



Market Prices and user cost

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Two main approaches for owner occupied housing

- Flow of service of owner occupied housing, production according to SNA definitions
 - User cost (inputs into the production of the housing service, real interest rates, depreciation)
 - Rental equivalence (product, rent)
- Net acquisition
 - Built in excess of the housing that is depreciated.
- Market price methods used in the calculation of price changes, different methods for deciding on weights.

Market price approach; weights

- Weights decided in different ways.
 - User cost
 - Real interest rates and depreciation, sticky.
 - Base real estate value.
 - Rental equivalence
 - Market rent.
 - Consumers own valuation.
 - National account data.
 - Net acquisition
 - Housing treated as other durables in the CPI, capitalised.

Market price approach; price measurement

- Changes in market prices used for price measurement.
 - Rental equivalence, price changes in market rent.
 - Simple user cost, price changes of all properties sold old and new. Real interest rates influence the price
 - Net acquisition, price changes of new or all properties sold, old and new. Interest rate do no influence.

Owner occupied housing

- User cost: Iceland (80), Ireland (78), United Kingdom (69), Canada (66). Finland (64) and Sweden (46).
- Rental equivalence: Norway (77), United States (68), Japan (60). Denmark (51), Netherlands (54), Germany (45), Switzerland (31).
- Net acquisition: United States until 1983, Australia (70), New Zealand (65), HICP from 2007.
- Excluded: Italy (78), Spain (81), Greece (74), Luxembourg (67), Portugal (66), Belgium (68), France (56) and Austria (57).

The simple user cost model

- Imputed rent simple user cost:
 - $(\text{real interest} + \text{depreciation}) \times \text{property value}$
- Calculated as an annuity, equal payments
- The annuity,
 - covers both depreciation and interest
 - Both calculated from the same property value base
- The property value price adjusted with house price index

Real interest rate and depreciation

- The long term real interest rate combines.
 - Equity, over (50%), fixed real interest rate. 3% (as pensions funds)
 - Mortgage real variable interest rate weight as in sales contracts,
 - Average rate 4% 1992 until 2004, 3.7% June 2005.
 - May 2005, twelve month moving average.
- Long term real interest rates.
 - Capital gain measured by the real interest rate.
 - Result the opportunity cost over the lifetime of the durable.
- Depreciation
 - 1.25% a year, on the average.

Housing prices and rentals

Year	Rent	Imputed rent	Market prices	imputed/rent	market/rent
2001	9,0%	6,4%	6,4%	1,007	0,991
2002	8,7%	4,8%	4,8%	0,971	0,956
2003	9,9%	11,0%	11,7%	0,981	0,972
2004	7,9%	9,1%	10,5%	0,991	0,995
2005	5,8%	21,3%	29,3%	1,136	1,216