

# 住宅市場與住宅政策-報告

## Measuring the Value of Housing Quality

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## INTRODUCTION(1/2)

✦ 購屋或租屋時所關心住宅品質有那些?



## INTRODUCTION(2/2)

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- ✘ 多項研究致力找出家戶 (買/租)住宅金額隱含的住宅屬性
- ✘ Ridker and Henning,1967利用人口普查數據估計不同變數，例如: 空氣污染、種族歧視等等

## 目的

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- ✘ 該文章探討家戶消費在住宅上的市場價值或隱含價格
- ✘ 利用定量估計購屋和承租人自用住宅的市場價格。

# MEASUREMENT OF RESIDENTIAL QUALITY

- ✘ 衡量的物理和環境品量的困難
- ✘ 調查樣本為1500家戶(面訪)，聖路易斯市，1967年(summer)
- ✘ 兩種不同方法判斷: 綜合、迴歸

Table 1. FACTOR LOADINGS ON INDIVIDUAL QUALITY VARIABLES

Variable	Factor				
	1	2	3	4	5
<i>Dwelling unit</i>					
1 Overall structural condition	—	.93	—	—	—
2 General housekeeping	—	.66	—	—	—
3 Condition of ceilings	—	.88	—	—	—
4 Condition of walls	—	.88	—	—	—
5 Condition of floors	—	.88	—	—	—
6 Condition of lighting	—	.82	—	—	—
7 Condition of windows	—	.83	—	—	—
<i>Structure and parcel</i>					
8 Condition of structure exterior	.74	—	—	—	—
9 Overall parcel condition	.72	—	—	—	—
10 Quality of exterior	.52	—	.62	—	—
11 Parcel landscaping	.56	—	—	—	—
12 Trash on parcel	.65	—	—	—	—
13 Nuisances affecting parcel	—	—	—	—	—
14 Condition of drives and walks	.57	—	—	—	—
<i>Adjacent structures and parcels</i>					
15 Condition of structures	—	—	.91	—	—
16 Condition of parcels	.86	—	—	—	—
17 Structural quality of poorer	.71	—	—	—	—
18 Structural quality of better	.70	—	—	—	—
19 Parcel quality of poorer	.81	—	—	—	—
20 Parcel quality of better	.81	—	—	—	—
21 Nuisances affecting adjacent properties	—	—	—	—	—
22 Sample relative to adjacent properties	—	—	-.78	—	—
<i>Block face</i>					
23 Neighborhood problems	—	—	—	—	—
24 Percent residential	—	—	—	.77	—
25 Percent commercial and residential	—	—	—	-.81	—
26 Percent vacant	-.55	—	—	—	—
27 Percent in poor condition	-.77	—	—	—	—
28 Percent in fair condition	—	—	—	—	-.89
29 Percent in good condition	.65	—	—	—	.56
30 Block landscaping	.58	—	—	—	—
31 Trash on block	.70	—	—	—	—
32 Condition of sidewalk	.50	—	—	—	—
33 Condition of street	—	—	—	—	—
34 Condition of curbs	—	—	—	—	—
35 Amount of commercial traffic	—	—	.62	—	—
36 Nuisances affecting block	—	—	—	—	—
37 Condition of alleyways	—	—	-.61	—	—
38 Cleanliness of alleyways	.61	—	—	—	—
39 Overall block condition	.77	—	—	—	—

NOTE: — indicates standardized factor loading less than .5.

第一個因素

第二個因素

第三個因素

第四個因素

第五個因素

“平均結構質量  
(ASQ)”

