

## CHAPTER 1

### INTRODUCTION

#### **1.1 Statement of problem**

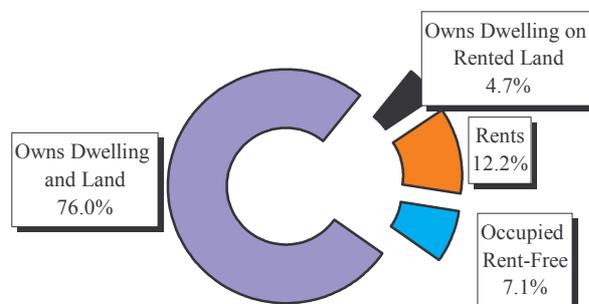
To understand how people decide on how much to save and to consume in each period, a logical starting point is to ask what goal they are pursuing. Two goals seem to be reasonable. First, they prefer a higher standard of living to a lower one. Second, most people prefer a relatively constant standard of living throughout time.

The life cycle hypothesis proposed by Modigliani and Brumberg suggests that households try to smooth consumption over their lifetime by saving when their incomes are high to accumulate wealth from which they can dissave when their incomes are low (or when they retire). Assuming that household incomes steadily rise until retirement and then start to fall, households will want to borrow against future income in the early stages to serve their current consumption needs. When households become older, their incomes rise and they can gradually repay the debt and start accumulating assets. When retired, households consume the earnings from the accumulated asset and gradually use up their asset holdings.

Housing assets are those that households accumulate during their working years. For many households, housing assets form the largest and most important part of their portfolio. According to the 2006 Household Socio-Economic Survey by National Statistical Office (NSO), more than 80% of households in Thailand own some housing assets. Figure 1.1 shows the percentage of household of each occupancy status in 2006. Comparing housing assets to financial assets in terms of value, 58.2% of households report owning housing assets worth more than 100,000 Baht, whereas only 12% of households report owning financial assets worth more than 100,000 Baht.

FIGURE 1.1

Percentage of household by occupancy status in 2006



Source: National Statistical Office

Housing assets possess some special characteristics that justify modeling them explicitly in portfolio choice problem. Unlike investing in other typical financial assets, investment in housing assets is driven both by consumption and investment motives. Households derive significant consumption benefits from owning housing assets. At the same time, they may consider housing assets an attractive long-term investment that provide a good hedge against inflation. The interplay of the two motives makes the decision related to housing assets different from other consumption goods or other financial assets.

Another issue is their illiquidity. Housing assets cannot be traded in small shares and the transaction costs of selling a house are relatively high compared to other financial assets. Transaction costs, which include agency fees, applicable taxes, information gathering costs, relocation costs etc., discourage households from continually adjusting housing asset holdings to an otherwise optimal level. Furthermore, housing assets enter into households' wealth in a distinctive way due to their role as collateral. For most households, buying a house usually involves incurring a mortgage that results in the commitment to a long period of payments. Therefore, buying a house involves expectation of consumption needs and of income streams in the future.

There is extensive literature related to modeling portfolio choice of homeowners. For example, Flavin and Yamashita (2002) and Brueckner (1997)

focused on the mean-variance optimization aspect of portfolio return with housing as one of the asset choice that also yields consumption benefits. Henderson and Ioannides (1983) studied housing tenure choice by concentrating on the externality associated with rental of a durable and on distortion of investment and consumption choice faced by homeowners.

An overlapping generation model with heterogeneous agents has been employed in many studies. Platania and Schlagenhaut (2000) incorporated endogenous shelter decision over to rent and buy or sell a home into the model and made an assumption that households can enjoy a particular house more (i.e. derive higher utility) when they own it than when they rent it. Total supply of rental housing and of owner-occupied housing is fixed. Homeowners in their model are not allowed to sell the house until the mortgage is paid off according to a certain schedule of repayment. Peterson (2003) allowed households to choose whether to be a renter or a homeowner but restricted the choice of households who chose to be a homeowner to only one size of house. A fixed spread between saving interest rate and borrowing interest rate to reflect the cost of financial intermediation was assumed. The rental cost is set to match the ratio of renters to homeowners in the U.S. The interest rate level was exogenously determined. In Cocco (2004), all households were homeowners. A minimum house size to buy was imposed to reflect the indivisibility feature of housing. Labor income was exogenously determined and the cyclical fluctuations in house prices were correlated with labor income shock. Households were also allowed to hold stocks and bonds. The rate of returns on stocks and bonds were exogenously determined.

The models in most of these studies were calibrated and simulated according to the U.S. parameters and the results were compared to the U.S. observations. The researcher is unaware of any study that applies a similar model to explain the portfolio choice, with housing as a distinctive asset, of households in Thailand. This study seeks to address the issue of how households make decisions on the level of housing assets to hold at each age group over the life cycle and how the macroeconomic shocks affect their portfolio holdings with respect to housing assets.

## **1.2 Objective**

This study is aimed at explaining the portfolio composition and their relationship to macroeconomic shocks of households in Thailand by using a simple life-cycle model in which households differ in age and income generating ability, and where housing is explicitly modeled.

## **1.3 Scope of the study**

This study constitutes an empirical test of the portfolio choice model proposed by Silos (2007) in “Housing, portfolio choice, and the macroeconomy”, published in *Journal of Economic Dynamics & Control* 31 (2007). The model will be modified and calibrated using the data of households in Thailand and the simulation results will be analyzed in the context of the characteristics of the Thai economy. The survey data from various sources will be examined and sorted to arrive at the characteristics of asset holding of household by age groups. Some data like the value of housing asset and the value financial asset holding may have to be estimated based on the imputed rent and interest income, respectively.