

The U.S. Office Market: Flirting with Equilibrium August 2006

Research

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Executive Summary

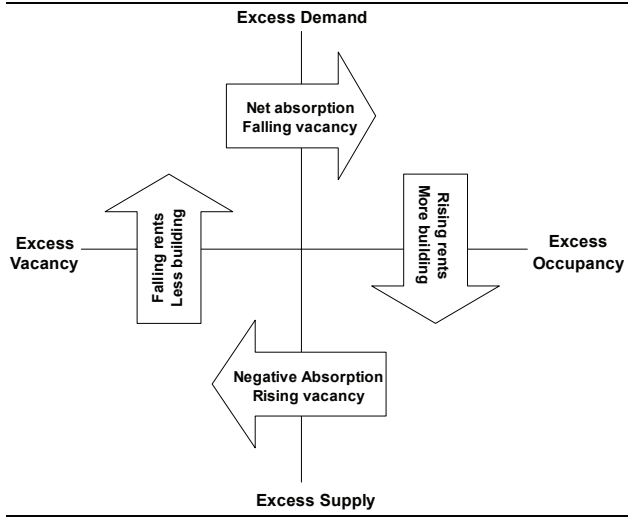
- More than two years into a recovery, the national average office vacancy rate is near equilibrium, with very modest excess demand.
- Market dynamics will limit the pace of further improvement in most markets, but a few are now seeing strong rent growth.
- Demand from price-sensitive tenants is waning, as rents have begun to rise faster than inflation. Future demand growth will correlate more highly with job growth.
- Supply growth is not yet a major factor in most markets. There is little risk that supply growth will outpace demand this year or next. Indeed, supply growth has become increasingly responsive to demand due to restraint in the capital markets and to much improved market intelligence. Moreover, a rent-cost gap is limiting new construction.
- Investment performance may vary greatly among markets. In this recovery, real rent growth rates may be a leading indicator of a period of attractive returns. Growth markets in the Sunbelt and tech-oriented areas appear poised for better performance. Office markets in the Northeast seem near equilibrium; market vacancy rates there will likely remain stable.

The Office Property Cycle

A steady economic expansion helped the office sector begin a recovery in 2004 that has continued and has remained moderate in strength. The office sector has often had extended recoveries like this one. The sector followed this cyclical pattern in the mid-'90s and even displayed evidence of a similar pattern in the mid-'80s. Property market cycles arise from the interplay among major market participants: prospective tenants' demand for space, developers' supply of space and landlords' pricing of vacant space. Key indicators of the state of the market include the vacancy rate, the relative standing of supply and demand, and offered rental rates.

Exhibit 1 shows how the first two factors can lead to market cycles: the vacancy rate is shown horizontally, and the balance between demand growth and supply growth is displayed vertically. Each point on the graph corresponds to a unique state of the market. At the center is market equilibrium, where 1) current absorption equals current new completions, and 2) the market is at its long-term equilibrium vacancy rate. Because markets are almost never in equilibrium, the range of possible non-equilibrium market conditions is huge. When a market is not in equilibrium, imbalances cause changes in demand and supply that drive the market toward the equilibrium vacancy rate and toward balanced supply and demand.

Exhibit 1: Property Cycle Diagram



Source: Prudential Real Estate Investors

However, because these two adjustment processes are rarely synchronized, market cycles occur. On the diagram, cyclical changes in market conditions trace a clockwise path. The best market conditions for owners – when demand exceeds supply, the vacancy rate is low, and property values are high – lie on the upper-right portion of the diagram. The worst market conditions are on the lower left – supply exceeds demand, and the vacancy rate is high. Buying opportunities begin to appear in markets exhibiting excess demand conditions but high vacancy rates – the upper left portion of the diagram. The market peaks when conditions lie along the right side of the horizontal axis. Cautious investors might consider selling properties when markets dip into excess supply and vacancy rates are low – the lower right quadrant of the diagram. Of course, the transaction market for properties reflects the expected *future* path for the market, not its current status – buyers and sellers are always looking ahead.

