

Credit Constraints and the Composition of Home Sales. Farewell to First-time-buyers?



Felipe Carozzi
CEMFI, Madrid

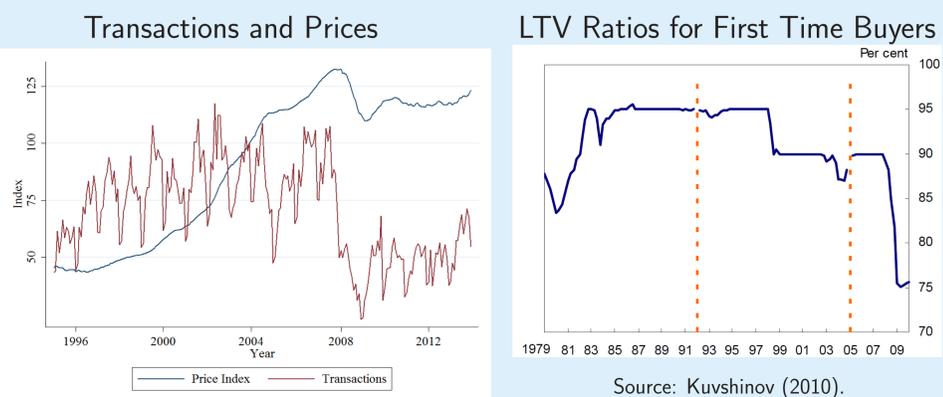
Abstract

The drop in transactions in UK housing markets in the post-2008 period was concentrated in relatively cheap housing. I document this happened within most major English and Welsh housing markets by analyzing the distribution of traded homes using location, dwelling type and repeat-sales data for the universe of housing transactions for the period between 1995 and 2012. I attribute this change to a tightening of credit conditions and propose an overlapping generations model with heterogeneous homes and credit constraints to show how these changed the composition of sales and increased renting by potential first-time buyers.

Introduction - UK Housing Downturn

- UK house price increase since the early 90s, peaking in Q4 2007. During 2008 prices started falling and transaction volumes followed suit in a textbook example of price-transactions co-movement. Prices stagnated and transaction volumes remained low thereafter.
- In Q3 2008, coinciding with post-Lehman financial panic, Loan-to-Value ratios for mortgages offered to first time buyers (FTBs) decreased abruptly and have not recovered since.
- "The housing market has now stabilized and has begun a slow recovery. But many FTBs, particularly those without large deposits, still find it hard to get a mortgage." - **Alistair Darling, Chancellor of the Exchequer, 2011.**

