LEASING RISK, FINANCING RISK AND CAPITAL STRUCTURE DECISIONS

Paul D. Childs, Steven H. Ott, and Timothy J. Riddiough

The fundamental product of commercial real estate is provision of consumption/factor of production benefits to space users over time. To secure temporary property control rights, third parties (lessees) commonly enter into long-term contracts with property owners (lessors). The contract and fixed payment stream promised in return for gaining temporary control rights are commonly known as a lease and a rate of lease payment, respectively. As such, space-time consumption and leasing *are* the micro-foundations of commercial real estate. Given their relative importance, little is known (for example) about the institution of leasing, its impact on asset risk and return, or why certain lease maturities are commonly observed. Indeed, we would argue that a thorough understanding of real estate cycles, determinants of real estate performance or the determinants of asset financing is impossible until more is understood about the micro-foundations of commercial real estate.

This paper attempts to shed some light on these issues by analyzing the economics of leasing. We specifically examine the interaction of leasing risk, financing risk and capital structure decisions. To do so, we first develop a theory of the term structure of riskless lease rates. In general, term structure shapes can vary depending on the state of the local real estate market — where an upward sloping term structure corresponds to a "cold" market and a downward sloping term structure corresponds to a "hot" market. We then extend the model to accommodate tenants who may default on their lease payments. This produces a theory of the risk structure of lease rates, where lease rate risk premiums depend on the volatility of lessee profitability and the correlation between lease rate and tenant profit, among other factors.

We then extend the model to examine the interaction of leasing risk and financing risk, where our specific focus is to develop a theory of optimal lease maturity in the presence of debt financing. We find that tenant risk has a significant impact on asset value and the relative cost of debt. Long-term leasing (with terms equal to or in excess of debt contracting length) may be preferred with low risk tenants, since longer-term leases reduce asset volatility to reduce the relative costs of debt. Alternatively, short-term leasing (with terms shorter than debt contracting length) may be preferred when there is significant risk of tenant default. This follows because tenant default is costly, where expected costs increase with the length of the lease term. Therefore, although shorter-term leasing increases asset volatility, it can reduce expected costs to tenant default to lower debt financing costs.

Our methodology can be applied to address several issues of practical significance in commercial real estate. First, we provide the first model of risky lease valuation that takes into account positive supply elasticities in the determination of lease rates. Second, we provide the first model of debt pricing that explicitly takes into account lease maturity and the possibility of tenant default. This structure can be easily extended to value lease asset-backed securities, an emerging and potentially very important market for debt financing of commercial real estate. Third, we develop a methodology for determining optimal lease maturity from the property owner's viewpoint. This can be applied to evaluate complex leasing structures in an attempt to maximize property value. Fourth, the model can be applied to address capital structure decisions, which provides a normative approach to evaluating alternative financing schemes for individual property owners and for REITs. Fifth, our model provides a foundation upon which one may study supply and price cycles in commercial real estate. Because of their long-term nature, lease and debt contracting create path dependency that may feed back to produce cyclical supply and price behavior.