



Measurement of Imputed Rent in JSNA

March 24, 2005

Haruhito Arai

Economic and Social Research Institute(ESRI)
Cabinet Office, Government of Japan

haruhito.arai@cao.go.jp

Imputed Rent for Owner-Occupied Housing

- ☛ the output of the housing services produced by owner-occupiers is valued at the estimated rental that a tenant would pay for the same accommodation, taking into account factors such as location, neighbourhood amenities, etc. as well as the size and quality of the dwelling itself. (System of National Accounts 1993)
- ☛ The treatment of owner-occupied housing in consumer price indices (CPIs) is arguably the most difficult issue faced by CPI compilers. (Consumer Price Index Manual 1989)
- ☛ Potential implications for macroeconomic policies.

Importance of Imputed Rent in GDP

| | % of household consumption | % of GDP |
|---------------|----------------------------|----------|
| U.S.(2002) | 11.3 | 8.0 |
| Japan(2003) | 19.1 | 10.6 |
| Germany(2003) | 9.5 | 5.4 |
| France(2003) | 12.7 | 7.0 |
| Italy(2003) | 12.1 | 7.3 |
| U.K.(2001) | 9.2 | 5.9 |
| Canada(2002) | 14.5 | 8.0 |

Source: OECD, National Accounts of OECD Countries.

“Use” Approach

☛ User Cost

$$UC = rM + iE + D + RC - K$$

UC: user cost

M : mortgage debt

E : equity in the home

r : mortgage interest rate

i : rate of return on alternative assets

D : depreciation

RC: other recurring costs

K: capital gains

☛ Rental Equivalence

- Matching (Quality, Age, Type, Size, and Location)
- Subsidized and Regulated Rent
- Additional Utility (Tenure, Freedom of Reform)

Data for Japan

Imputed rent for owner-occupied housing

- ¥50 trill. (National Accounts, 2000)
- ¥44 trill. (Input-Output Table, 2000)
- ¥25 trill. (estimate based on National Survey of Family Income and Expenditure, 1999)

Un-incorporated business income for owner-occupied housing

- ¥24 trill. (National Accounts, FY2000)
- ¥21 trill. (Regional Accounts, FY2000)

How the Data Are Calculated

| | Stratification |
|--|---|
| National Accounts | None |
| Regional Accounts | 47 Prefectures |
| Input-Output Table | Type, Structure, Size and Age |
| National Survey of Family Income and Expenditure | <p>Hedonic estimation</p> $\ln y(i) = a_i + \sum_j b_{ij}x_j + c_i \ln S$ <p>i : Regional block (i=1,2,3,4) y : Rent x_j : Dummy variables for regional groups within each regional block, structure, etc. S : Floor space (m²) a_i, b_{ij}, c_j : Coefficients</p> |