Real Options and the Timing of New Investment:

Evidence from Real Estate Development

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ABSTRACT

Real options models have dramatically changed the way economists model investment decisions. While the theoretical literature has exploded, empirical tests of irreversible investment under uncertainty in the contingent claims framework have lagged behind. In this paper we use detailed data on 1,246 individual real estate developments in Vancouver, Canada between 1979 and 1998 to examine the prediction that increases in uncertainty delay investment. Our empirical results suggest that builders delay development during times of greater uncertainty in prices. A one standard deviation increase in the volatility of returns decreases the hazard rate of development by 25-56 percent. By contrast, we find that cost uncertainty has little impact on development decisions. These findings are consistent using both aggregate and neighborhood specific price data, over different time periods, with different lags structures, and while controlling for short run serial correlation and non-price measures of housing market conditions.