

導讀

Interest Rates and Housing Market Dynamics in a Housing Search Model

Elliot Anenberg Edward Kung

1. What is the question of the paper?

本文欲研究房屋市場的 search model，從 Menzio et al. (2010) 引入房貸契約在 search model 的分析觀點出發，將房貸議題引入動態均衡模型，探討房貸利率是否為影響房價的重要因素？

2. Why should we care about this?

房屋價值的波動會影響消費、房地產投資及金融穩定，凸顯促使房屋市場變化的主要經濟因素的重要性。由於大多數房屋的買賣都伴隨大量且固定利率的貸款，不少文獻著力分析利率在此所扮演的角色。重要的是，可以藉此了解貨幣政策是如何影響房屋市場。但採用房價對一般利率的迴歸分析會有內生性問題，而房貸利率可透過屋主支付房貸影響每期所得，故本文改用房貸利率進行估計。

實際範例：

2008 年美國次貸危機發生，房價大跌，屋主難找融資或售屋償還貸款，即便央行採行低利政策，景氣依舊長期蕭條。房屋市場的穩定會影響一國的總體經濟。

3. What is the author's answer?

本文為檢視房貸利率對 housing search model 的效果，採用聖地牙哥 (SanDiego) 房屋市場的資料，估計出利率每增加 100 個基本點會降低消費者對典型房屋 13% 的購買意願，比起使用一般利率估計得出的 4% 高出三倍。

4. How did the author get there?

結合 search model 和實際市場資料驗證利率在房屋市場扮演的重要角色。

變數符號說明表

項次	符號	說明	Equation
1	y	housing market variable of interest	(1)
2	r	Mortgage rate (measured in percentage points), $r = r_1, \dots, r_L$	(1)
3	t	Indexes the quarter-year	(1)
4	h	types of housing units (1 is new; 2 is old)	(4)
5	p_1, \dots, p_L	possible price levels	(4)
6	θ	$\theta = b/s$ the ratio of buyers to sellers in the submarket, market tightness	(4)
7	$q_b(\theta)$	the probability that a buyer meets a seller	
8	$q_s(\theta)$	the probability that a seller meets a buyer	(8)
9	$V^b(x)$	The value function if entering the housing market when the aggregate state of the economy is x , $x = x_1, \dots, x_N$	(2) (4)
10	k	Present value if the buyer's utility if he does not enter the housing market	(2) (3) (7)
11	$G_h(\epsilon)$	after the buyer meets a seller, he discovers an idiosyncratic preference shock ϵ for that particular house	
12	$V^o(p, r, x)$	The value function of an owner when the aggregate state is x	(3) (7)
13	c_b	the cost of searching the market as a buyer	(4)
14	$u(y - \text{rent})$	the flow utility from consumption, where y is per-period income and rent is the rental rate	(4)
15	l	the loan amount, and moves on to the next period as an owner	(5)
16	λ	probability of owners stay in their homes until they receive an exogenous moving shock each period	(5)
17	α	Probability of the house depreciates to undeveloped land	(5)
18	$U(p_c - l)$	the utility function used to evaluate net wealth at the time of a move	(5) (7)
19	$V^s(l, r, x)$	the value functions of sellers	(6) (7)
20	ρ	the probability of the seller can change her list price to market her home at when an owner first becomes a seller	(7)
21	$w^s(l, r, x, p)$	the value function for a seller currently listing at price p	(6) (7) (12)
22	$\kappa(p, h, x)$	Probability that the seller meets a willing buyer in submarket(p, h)	(7) (8) (12)
23	ϵ	preference shock	(8)
24	$V^1(C, x)$	the value function of a builder sitting on an undeveloped plot of land	(9)
25	$V^2(C, x)$	the value function of a builder in development	(9) (10)
26	$V^3(C, x)$	the value function of a builder who is listing her property for sale	(10) (11)

27	η	an additively separable, idiosyncratic cost to begin development each period for builders with undeveloped land	(9)
28	A	a scaling parameter	
29	σ	risk aversion parameter	(16)
30	C	construction costs	
31	L	The stock of undeveloped homes by builders	
32	$\lambda\alpha$	the depreciation rate	
33	H	an estimate of the size of the housing stock in SanDiego from the 2000 census	