Real Option Analysis

Under Mean-Reverting Land Prices *

Yamaguchi, Hiroshi † Yonezawa, Yasuhiro ‡

February 15, 2002

^{*}The views presented in this paper are solely of authors' own and do not necessarily reflect the views of any organizations the authors are affiliated with. Earlier version of this paper was presented at the NFA/APFA first joint international conference of 1998 (Tokyo). We thank Nobuya Takezawa for helpful comments.

[†]Corresponding author. Affiliated Affairs Department, The NIPPONKOA Insurance Co., Ltd. and Graduate School of Systems Management, The University of Tsukuba. Tokyo, Japan.

[‡]The National University of Yokohama. Kanagawa, Japan.

Abstract

Real Option Analysis Under Mean-Reverting Land Prices

In the mid-1990s, Japanese real estate market was suffering from stagnancy in terms of both number of transactions and price. Land prices was falling dramatically and the government reduced the real estate taxes, but the market still remained sluggish except for some exceptions. This paper explains this as the result of a rational choice of landowners by viewing the value of associated real option. And when the price process is mean-reverting, the option value is further enhanced especially if the asset is "underpriced." This paper also analyzes how we could reduce the owners' real option premium to realize a better allocation of resources in the economy.