) than effective rents, however, due to the use of free rent and other concessions which appear to increase when the market weakens and decrease when the market strengthens. As a result, effective rents provide a more accurate and timely representation of trends in the price of space than either asking rents or contract rents. Knowing how these trends continue in the future will be a critical factor in making informed real estate decisions.