The Sweet Spot – Market Equilibrium

The central point on the diagram corresponds to conditions of market equilibrium. It defines the state in which market conditions can persist indefinitely without imbalances. When markets are in equilibrium, absorption just equals supply, so vacancy rates are stable, and market rents rise at just the rate of inflation. Under these circumstances, owners’ rental income grows at the same pace as expenses, so the operating margin remains a fixed portion of income. Also, for tenants, the cost of space remains a fixed portion of total expenses. It’s a state of profound balance.

However, this market state is elusive and unlikely to persist when it occurs. Equilibrium is a moving target. Many market influences can upset the fine balance of construction levels, demand growth, rental rate increases and rising expenses that mark this stasis. Moreover, each local market has a unique state of equilibrium that depends on its special characteristics, including its industry mix, growth rate, the density and arrangement of office space, and the concentration of ownership, among others.

Yet equilibrium represents a key benchmark for understanding current market risks and the likely path of market conditions. Since equilibrium is unlikely to exist, we must infer its key metric – the equilibrium vacancy rate – from historical market statistics. We estimate this point for major markets by: 1) finding historical dates when the rate of change of rents equaled the inflation rate; 2) noting the market vacancy rates on those dates, which approximate the historical equilibrium vacancy rates; and 3) estimating the current equilibrium vacancy rate, using the historical rates as a guide.

Exhibit 2 shows the distribution of equilibrium vacancy rates for 49 major metropolitan office markets over the past 20 years.¹ The rates are surprisingly high and different, averaging about 13.5% (13% on a size-weighted basis) with most between 12% and 14%. Many of the outliers are related. Four of the five markets with the highest equilibrium vacancy rates are in Texas – San Antonio, Dallas, Houston and Austin. Indianapolis is the fifth. The five markets with very low rates include Washington, DC, as well as its Virginia suburbs, and Raleigh, Portland and New York.²

Exhibit 2: Equilibrium Vacancy Rates for 49 Major Office Markets



Sources: TWR; REIS; PPR, based on blended historical averages of rent growth rates and vacancy rates from these information providers for each market.

Markets rarely exhibit an equilibrium vacancy rate, and rental growth rates often differ from the inflation rate, even when the vacancy rate is at equilibrium. This also contributes to the cyclical nature of the market. The vacancy rate at which real rent growth reaches zero depends on whether the market is weakening or strengthening. Often, when markets are weakening and real rent growth slows to zero, the market vacancy rate is *below* the equilibrium vacancy rate, and when markets are improving and real rent growth improves to zero, the market vacancy rate is *above* the equilibrium vacancy rate. This relationship between vacancy rates and rental rates is consistent with landlord pricing strategies that try to anticipate future market conditions. This

¹ We used annual historical data and forecasts from three sources: TWR (base forecast, summer 2006), REIS (forecast received 4/26/2006) and PPR (annual 06Q1 fundamentals).

² Only REIS provided estimates for the suburban DC office markets, which may have caused the outlier status.

cycle exists in tandem with the vacancy-absorption cycle. Importantly, it can be a leading indicator of imminent market recovery and, therefore, a very useful indicator for investors.

