Percent Figure 1. Test of q-theory for housing market Percent 30 30 20 20 10 10 0 0 -10 -10 -20 -20 -30 -30 70 75 80 85 90 95 00 05 10 Annual growth rate of p Annual growth rate of I/H Source: ADAM

Borrowed from Jeppe Druedahl:

Figure 7.1

VII.7 The housing sector. We consider the housing sector in a small open economy facing a constant real risk-free interest rate, r > 0, given from the world financial market. Time is continuous. Let:

 $H_t = \text{aggregate stock of houses},$

 $S_t = \text{aggregate housing services},$

 $p_t = \text{(real) price of houses,}$

 $R_t = \text{(real) price of housing services},$

 \dot{p}_t^e = expected increase per time unit in p_t ,

 $I_t^H = \text{aggregate gross housing investment (residential construction)},$

 δ = rate of physical depreciation on houses,

 $\tau_R = \tan \alpha$ (imputed) rental income after allowance for depreciation,

 $\tau_p = \tan \theta$ an housing property,

 $\tau_r \equiv \tan \sin \arctan$

We assume that S_t is proportional to H_t , and we normalize the factor of proportionality to be one:

$$S_t = H_t, (1)$$

$$R_t = R(H_t), \quad R' < 0.$$
 (2)