Subjectivity in Mortgage Choice Decisions
A UK Study

Dr Alla Koblyakova
Dr Timothy Eccles
Department of Property Management and Development
Nottingham Trent University
UK
Subjectivity and Irrationality

• The irrationality of a thing is no argument against its existence, rather a condition of it.

• Friedrich Nietzsche
Issues of Mortgage Choice and (Perceived) House Values

• Currently a lack of research
• Lack of use of UK data
• Limited direct date – what we have here are high quality research files
The Importance of Mortgage Choice

- Mortgage choice
- (drives)
- Interest rate
- Financial features
- (drives)
- Household welfare
- Household financial stability
- (drives)
- National aggregated macro-economic health
And so...

- Our key question is –
- What drives mortgage choice?
- Economic fundamentals (obviously, a given)
- But what else?
- The role of subjective factors
The Importance of House Values (perceived by owners/ households)

- House values
- (drives)
- Household wealth
- Household liquidity
- (drives)
- Macro-economic stability
And so...

• Key question is –

• What drives house values?

• By which we mean, the perception of the value of their home by householders

• Because it is this that drives the household viewpoint

• (Again, we are looking here beyond rational expectations)
House Prices
• House Prices
• (control access to...)
• Benefits of Owner Occupation
• (especially)
• Living Standards
• Quality of Life
• Higher social status (culturally, a UK social stigma to rent)
What we find...

- Inequality
- (specifically)
- Financial Illiterate
- (evidence)
- Sub-optimal, variable rate mortgages
- More risk
- & Larger loan (to buy a larger house)
- & Weaker liquidity position
- Over-optimism about their future wealth
- (and)
- Mis-value (their) house prices, over-estimating wealth
- (leading to...)
Calamity!

- Least secure are taking the greatest risks
- And are feeling richer
- (Leading to...)
- Brits Behaving Badly
- (ie)
- Spend too much
- Save too little
- Generating over-response to stimuli (be they boom/ bust)
- And are, thus, a core danger to the wider economic system
The Data

• Understanding Society Survey (USS) database, the extended version of the British Household Panel Survey (BHPS)

• Introduced in 2009, designed to be a panel of approximately 30,000 households and around 50,000 individuals, representing British residents at multiple time points

• Data samples incorporate both household and individual level data files

• To connect information between waves, files are linked by the cross-wave personal identifier, allowing observation of changes in the variables of interest

• Four cross-sectional samples of mortgage holders were drawn from the USS for waves 1-4 in order to explore subjective influences in mortgage choice decisions, covering the period 2010-2014
Shortcomings in the Data

• Does not record mortgage type
  – So, we track mortgage payments and compare these to (changes in) the BoE rate

• No interest rate given
  – But published data on the rates is readily available

• Only new loans, not remortgages
  – But this allows us to be sure that we can calculate the original LTV
**Formal Model:** A system of the two reduced form simultaneous equations and one separate equation

\[
Y_{1i} = \delta_1 Y_{2i} + \beta_1 X_{1i} + \varepsilon_{1i} \quad (1)
\]

\[
Y_{2i} = \delta_2 Y_{1i} + \beta_2 X_{2i} + \varepsilon_{2i} \quad (2)
\]

\[
P_i (Y_2 = 1 | X_i) = \phi(\Sigma b_i k_i X_{K(i)}) \quad (3)
\]

**Estimation:** 2SLS, 3SLS and Endogeneous Probit

**Instrumental Variables:** *House Price to Income Ratio, Mortgage Affordability Rates, LTVs and LIR.*

\[
Y_{3i} = \alpha_3 + \beta_3 X_{3i} + \varepsilon_{3i} \quad (4)
\]