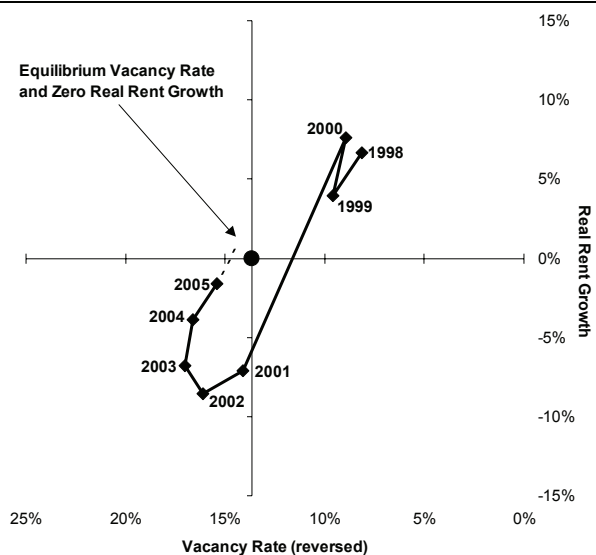
Current Market Status

Two diagrams – one with the path of vacancy rates and real rents, the other displaying the path of vacancy rates and the demand-supply balance – help to show where the current market cycle stands and how it evolved. **Exhibit 3** charts the status of current and past real rent growth rates (vertical axis) and corresponding vacancy rates (horizontal axis). Where real rent growth crosses zero as it falls and recovers helps to locate the equilibrium vacancy rate for each market. This value determines the vertical centerline in this diagram and the property-cycle diagram (see **Exhibit 4**). The vacancy rate measurement for both diagrams is the same – higher rates on the left, lower rates on the right. The property-cycle diagram charts the responses of market supply and demand (measured vertically) to the vacancy rate as it diverges from equilibrium.

During the most recent cycle, which dates from the mid-'90s, real rents stopped rising and started to fall in 2000 (the region below the horizontal axis in **Exhibit 3**), when the average office vacancy rate nationally was about 11%. The vacancy rate reached its peak during this cycle in 2003, but real rental rates continued to fall. With the recovery under way, real rents started to rise in 2005, when the national office vacancy rate was about 14.5% (the dotted segment extending up and to the right from 2005 in **Exhibit 3**).

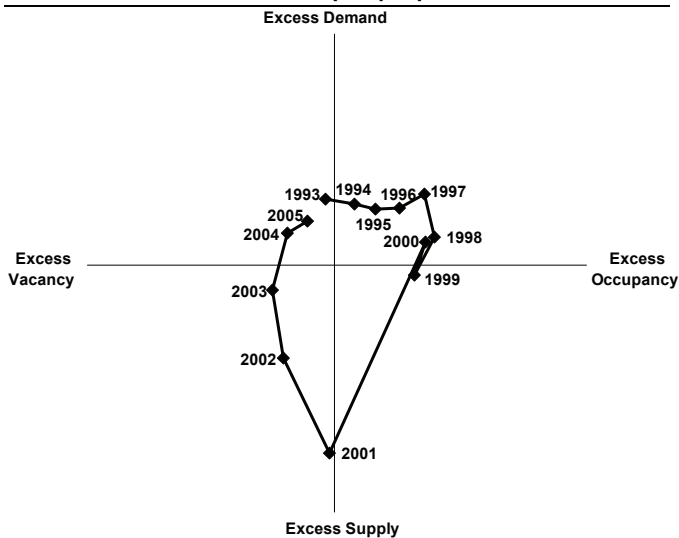
Exhibit 4 shows the strengthening market during the second half of the '90s, as moderate excess demand (points above the horizontal axis) caused the vacancy rate to drift steadily down (to the right in the diagrams). By 1998, the vacancy rate had reached a cyclical low (farthest to the right), as net absorption slowed to almost a supply-demand balance. With the collapse of demand in 2001, the market fell deeply into excess supply (below the horizontal axis), and the vacancy

Exhibit 3: National Rent Growth Cycle



Sources: TWR; REIS; PPR; Prudential Real Estate Investors

Exhibit 4: National Office Property Cycle



Sources: TWR; REIS; PPR; Prudential Real Estate Investors

rate surged rapidly (leftward movement). The market was correcting by 2002, but it remained in excess supply until 2004. Last year, net absorption stayed moderately positive. Vacancy rates fell but remained above the estimated equilibrium rate. Rents increased but at a rate that fell just short of inflation.

