
FRBSF WEEKLY LETTER

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Office Building Boom and Bust

Recent trends in the market for office space have worried holders of commercial mortgages and equity investments in office buildings. According to the Coldwell Banker real estate firm, the average vacancy rate in downtown office buildings in the United States at the end of 1985 stood at about 15 percent — more than triple the rate in 1982. In some areas of the country as much as one-third of the available office space is vacant and effective lease rates have tumbled sharply. The purpose of this *Letter* is to discuss the economics underlying these trends and to provide some insights into the likely future behavior of this market.

Economics of office investment

Office space is a major component of business capital. In 1985, the value of investment in office buildings was approximately \$30 billion, or more than 10 percent of total business fixed investment. As with other productive capital, the demand for office space is a derived demand. That is, it depends upon the economic health of businesses that use office space in their productive activities.

Office space also has qualities that make it similar to a durable good. As with other durable goods, the price at which office space is made available — through purchase or lease — is determined primarily by the interaction of demand with pre-existing supply. Investment in office space (i.e., new construction) is stimulated when prices or lease rates exceed the break-even level for new office facilities.

Nevertheless, the market for office space differs from that of other durable or capital goods markets in a number of important respects. First, unlike capital equipment, office space cannot be moved between regions. The result is that vacancy rates, lease rates, investment in office buildings, and other dimensions of the market vary considerably among regions. As of December 1985, for example, downtown office vacancy rates were as low as 7 percent in Boston and Manhattan and over 20 percent in Houston, New Orleans, and Oklahoma City. Within major western cities, downtown San

Francisco and Seattle had vacancy rates near the national average (at 13 and 15 percent, respectively) whereas Portland, San Diego, and San Jose were experiencing downtown vacancy rates of 20 percent or more (according to Coldwell Banker data).

Second, quite long lags exist in the process of adding to the existing stock of office space. The delays are due to the lengthy zoning, planning, and construction processes involved. In addition, it is very costly to abort construction projects underway because of penalty features in construction contracts, demolition costs, and discouragement by city planning officials.

As a result, *current* construction of office space is best explained (in a statistical sense) by *earlier* (and local) economic conditions. In Chart 1, for example, the ranking of the rates of change of employment in a cross-section of cities corresponds quite closely to that of the percent change in office space that occurred two years later.

Booms and Busts?

Long lags in office construction make it necessary for office property developers to forecast the demand for their product in the distant future. In particular, when current effective lease rates rise above the level that would make new investment profitable, they must assess whether the rise in rates represents a *transient* (temporary and likely to be reversed) or *permanent* increase in regional demand for office space. Of course, investment in response to transient price movements will prove unprofitable.

Some analysts argue that investors in office buildings have difficulty distinguishing between permanent and transient changes in market conditions. If much "tightness" in the office market proves to be transient — as is likely — a boom and bust cycle in investment and lease rates would result. A transient increase in lease rates would lead investors to expand the existing stock of office space; when demand retreats, lease rates will be depressed below their pre-investment levels and investment would then

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dry up until the new space is absorbed and another transient period of "tightness" occurs.

Economist John Hekman has pointed out that there is little evidence of *unstable* cycles in office building activity (that is, cycles that are increasingly exaggerated). However, long investment gestation periods and uncertainty about the permanence of changes in office space demand make it likely that violent boom and bust cycles will continue to be a common feature of the office building market. (At the peak of the current cycle, for example, annual office space completions totaled 800 percent of the completion levels in the 1979 trough.)

Uncertainty and lease and vacancy rates

A number of features of the office market can be seen as attempts by the market to accommodate uncertainty. One is the prevalence of long-term leases. A long-term lease gives lessees protection against upward movements in market lease rates and the lessor protection against downward movements over the life of the lease.

The role of uncertainty also is evident in the behavior of vacancy rates. Increasing vacancy rates should exert downward pressure on lease rates to the extent that vacancy is an indication of excess supply. Such a general relationship can be observed statistically (indicated by the solid line in Chart 2) in historical data. However, the relationship is a rather weak one that suggests that vacant office space may serve another purpose in an uncertain world: by keeping a portion of office space vacant, a landlord preserves the option to take advantage of a sudden increase in market lease rates. The greater the uncertainty about future demand conditions, the greater is the "option value" of vacant office space, everything else being equal.

Thus, a high vacancy rate might be consistent with rapid increases in lease rates in markets characterized by high levels of uncertainty, and low vacancy rates with low lease rate inflation in markets less pervaded by uncertainty. Statistical analysis performed at this Bank supports these ideas. For example, more of the wide variation in the behavior of lease rates and vacancy rates observed in Chart 2 can be explained by taking into account the degree of past variation in lease rates, which may indicate the level of uncertainty.

Origins of the current boom and bust

The behavior of the office market between the 1970s and today illustrates the difficulty faced by those in the office building market when forecasting economic and public policy conditions. In the mid- and late-1970s, rising inflation expectations and the resulting desire by investors to hold inflation-resistant assets stimulated investment in real assets of all types — including commercial real estate.

Changes in the tax treatment of real estate — already considered by many investors to be a tax-favored investment — also increased the attractiveness of investment in office property. Changes in tax law in 1981 and 1984 significantly reduced (to only 15 or 19 years) the number of years over which commercial real estate could be depreciated, and thereby reduced break-even lease rates on new investments and stimulated office expansion. Since the "paper" losses generated by such liberal depreciation policies could be used to offset taxable income from other sources, the changes also attracted investors eager to shelter other income from tax.

To propagate the tax advantages of commercial real estate investment, limited partnerships and other forms of syndicated real estate ownership grew in importance. These ownership devices permitted relatively passive investors to take advantage of the shelter from taxation afforded by the paper losses that the investments displayed in their early years.