購屋和租屋樣本資料不完整，缺乏可比性，改以獨立模型分析

Table 2. REGRESSION EQUATIONS FOR CITY RENTER AND OWNER MARKETS

Variable	Renter coefficient	Owner coefficient
Basic residential quality	7.22 <sup>b</sup>	.104 <sup>b</sup>
Dwelling unit quality	4.02 <sup>b</sup>	.059 <sup>b</sup>
Quality of proximate properties	2.95	.035
Nonresidential usage	1.44 <sup>a</sup>	.062 <sup>b</sup>
Average structure quality	2.80 <sup>b</sup>	-.016
Proportion white in census tract	-4.20 <sup>a</sup>	-0.050
Median schooling of adults in census tract	2.55 <sup>b</sup>	.075 <sup>b</sup>
Public school achievement	2.62 <sup>a</sup>	.037
Number of major crimes	-0.00	-.001
Age of structure	-0.28 <sup>b</sup>	-.007 <sup>b</sup>
Number of rooms (natural log.)	23.23 <sup>b</sup>	.220 <sup>b</sup>
Number of bathrooms	8.89 <sup>b</sup>	.036
Parcel area (hundreds of sq. ft.)	0.06	.005 <sup>b</sup>
First floor area (hundreds of sq. ft.)	—	.370 <sup>b</sup>
Single detached	8.18 <sup>b</sup>	—
Duplex	11.46 <sup>b</sup>	—
Row	4.35	—
Apartment	4.21	—
Rooming house	4.45	—
Flat	5.16 <sup>a</sup>	—
No heat included in rent	-9.13 <sup>a</sup>	—
No water included in rent	-2.63 <sup>a</sup>	—
No major appliances included in rent	-11.17 <sup>b</sup>	—
No furniture included in rent	-6.97 <sup>b</sup>	—
Hot water	4.89 <sup>a</sup>	—
Central heat	4.59 <sup>b</sup>	—
Duration of occupancy (years)	-0.27 <sup>b</sup>	—
Owner in building	-4.31 <sup>b</sup>	—
Constant	13.57	7.93 <sup>b</sup>
R <sup>2</sup>	0.72	0.73
Observations	579	275

<sup>a</sup> Significant at .05 level.

<sup>b</sup> Significant at .01 level.

NOTE: With the exception of the dummy variables for structure type, the relevant tests are one-tailed.

五個品質係數總額  
18.43美元，樣本的  
平均值為63.19美元

熱水每月租金增加\$  
4.89，中央暖氣每月  
租金可提高\$4.59

年齡每下降十年減少  
約2.82美元每月。租  
金平均屋齡60歲

房東同住變數的係數  
較大和高度顯著

- ✘ 住宅位於貧民區內可能較貧民區外為昂貴
- ✘ Ridker和Henning,1967聖路易斯研究住宅與歧視的結果一致。
- ✘ 租屋者模型表示，在“white area”的購屋成本8%小於坐落在“black area”區域。
- ✘ 住宅品量指標與平均學習成績高度相關。

**Table 3. REGRESSION EQUATIONS FOR RENTER MODEL WITH SUBURBAN OBSERVATIONS, SCHOOL AND CRIME VARIABLES DELETED**

<i>Variable</i>	<i>Including St. Louis County</i>	<i>City only</i>
Basic residential quality	8.48 <sup>b</sup>	7.61 <sup>b</sup>
Dwelling unit quality	5.14 <sup>b</sup>	4.18 <sup>b</sup>
Quality of proximate properties	5.22 <sup>b</sup>	2.95
Nonresidential usage	1.87 <sup>b</sup>	1.48 <sup>a</sup>
Average structure quality	3.49 <sup>b</sup>	2.97 <sup>b</sup>
Proportion white in census tract	-2.62 <sup>a</sup>	-1.94
Median schooling of adults in census tract	1.57 <sup>a</sup>	2.29 <sup>b</sup>
Age of structure	-0.30 <sup>b</sup>	-0.29 <sup>b</sup>
Number of rooms (natural log)	25.00 <sup>b</sup>	23.33 <sup>b</sup>
Number of bathrooms	9.01	8.71 <sup>b</sup>
Parcel area (hundreds of sq. ft.)	0.08	0.07
Single detached	8.93 <sup>b</sup>	8.26 <sup>b</sup>
Duplex	11.81 <sup>b</sup>	10.98 <sup>b</sup>
Row	4.32	4.52
Apartment	5.22 <sup>a</sup>	3.93
Rooming house	5.06	4.27
Flat	5.67 <sup>a</sup>	5.42 <sup>a</sup>
No heat included in rent	-8.73 <sup>b</sup>	-9.00 <sup>b</sup>
No water included in rent	-3.10 <sup>a</sup>	-2.61 <sup>a</sup>
No major appliances included in rent	-11.14 <sup>b</sup>	-10.98 <sup>b</sup>
No furniture included in rent	-7.76 <sup>b</sup>	-7.40 <sup>b</sup>
Hot water	4.28 <sup>a</sup>	4.67 <sup>a</sup>
Central heat	4.46 <sup>b</sup>	4.74 <sup>b</sup>
Duration of occupancy (years)	-0.27 <sup>b</sup>	-0.27 <sup>b</sup>
Owner in building	-4.73 <sup>b</sup>	-4.38 <sup>b</sup>
Miles from CBD	—	-0.05
County dummy	8.66	—
Constant	40.55 <sup>b</sup>	34.71 <sup>b</sup>
<b>R<sup>2</sup></b>	<b>0.75</b>	<b>0.72</b>
Observations	605	579