A Lopsided Cycle – Upside Limits

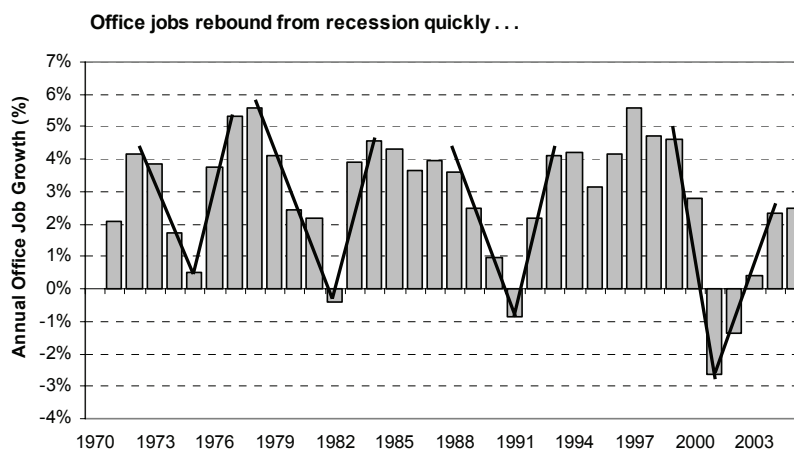
An important feature of the office market cycle, shown in **Exhibit 4**, is its modest upside. During excess demand episodes, the upside deviation from equilibrium is smaller than the downside deviation into excess supply, which seems to be a recurring market feature. In the past, external shocks have pushed the market rapidly into an excess supply condition. Over the past few decades, upsets and shocks have come from various sources: rising inflation in the late '70s curbed lending; deregulation in the early '80s and related tax law changes spurred construction; a capital crunch hit the finance market in the early '90s; and the dot-com bust occurred in the early 2000s. In some cases, the effects came from the supply side, such as the lending excesses and resulting overbuilding of the mid-'80s. The most recent shock was demand-driven.

Just as the new millennium started, the dot-com meltdown roiled the property markets. Many firms failed, and many others drastically cut growth plans. Office jobs declined, and demand for office space plummeted. Office employment shrank for two years. Empty space flooded the sublease market. Unfortunately, the pipeline of new office buildings was full. Although the pace of construction slowed as buildings under construction were completed or discontinued, supply still grew. In 2000, while demand for offices contracted by an unprecedented 3%, supply expanded by nearly 3%. By 2001, the national office vacancy rate had soared by five percentage points, and inflation-adjusted market rental rates had declined sharply.

By 2004, the office market had passed its nadir, but the succeeding recovery phase has been slow to gain momentum. Why? Has demand not rebounded strongly enough? Has supply growth accelerated too quickly? Statistics point to the demand side. Employment and space-use patterns dominated the path of the early recovery. Supply growth has not yet become a major factor.

Job growth explains only part of the recovery path. During recessions and recoveries, job growth is often symmetrical. The slowing of office job growth is fairly abrupt, but the resumption is also abrupt (see **Exhibit 5**). The initial stage of this recovery was typical. Job growth in 2004 rebounded smartly, from nearly zero in 2003 to 1.6% in 2004. But the pace of office job growth in 2005, while stronger than in 2004, did not strengthen as

Exhibit 5: Historical Office Job Growth

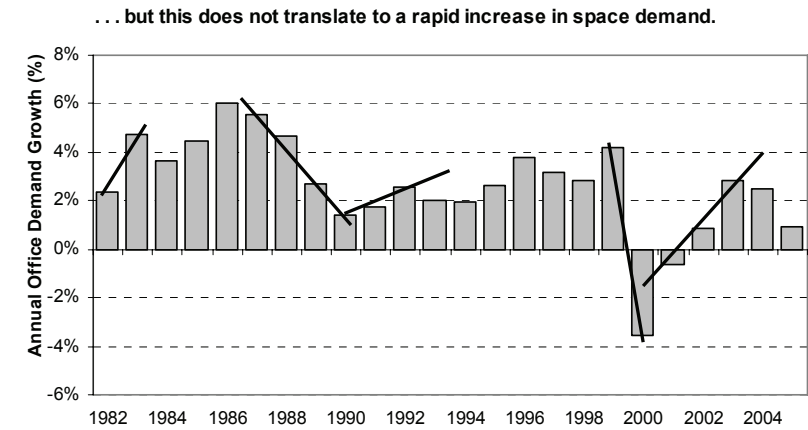


Sources: Moody's Economy.com; Torto Wheaton Research

much as expected, based on prior recoveries. This is one reason why office demand growth did not meet expectations in 2005.

Even when job growth remains strong, office demand, as shown in Exhibit 6, usually follows a more complex recovery path.³ The pattern has three features. First, absorption recovery appears to start before the job recovery. Second, an absorption plateau or slowdown occurs about three years after the absorption recovery starts. We saw such plateaus in 1984 and 1993. Third, absorption expansion takes place at a slower overall pace than job expansion.

