

Macroeconomic policies and housing market in Taiwan

1. What is the question?

This paper develops a dynamic stochastic general equilibrium (DSGE) model that analyzes the transmission mechanisms of a real estate transfer tax and other macroeconomic policies on Taiwan's housing market.

2. Why should we care about this question?

In terms of academic, there are so many surveys about real estate transfer tax and DSGE model with a housing sector. We should pay attention to the question.

In terms of policy and government, several countries have adopted macroprudential policies to ensure the sustainability and resilience of their housing markets after global financial crisis. We should evaluate the effects of several macroeconomic policies on Taiwan's housing market.

3. What is the answer?

The results indicate that the responses of investment housing prices are closely linked with residential housing consumption for savers and borrowers. (a) Higher expected demand for residential housing tends to increase speculator's purchase intent for investment housing so as to boost future investment housing prices. (b) Property tax imposition and interest rate hikes increase the holding costs of property vacancy and borrowing costs, respectively, resulting in decreases in speculative housing transactions. They also have prolonged effects on mitigating speculative housing prices. (c) Transfer tax imposition and LTV ratio deduction instantly hamper investment housing prices but not investment housing transactions. A transfer tax is imposed on the sale of previous-period investment housing stock while a LTV shock restricts speculators' funding availability associated with future investment housing prices. Speculators can potentially defer their purchase and sale decisions of speculative housing. Hence, the impact of a transfer tax and a downward LTV ratio on moderating housing market is effective for a limited time.

4. How did you get there?

A lot of literature must be read to have a more comprehensive understanding about the question and dynamic stochastic general equilibrium (DSGE) model.

The main part to analyse the problem is to use model which is a modified version of Iacoviello and Neri's (2010) model consisting of speculators and households.

We analyse behavior of borrowers, savers, retailers and intermediate goods producers, the banking sector, fiscal and monetary authorities. Then we calculate the equilibrium and analyse exogenous shocks. All this analysis depend on complex mathematics.

DSGE	dynamic stochastic general equilibrium
LTV	loan-to-value
CES	Constant Elasticity of Substitution
C_t^B	tradable goods
D_t^B	non-traded goods
$C_{F,t}^B$	foreign goods
$C_{H,t}^B$	domestic goods
K_t	housing units
r_t^B	domestic loan rate
T_t^B	the lump-sum transfer from the government to borrowers
T_t^S	the lump-sum transfer from the government to savers
r_t^S	the rate of return for deposits
β	borrower's discount factor
η_t	housing preference shock
α	the share of non-tradable goods in total consumption
ζ	elasticity of marginal disutility with respect to labor supply
ε	elasticity of substitution between domestic goods and foreign goods
α_c	steady-state share of foreign goods in tradable goods consumption
α_H	the steady-state share of investment housing used in residential housing production
Φ	magnitude of adjustment costs housing units
$\tilde{\beta}$	savers's discount factor
ϖ	measure of the degree of nominal rigidity
κ_B	the magnitude of interest-rate adjustment cost
ρ	the persistence of policy shocks
ρ_R	the weight imposed on the lagged policy rate
κ_π	coefficient of inflation in the Taylor rule
κ_Y	coefficient of the output gap in the Taylor rule
μ	the interest rate elasticities of demand for deposits or loans