Available online at www.sciencedirect.com
ScienceDirect
Journal of Housing Economics 16 (2007) 143–166
JOURNAL OF HOUSING ECONOMICS
www.elsevier.com/locate/jhe

Real estate and optimal public policy in a credit-constrained economy ☆

Yi Jin [a,*], Zhixiong Zeng [b,1]

[a] *Department of Economics, The University of Kansas, Lawrence, KS 66045, USA*
[b] *China Center for Economic Research, Peking University, Beijing 100871, China*

Received 2 September 2006
Available online 14 June 2007

Abstract

This paper articulates a general equilibrium model of a two-sector economy where entrepreneurs borrow from households subject to a credit constraint. Real estate is a productive factor in the entrepreneurial sector and serves as collateral in entrepreneurs' debt contracts. We consider two types of public policies that have the potential of improving upon the economy's equilibrium outcome, one of subsidizing entrepreneurial real estate holding and the other subsidizing household interest income. It is found that the former policy opens up a wide range of possibilities for Pareto improvement when the supply of real estate is endogenous.

JEL Classification: E44; E62; H21; R21; R31

Keywords: Real estate; Entrepreneurs; Credit constraint; Optimal public policy

☆ We thank Martin Feldstein, James Poterba, Michael Woodford, Justin Yifu Lin, and participants of the NBER-CCER Annual Conference 2006 for insightful comments on an earlier draft of the paper. We are also grateful to Paul Anglin, Nan-Kuang Chen, and Charles Ka Yui Leung, and participants of the International Conference on Real Estates and the Macroeconomy for helpful suggestions. Finally, we have benefited from the insightful comments by an anonymous referee. All errors remain ours.
* Corresponding author. Fax: +1 785 8645270.
E-mail addresses: yjin@ku.edu (Y. Jin), zxzeng@ccer.pku.edu.cn (Z. Zeng).
URLs: http://people.ku.edu/~yjin (Y. Jin), http://faculty.ccer.edu.cn/zxzeng (Z. Zeng).
[1] Fax: +86 10 62751474.

1051-1377/$ - see front matter
doi:10.1016/j.jhe.2007.03.003

1. Introduction

An important fact in the economy is that agents are separated into different types—entrepreneurs and households for example. In this paper we highlight a linkage between these two type of agents, which is the borrowing–lending relationship. In particular, entrepreneurs borrow from households to fulfill their need for funds. Real estate plays dual roles for the entrepreneurial sector. It is a productive factor input and it also serves as collateral in the entrepreneurs' debt contracts. Entrepreneurs' borrowing and therefore their economic activities, including purchasing labor from the household sector, are constrained by the market value of the real estate they own. This paper articulates a general equilibrium model of such an economy and raises the following question. Is the unintervened outcome of this economy optimal? Is there scope for public policy to improve upon the general equilibrium outcome in this economy? We consider two types of policies, one of subsidizing entrepreneurial real estate ownership, the other subsidizing household interest income. It is found that these policies have the potential to raise at least some welfare measures of the economy. Importantly, the former policy opens up a wide range of possibilities for Pareto improvement when the supply of real estate is endogenous.

Understanding the effects of these policies hinges critically on recognizing the fact that entrepreneurs' borrowing limit is positively related to the market value of their real estate holding and inversely related to the interest rate. The policy of subsidizing entrepreneurial real estate ownership, equivalent to a negative property tax, effectively lowers the depreciation rate for entrepreneurial real estate. It stimulates entrepreneurs' real estate demand and bids up real estate price, allowing entrepreneurs to borrow more, hire more labor, and produce more output. The policy of subsidizing household interest income directly lowers the interest rate faced by entrepreneurs, drives up real estate price, and redistributes real estate holding from the household sector to the entrepreneurial sector, causing output to increase in equilibrium. Our results indicate that for certain ranges these policies have positive welfare consequence.

There are already many studies that discuss the implications of credit constraints for economic performance. Prominent examples include Stiglitz and Weiss (1981), Bernanke et al. (1999), and Kiyotaki and Moore (1997), among others. Yet there is little discussion about what public policy can do in economies with credit constraints on particular types of agents. This paper raises this question and attempts to provide a first-step answer to it. Our consideration of the two policies mentioned above is based on the important roles played by asset holding, asset price, and the interest rate in determining entrepreneurs' credit limits. Both the policy of subsidizing entrepreneurial real estate ownership and the policy of subsidizing interest income directly impact the discounted collateral value and therefore entrepreneurial borrowing and production. They have important welfare consequences as they influence the economy's production, consumption, and asset allocation. Since our goal is to find out what the optimal intervention is for economies with credit-constrained entrepreneurs, it occurs natural for us to investigate the effects of both policies. The policy of subsidizing entrepreneurial real estate holding is our emphasis as it has a large potential to bring about Pareto improvement.

Our paper is related to a fast growing literature on the nexus between real estate and the macroeconomy. The literature is coming to a consensus that the real estate market does