<sup>a</sup> Significant at .05 level.

<sup>b</sup> Significant at .01 level.

NOTE: With the exception of the dummy variables for structure type, the relevant tests are one-tailed.

擴大樣本

**Table 4. REGRESSION EQUATIONS FOR OWNER MODEL WITH SUBURBAN OBSERVATIONS, SCHOOL AND CRIME VARIABLES DELETED**

<i>Variable</i>	<i>Including St. Louis County</i>	<i>City only</i>
Basic residential quality	.117 <sup>b</sup>	.114 <sup>b</sup>
Dwelling unit quality	.083 <sup>b</sup>	.064 <sup>b</sup>
Quality of proximate properties	.005	.049
Nonresidential usage	.071 <sup>b</sup>	.068 <sup>b</sup>
Average structure quality	-.012	-.015
Proportion white in census tract	-.004	-.014
Median schooling of adults in census tract	.039 <sup>b</sup>	.078 <sup>b</sup>
Age of structure	-.006 <sup>b</sup>	-.007 <sup>b</sup>
Number of rooms (natural log)	.271 <sup>b</sup>	.224 <sup>b</sup>
Number of bathrooms	.039 <sup>a</sup>	.031
Parcel area (hundreds of sq. ft.)	.005 <sup>b</sup>	.005 <sup>b</sup>
First floor area (hundreds of sq. ft.)	.039 <sup>b</sup>	.036 <sup>b</sup>
Miles from central business district	—	0.005
County dummy	-.235 <sup>b</sup>	—
Constant	8.29 <sup>b</sup>	8.17 <sup>b</sup>
<b>R<sup>2</sup></b>	<b>0.77</b>	<b>0.73</b>
Observations	411	275

<sup>a</sup> Significant at .05 level.

<sup>b</sup> Significant at .01 level.

NOTE: All relevant tests are one-tailed.