**Estimation:** 2SLS and 3 SLS

**Instrumental Variables:** *Real Interest Rates, Average House Prices.*

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## Some Key Statistics

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own.-Oc. Rate</td>
<td>70.1</td>
<td>67.9</td>
<td>66.7</td>
<td>64.6</td>
<td>63.1</td>
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<tr>
<td>Real HH Income Growth</td>
<td>0.6</td>
<td>-2.0</td>
<td>2.6</td>
<td>-0.7</td>
<td>-0.2</td>
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<tr>
<td>St. Variable Rate</td>
<td>3.962</td>
<td>4.081</td>
<td>4.224</td>
<td>4.372</td>
<td>4.450</td>
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<tr>
<td>Fixed for 2 years</td>
<td>3.778</td>
<td>3.350</td>
<td>3.555</td>
<td>2.707</td>
<td>2.457</td>
</tr>
<tr>
<td>V/F Differentials</td>
<td>0.184</td>
<td>0.731</td>
<td>0.669</td>
<td>1.665</td>
<td>1.993</td>
</tr>
<tr>
<td>St. Var. Margins</td>
<td>3.399</td>
<td>3.404</td>
<td>3.605</td>
<td>3.905</td>
<td>3.981</td>
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<tr>
<td>Fixed Margins</td>
<td>2.278</td>
<td>1.465</td>
<td>2.545</td>
<td>1.882</td>
<td>1.422</td>
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<tr>
<td>VR Balances</td>
<td>64.47</td>
<td>68.67</td>
<td>71.88</td>
<td>70.30</td>
<td>77.46</td>
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<tr>
<td>FR Balances</td>
<td>35.53</td>
<td>31.33</td>
<td>28.12</td>
<td>29.70</td>
<td>22.54</td>
</tr>
</tbody>
</table>
Description

• Owner occupier rates are in decline
  - This is a generally ‘bad’ thing

• Real household disposable income is falling
  - So, people cannot afford to buy
  - Yet employment rates are high

• Difference between variable and fixed rates is increasing
  - Variable rates ever more expensive, meaning that there is greater differential inequality
  - And profitability is also diverging, encouraging profit maximising banks into specific selling behaviour
### Table 6. Subjective Property Value Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>2 SLS</th>
<th>3 SLS</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Coefficient</td>
</tr>
<tr>
<td></td>
<td>t-value</td>
<td>t-value</td>
</tr>
<tr>
<td>Having Problems paying mortgage</td>
<td>-0.612***</td>
<td>-0.598***</td>
</tr>
<tr>
<td></td>
<td>-2.476</td>
<td>-2.352</td>
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<tr>
<td>Having Financial Job</td>
<td>-0.487***</td>
<td>-0.456***</td>
</tr>
<tr>
<td></td>
<td>-5.786</td>
<td>-5.298</td>
</tr>
<tr>
<td>Financial expectations for better</td>
<td>0.367***</td>
<td>0.349***</td>
</tr>
<tr>
<td></td>
<td>3.256</td>
<td>3.153</td>
</tr>
<tr>
<td>Having Highest Education</td>
<td>-2.5982***</td>
<td>-2.456</td>
</tr>
<tr>
<td></td>
<td>-5.675</td>
<td>-5.376</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.786***</td>
<td>-1.546***</td>
</tr>
<tr>
<td></td>
<td>-6.513</td>
<td>-6.331</td>
</tr>
<tr>
<td>R²</td>
<td>0.468</td>
<td>0.445</td>
</tr>
<tr>
<td>F-statistics</td>
<td>184.96</td>
<td></td>
</tr>
</tbody>
</table>
Description

• Subjectivity is reduced by one’s own experiences – eg having faced difficulties with repayments

• And with education – eg HE or a job in financial services

• Perceived house values increase with expectations of financial improvement. A form of myopia seems to take hold.
Conclusions

• Despite the importance of this area, there is limited UK research, and even less based on defensible data

• Mortgage choice is not just a matter of personal choice, but can seriously impede both personal wealth and have major impacts on macro-economic health

• It is tempting to propose regulation to curb the behaviour of banks in pushing variable rate mortgages, offering greater LTVs on them

• But regulation of a ‘free’ market is always problematic, and there are questions over its efficacy

• Educated consumers make better choices, and so greater financial literacy programmes are indicated.

• But how to implement meaningful knowledge is problematic

• Compulsory disclosure of more detailed information is evidently needed to allow for greater transparency