Exhibit 6: Historical Office Demand Growth



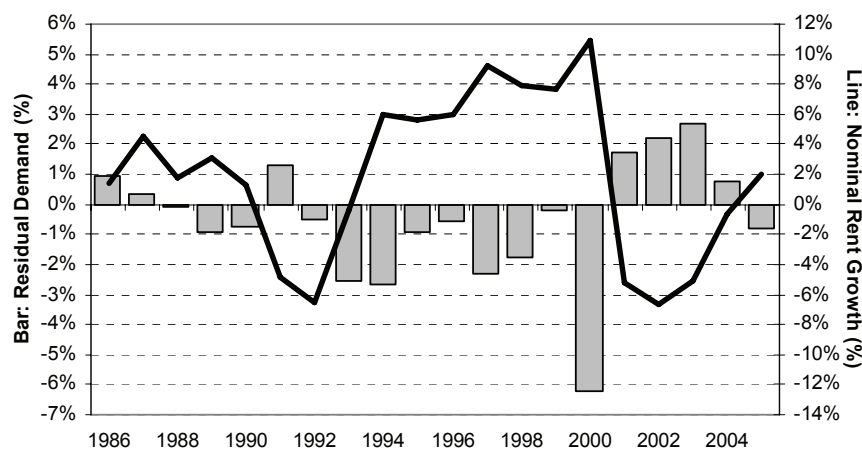
Source: Torto Wheaton Research

The current recovery seems to have followed the typical pattern. Absorption in 2003 occurred before the job recovery. It exceeded 2.5%, even though office jobs in 2003 barely increased. Office job growth strengthened in 2004, and absorption stayed strong. But the absorption recovery hit a plateau in 2005, despite continued strong office job creation. In total, office jobs expanded by 4.8% over the past two years, but absorption totaled only 3.4%.

Demand growth differs from job growth because it reflects the blending in the market of two strategies to accommodate an expected expansion. Firms can lease more space than they currently need and grow into it (a just-in-case strategy), or they can lease space as they need it (a just-in-time office inventory strategy). Risk-tolerant firms and those with highly certain growth expectations can lease space early and then sublease or leave it empty until their own needs catch up. With timing flexibility, these firms should be price-sensitive, searching the market carefully to select space at attractive lease terms. For them, demand has little correlation with current hiring. On the other hand, firms following the just-in-time strategy form a segment of underlying and ongoing demand for space that tracks the overall job growth pattern closely. They are likely to be less price-sensitive than those leasing ahead of their needs. The price-sensitive segment is likely to create a surge of demand as rents fall or just after rents reach a low point. Thus, much of the initial demand in a recovery arises from firms seeking attractive lease terms.

³ A useful history of office market cycles since 1970 appears in Mueller, Glenn R., "What Will the Next Real Estate Cycle Look Like?," *Journal of Real Estate Portfolio Management*, vol. 8, no. 2, 2002, pp. 115-125.

Exhibit 7: Residual Office Demand Compared with Nominal Rent Growth



Sources: TWR; REIS; PPR; National Real Estate Index

Note: Residual demand is demand remaining after subtracting absorption correlated with office job growth and with trend demand growth. Nominal rent growth is a blended average of estimates from the four data sources.

Exhibit 7 shows an estimate for the price-sensitive demand segment. It highlights the historical relationship between nominal rent growth and “residual” demand growth – that is, demand growth that does not correlate with job growth. When the recession began in 2000, residual demand was very negative – the reduction in demand was far greater than expected based on office job growth that year. This was not a price-based effect. Rather, it stemmed from the now well-established layoffs of office workers and the collapse of the sublease market in many metro areas. Firms previously warehousing space for future expansion cancelled plans (or failed) as the dot-com bubble burst, releasing a huge amount of space. The vacancy rate soared far more than job losses alone would have caused, triggering an episode of severe rental rate reduction.