# QUANTITY-QUALITY RELATIONSHIPS

Figure 1. VALUE OF OWNER-OCCUPIED HOMES AT ALTERNATIVE LEVELS OF QUALITY AND SIZE

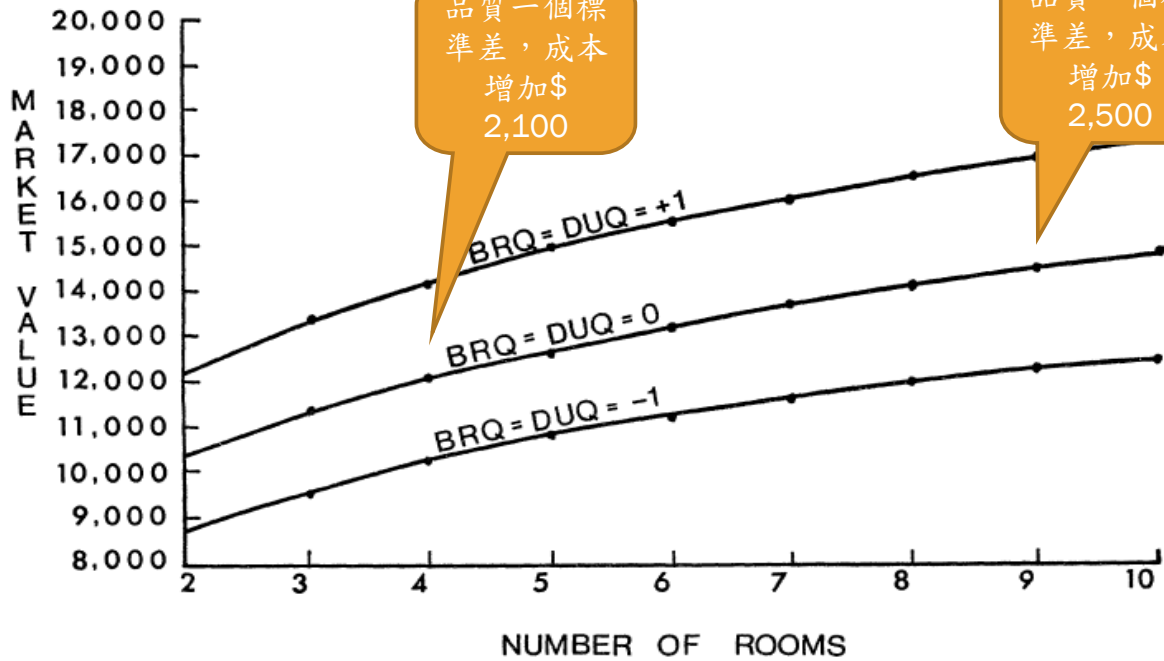
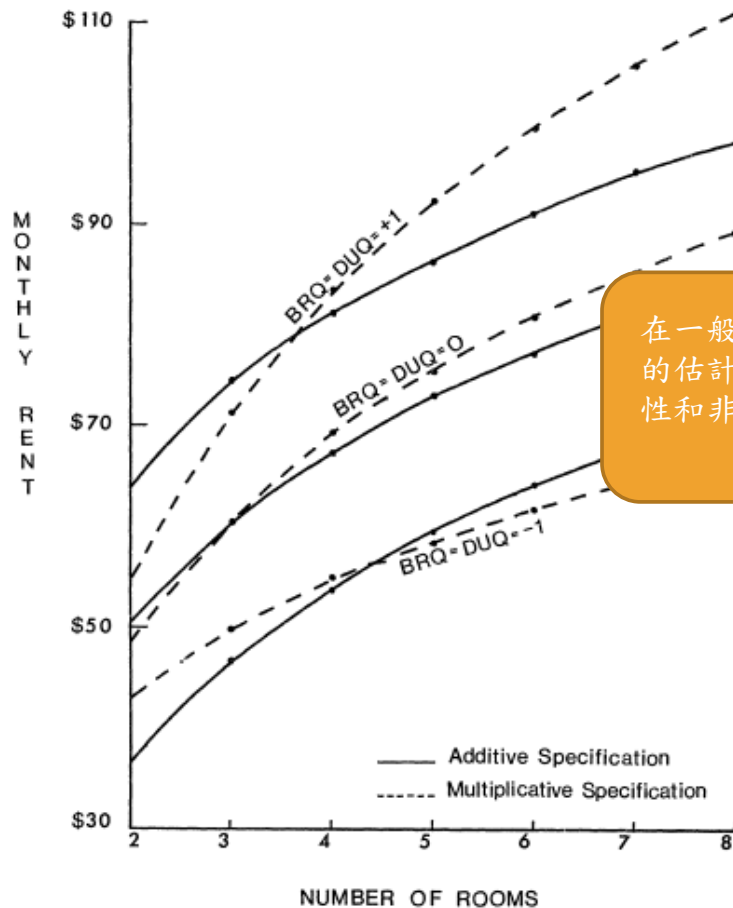


Figure 2. MONTHLY RENT AT ALTERNATIVE LEVELS OF QUALITY AND SIZE



## CONCLUSION

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- ✘ 研究指出房間數、浴室數和面積最為影響住宅價格
- ✘ 研究也確認學校影響住宅價值
- ✘ 也指出在貧民窟中的出租住宅比

## 問題討論

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- 1.何為你心中理想的住宅品質(買and租)?
- 2.你願負的dream house價格為多少?(1000萬以下、1000萬以上...)
- 3.當預算有限(1500萬)，你會選擇台北市的低品質房子，還是台北以外的高品質房子?