The result was one of the biggest "booms" in office development in the nation's history. Since 1981, average annual office building completions in 34 U.S. cities have totaled over 30 million square feet, versus an average of only 12 million square feet in the previous 20 years and an average of less than 20 million in the last boom in the early 1970s. In western office markets, the greatest percentage increase in office space inventory occurred in Los Angeles and Portland, where over half of the space in 1985 did not exist before 1981.

Outlook and conclusions

The conditions underlying the office investment boom of the early 1980s have changed abruptly and probably exaggerated the cycle in a cycle-prone industry. Expectations of rising inflation, which had provided part of the stimulus, have

Chart 1
Employment and Change in Office Space

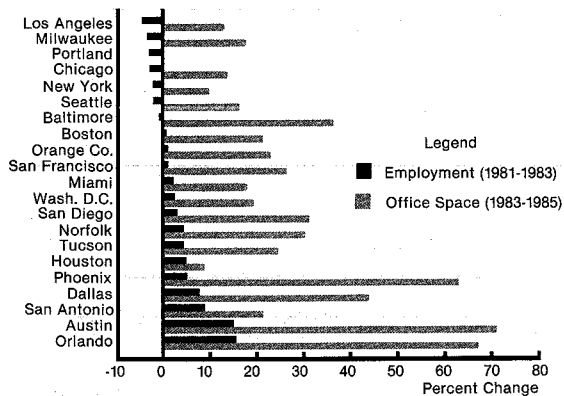
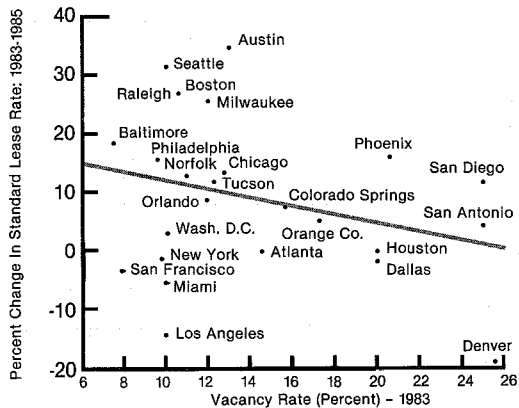


Chart 2
Office Vacancy and Lease Rate Trends



reversed sharply. Employment trends in some areas also have changed suddenly. In the early 1980s, for example, some of the strongest office markets could be found in Dallas, Houston, and other "oil patch" regions where employment was growing rapidly (see Chart 1). Today, with the apparently unexpected decline in oil prices, these markets are among the nation's most depressed.

In addition, the tax treatment of real estate that provided some of the stimulus to investment will suffer a sharp reversal under current tax reform proposals. The 1986 tax bill will, for example, eliminate the favored treatment of capital gains and stretch the depreciable life of commercial real estate to 31.5 years from the 19 years permitted under the 1984 Tax Act. In addition, it will phase out the ability of participants in real estate syndicates to use paper losses to offset other current income.

The consequences for the office market will not be a long-lived "excess" of office space. As the historical relationship displayed in Chart 2 suggests, office vacancies will exert downward pressure on lease rates and lead to an increase

in the quantity of office space demanded. Indeed, lease rate concessions of as much as one-third are common in new buildings in Houston. In the nation, square footage per office worker increased by six percent in 1985 in contrast to earlier declines.

The proposed changes in the tax treatment of real estate do not directly affect the demand for office space by tenants, but will reduce investor demand for office buildings at current lease rates. (The tax proposals will raise the after-tax cost of owning office buildings and thus will reduce net income at current lease rates.) Although individual building owners may wish to restore profitability to their investments by raising lease rates, they will generally be unable to do so in competitive markets. Equilibrium lease rates are determined by the interaction of tenant demand and the stock of office space, both of which will remain largely unchanged. Instead, building prices and land prices probably will have to fall to re-establish profitability in office building ownership and investment.

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Nevada Oregon Utah Washington

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount	Change	Change from 9/25/85	
	Outstanding 9/24/86	from 9/17/86	Dollar	Percent ⁷
Loans, Leases and Investments ^{1 2}	201,744	- 857	5,117	2.6
Loans and Leases ^{1 6}	181,805	- 886	4,515	2.5
Commercial and Industrial	49,678	- 611	1,412	2.7
Real estate	67,573	44	2,873	4.4
Loans to Individuals	39,624	286	1,724	4.5
Leases	5,660	27	257	4.7
U.S. Treasury and Agency Securities ²	11,567	- 166	551	4.5
Other Securities ²	8,372	195	1,152	15.9
Total Deposits	202,759	- 3,488	5,696	2.8
Demand Deposits	50,289	- 2,093	4,632	10.1
Demand Deposits Adjusted ³	35,357	- 939	4,223	13.5
Other Transaction Balances ⁴	16,859	- 540	3,411	25.3
Total Non-Transaction Balances ⁶	135,611	- 854	2,346	1.7
Money Market Deposit				
Accounts—Total	46,326	- 768	1,353	3.0
Time Deposits in Amounts of \$100,000 or more	34,016	- 101	4,656	12.0
Other Liabilities for Borrowed Money ⁵	25,268	- 1,221	32	0.1
Two Week Averages of Daily Figures	Period ended 9/22/86	Period ended 9/8/86		
Reserve Position, All Reporting Banks				
Excess Reserves (+)/Deficiency (-)	20	38		
Borrowings	27	51		
Net free reserves (+)/Net borrowed(-)	- 7	- 12		

¹ Includes loss reserves, unearned income, excludes interbank loans

² Excludes trading account securities

³ Excludes U.S. government and depository institution deposits and cash items

⁴ ATS, NOW, Super NOW and savings accounts with telephone transfers

⁵ Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

⁶ Includes items not shown separately

⁷ Annualized percent change