Price-sensitive prospective tenants can be tempted to lease space in advance of their needs when they believe that rents are attractive and they feel confident about needing space in the future. As **Exhibit 7** indicates, rent declines in 2003 and 2004 were accompanied by strong residual demand. The exhibit shows that the slide in rental rates began to slow in 2003. During this time residual demand increased strongly – actual absorption exceeded the pace expected from job growth alone. This produced a decline in the office vacancy rate in the early stages of the recovery. And the early demand surge prompted many building owners to become less willing to accept deep reductions in lease rates. This helped to slow rental rate declines. Going forward, demand should reflect job growth more closely, as just-in-time demand forms an increasing share of total demand for office space. In fact, concurrent office job growth largely explained absorption during 2005.

The transition on the demand side of the office market from price-sensitive to need-driven participants can cause the plateau in demand and the slowing of vacancy rate declines that occurred in recent recoveries. Note that although real rent declines have slowed, the vacancy rate remains above equilibrium, which suggests that, on average, rent growth may remain slow until

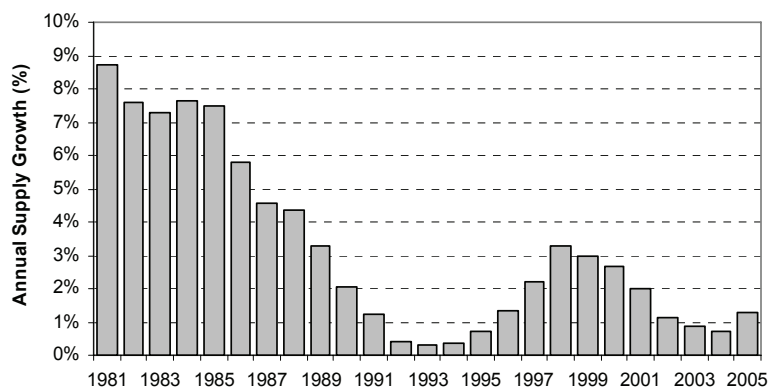
vacancy rates fall below equilibrium. Of course, the precise pattern of rents will vary among markets depending on unique market conditions and trends.

Curiously, the exhibit also suggests that there was very little absorption by price-sensitive firms following the 1990 recession. Most of the absorption during that recovery is explained by the pattern of job growth alone. Rents fell in 1991-92 but surged in 1993 as the economic recovery accelerated. Some of the demand in 1991 may have been associated with price-sensitive firms, but there is little evidence that price-sensitive firms played a role in demand during 1992. Moreover, absorption in subsequent years remained somewhat below the pace expected based on office job growth. Other factors besides rental rates may have played an important role in demand then. Perhaps firms are more confident now about future growth than they were after the last recession. Perhaps rental rates returned to positive growth too soon after the 1990 recession to provide a large incentive to price-sensitive firms. The recovery this time, however, revealed strong price-sensitive leasing in its early stages.

Supply-Side Responsiveness

Changes affecting the supply of office space have also contributed to a blunting of the recovery pace. Exhibit 8 shows supply growth over the past 25 years. In all cycles, two features of supply contribute to blunted rebounds – one-sidedness and sensitivity to the capital markets. A third issue – high construction costs relative to rents – is playing a role this time.

Exhibit 8: Office Supply Growth



Sources: PPR; TWR; REIS; Prudential Real Estate Investors

In typical cycles, responsiveness to supply in the space markets is one-sided. With rising demand, new space can be built to increase supply. But with declining demand (as in 2000-01), the pace of new supply cannot slow quickly because many buildings are already under construction, and the market cannot eliminate space easily. In addition, new construction is usually financed, so supply responsiveness also relates to the responsiveness of the capital market to changing space market conditions.

The first feature explains why the office market can experience drastic rises in vacancy rates during downturns. Supply cannot immediately slow in response to lower demand. In the short term, all the space in the market before the downturn is still in the market as the downturn progresses. In other words, space markets are vulnerable to busts.

The second feature partly explains why massive supply growth occurred in the early '80s and why supply growth is more muted now. Unusual events created two major channels through which capital flowed to office construction in 1981-86: 1) changes in banking regulations allowed savings institutions to greatly increase commercial real estate lending, providing a lot of

debt capital to the space markets; and 2) changes in the tax code created a way for individuals to shelter tax liability using poorly performing real estate investments. This helped to direct equity capital to real estate. Neither the savings institutions nor tax-sheltering investors exhibited appropriate sensitivity to supply in the space markets as conditions changed during the mid-'80s.