Housing Market and Lending Conditions

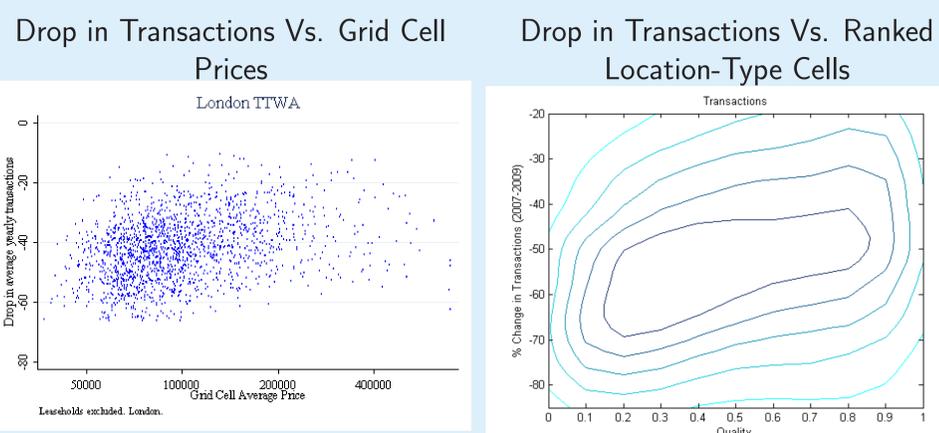


Composition of Home Sales

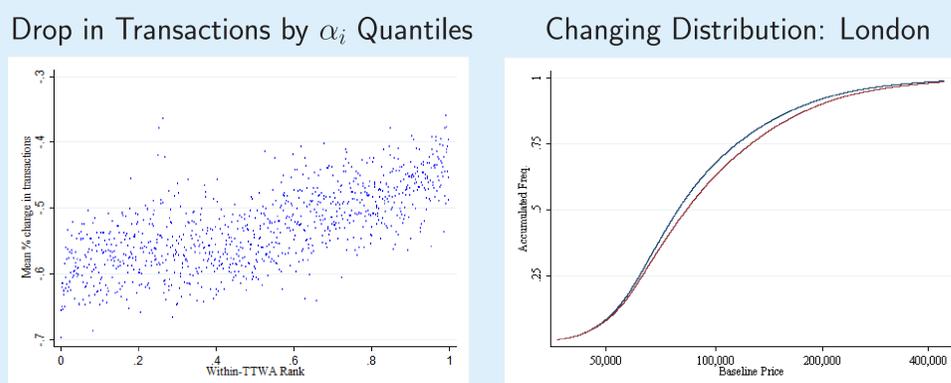
- There was a change in the within-city composition of home sales after 2008. This may be more informative on the role of FTBs in the housing cycle than looking at aggregate volumes as these households tend to buy relatively cheap homes.
- Suppose $P_{it} = \Pi_t e^{\alpha_i + \xi_{it}}$. Taking logs we are left with $p_{it} = \pi_t + \alpha_i + \xi_{it}$.
- Home i type is defined by α_i and π_t is aggregate metro-area variation in prices. To make results comparable across markets I use a home's rank in the within-city distribution of α_i as an index of quality. Two approaches:
- Location - Dwelling Type Grid:** Proxy α_i using a grid of dummies by estimating $p_{it} = \pi_t + \gamma I X_i + \epsilon_{it}$ (as in "hedonic" price indices).
- Repeat - Sales:** Use observations for homes which were sold at least twice in the period to estimate their α_i as a fixed effect.

Location-Dwelling Type Grid

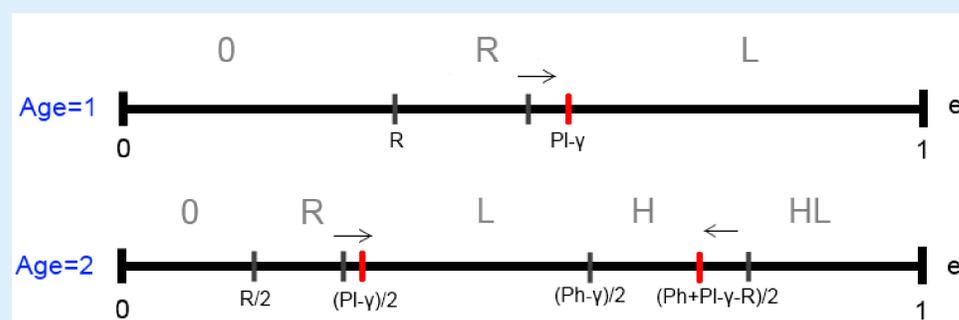
- The graph on the **left** plots the change in transactions for each postcode sector-dwelling type pair for the London metro area. The graph on the **right** is obtained from data for all metro areas using a kernel density estimate.



Repeat-Sales



Model - Tightening of Credit Constraints (Fall in γ)



Model - Setup

- Overlapping generations economy where households live for three periods and receive fixed income $e_i \sim U[0, 1]$ every period. There is a fixed stock of housing units $\bar{S} = S_L + S_H$ with S_L and S_H being the stock of low and high type units.
- Households have preferences over housing and consumption:

$$u(h, c) = c + v_L 1\{h = L\} + v_H 1\{h = H\}$$

- All households are born without a home. They can buy up to two homes in the property market by paying a price P_L or P_H or they can rent by paying R to their landlord. When buying a dwelling households can borrow up to γ units at interest rate $r = 0$.
- Intuition:** When credit tightens, poorer homes get priced out of home-ownership by would-be landlords. Transaction for low-type dwellings fall as owner occupiers keep their homes when trading up.

Conclusions

This paper has two main contributions. It shows that the composition of sold homes in the English and Welsh markets changed in 2008, ending more than a decade of relative stability. It also relates this fact to the role of first-time buyers in the housing market and the effect of credit constraints on their housing tenure decisions.