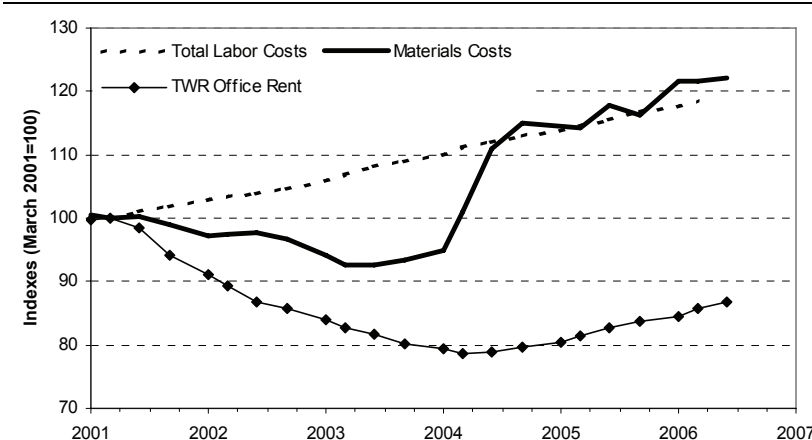
The capital markets were much more attuned to the space markets in 2000. In fact, the supply side of the office market appears to have anticipated the 2000 demand downturn. The supply slowdown coincided with the slide of REIT stock prices in 1998-99, evidence that the capital markets had become more responsive to changing market conditions. **Exhibit 8** shows supply growth resumed in the office market in 2005. If the construction market had not responded to growing demand, rising demand could have led to a stronger rebound. But new construction began early enough in the recovery to start new supply growth just when the market neared a supply/demand balance.

Several factors have contributed to the improved responsiveness in supply. First, the capital markets greatly broadened the potential supply of construction financing over the past two decades. The emergence of CMBS in the mid-'90s created a new channel from the capital markets to the commercial mortgage market. The rapid expansion of REIT capitalization tapped the public equity market. And the superior performance and perceived low risk of real estate investments relative to other investments attracted much private and international equity capital to the asset class. The second major reason for greater supply responsiveness is the rise in the transparency of the space markets. Information about market conditions and trends has improved drastically, and the availability of detailed information about submarkets has greatly increased. Plus, information costs have remained relatively low, and the tools for accessing, monitoring and analyzing information have become much more efficient.

High Construction Costs

A third issue arose as the office market began to turn around. Construction costs soared, creating a rent-cost gap. This issue emerged relatively rapidly during the first half of 2004 when builders saw a dramatic, broad-based rise of materials prices (**Exhibit 9**). The rise erased three years of gradually weakening materials prices that helped to partly offset falling rents. Rents have only

Exhibit 9: Construction Costs Versus Effective Office Rents



Sources: Bureau of Labor Statistics; Engineering News Record; TWR

recently begun to rise in real terms. Labor and materials costs now stand about 20% above their levels of five years ago, while office rents remain 15% lower, creating a huge rent-cost gap. (Labor and materials are 60% to 70% of total construction costs, land being the remaining major cost category.) As the exhibit shows, although rents are slowly rising, the average national pace just matches the current pace of labor and materials cost increases. Overall, the rent-cost gap has not yet narrowed.

The large cost gap will hinder the rebound of office construction in all but a few markets, where tight conditions will allow a strong rent surge. At the same time, the gap provides a useful information opportunity. Rising rents in local markets will signal improved market conditions. But the size of the current rent-cost gap will continue to suppress construction for a time. For this recovery, at least, a resumption of real rent growth will be a leading indicator of improvement for many local markets. Supply will continue to lag while the rent-cost gap narrows. Investors must look carefully at individual markets and submarkets for opportunities.

Economic Geography Matters

Considerable variation exists in the supply-demand status among metropolitan markets. **Exhibit 10** charts this for the seven strategic groups of metropolitan markets that we use.⁴ All seven metropolitan clusters lie in the quadrant characterized by improving space market conditions – excess demand and declining vacancy rates. But vacancy rates in all seven clusters remain, on average, above equilibrium. Rental increases remain mostly below inflation, although TWR’s most recent forecast includes modestly positive real rent increases this year in some markets.

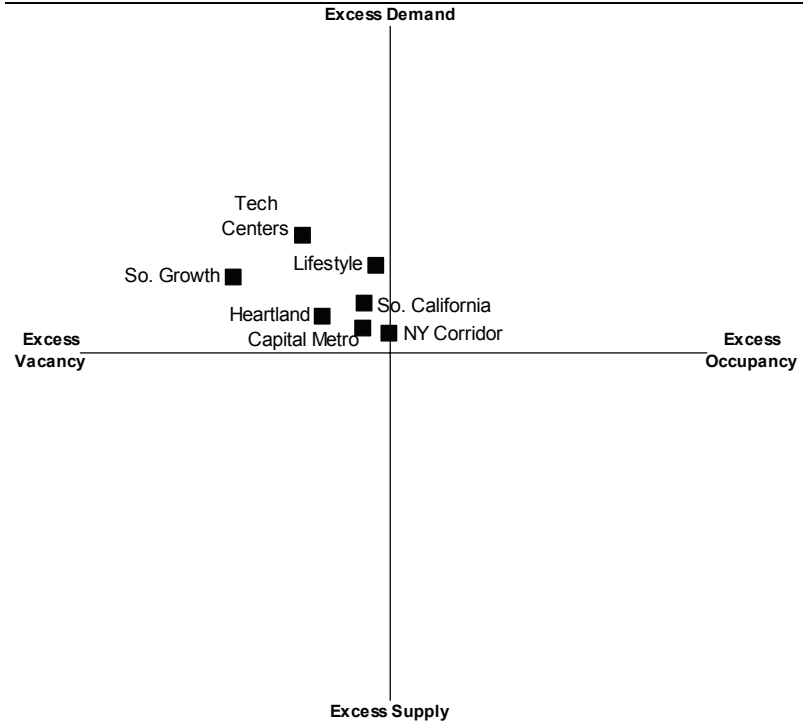
The two clusters along the Atlantic coast – the Capital Metro and New York Corridor markets – appear to be quite close to equilibrium. Vacancy rates there may decline only very modestly this year. Conditions in three of the seven market clusters – Tech Centers, Lifestyle and Southern Growth – suggest that vacancy rates in 2006 will decline. The REIS forecasts are somewhat more optimistic in this regard than are the TWR and PPR forecasts. The forecasts suggest that selected markets in these three clusters have the greatest likelihood for strong rent growth.

Conclusion

The current office market recovery began about two years ago. Nationally, the market appears near its long-term equilibrium. Demand growth roughly matches net completions, and the vacancy rate is near the level where rent growth roughly matches inflation. Supply remains constrained, in part due to high construction costs.

⁴ See Smith, Allen, Robert Hess and Youguo Liang, “Size-Tiered Economic Geography: A New View of the U.S. Real Estate Markets,” October 2004, and Hess, Robert and Youguo Liang, “Size-Tiered Economic Geography: An Update,” December 2005.

Exhibit 10: Property Cycle Status at 2006 by Metro Cluster



Sources: PPR; TWR; REIS; Prudential Real Estate Investors

Current market conditions argue for a continuation of this near balance. On the demand side, growth driven by price-sensitive tenants is giving way to more gradual growth reflecting overall office job growth, typical of the middle and later stages of the cycle. On the supply side, institutional changes in the supply of investment capital and much improved market intelligence during the 1990s have enhanced the responsiveness of the office construction pipeline. Thus, the correlation between the recovery of demand and the acceleration of supply is much closer than in past recoveries, which limits the potential for significant excess demand to develop.

As a result, the current pace of modest vacancy rate declines and modest rental rate increases is likely to persist over the next two years. But the pace of improvement may vary greatly among markets. Rising real rents locally may signal opportunities for an extended episode of attractive investment returns as a large rent-cost gap limits new construction. Regionally, growth markets in the Sunbelt and tech-oriented areas may experience somewhat more rapid vacancy rate declines. Office markets in the Northeast appear near equilibrium. They will experience stable vacancy rates.

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