BANK OF ENGLAND

# Appendix to Staff Working Paper No. 856
# High water, no marks? Biased lending after extreme weather

Nicola Garbarino and Benjamin Guin

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# High water, no marks? Biased lending after extreme weather

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Table 1: Setting up the dataset

Panel A. Housing market dataset

| Step | Observations |
|---|---|
| *Constructing the stock of properties transacted in the 3-year pre-event window* | |
| Population of all property transactions in the affected areas since 1999 | 4,954,734 |
| Dropping duplicate transactions | |
| Dropping properties that are transacted during the flood event period | |
| Dropping properties that are house prices outliers (above GBP 10 million) | |
| Dropping properties that are new built after the flood event period | |
| Keeping only properties which were transacted in the three year window | |
| ...After keeping only one transaction per pre- vs. post-event window | 623,328 |
| *Constructing the house transaction panel* | |
| ...After constructing the panel of transactions (assign "0" to non-transacted) | 1,085,672 |

Panel B. Mortgage market dataset

| Step | Observations |
|---|---|
| *Constructing the stock of mortgages transacted in the 3-year pre-event window* | |
| Population of the flow of mortgage transactions from PSD 001 since 2005 | 3,743,110 |
| Adding the "internal" refinance from the stock of mortgages in 2017 (PSD 007) | |
| Dropping mortgages that are transacted during the flood event period | |
| Dropping duplicate transactions | |
| Dropping all mortages by first time buyers after the 2013/14 winter flood | |
| Keeping only mortgages which were transacted before the event | |
| Dropping mortgages which were refinancing transactions before the event | |
| Keeping only one transaction per pre- vs. post-event window | |
| ...After dropping movers after the 2013/14 winter flood | 416,917 |
| *Constructing the mortgage transaction panel* | |
| ...After constructing the panel of transactions (assign "0" to non-transacted) | 736,924 |

Panel C. Combined dataset

| Step | Observations |
|---|---|
| *Constructing the panel of property and mortgage transactions* | |
| ... Appending the panel of property transactions and mortgage transactions | 1,822,596 |
| *Constructing the repeated transaction dataset* | |
| Keeping only repeated transactions | |
| ...After keeping only the transactions in the second event window | 119,239 |

This table describes the individual steps of setting up the final dataset. Panel A shows individual steps of setting up the panel of property transactions. Panel B shows individual steps of setting up the panel of mortgage transactions. Panel C describes individual steps of setting up the combined dataset.

Table 2: Logit estimates: housing market

| Dependent variable<br>Column | Flood<br>(1) | Risk up<br>(2) |
|---|---|---|
| L.Property value (Ln) | 0.003*** | -0.004 |
| | (0.001) | (0.004) |
| Distance to water (Ln) | -0.001** | 0.001 |
| | (0.000) | (0.002) |
| Distance to water (<100m) | -0.000 | 0.011*** |
| | (0.001) | (0.004) |
| Distance to water (<200m) | 0.002*** | 0.007** |
| | (0.001) | (0.003) |
| Distance to water (<500m) | 0.003*** | 0.002 |
| | (0.001) | (0.003) |
| Risk (EA) (2013) | 0.005*** | 0.034*** |
| | (0.001) | (0.004) |
| Matrix Scores (JBA) (2013) | 0.000*** | 0.002*** |
| | (0.000) | (0.000) |
| Observations | 74,921 | 77,234 |
| Pseudo R2 | 0.339 | 0.262 |
| Mean of dependent variable | 0.012 | 0.042 |

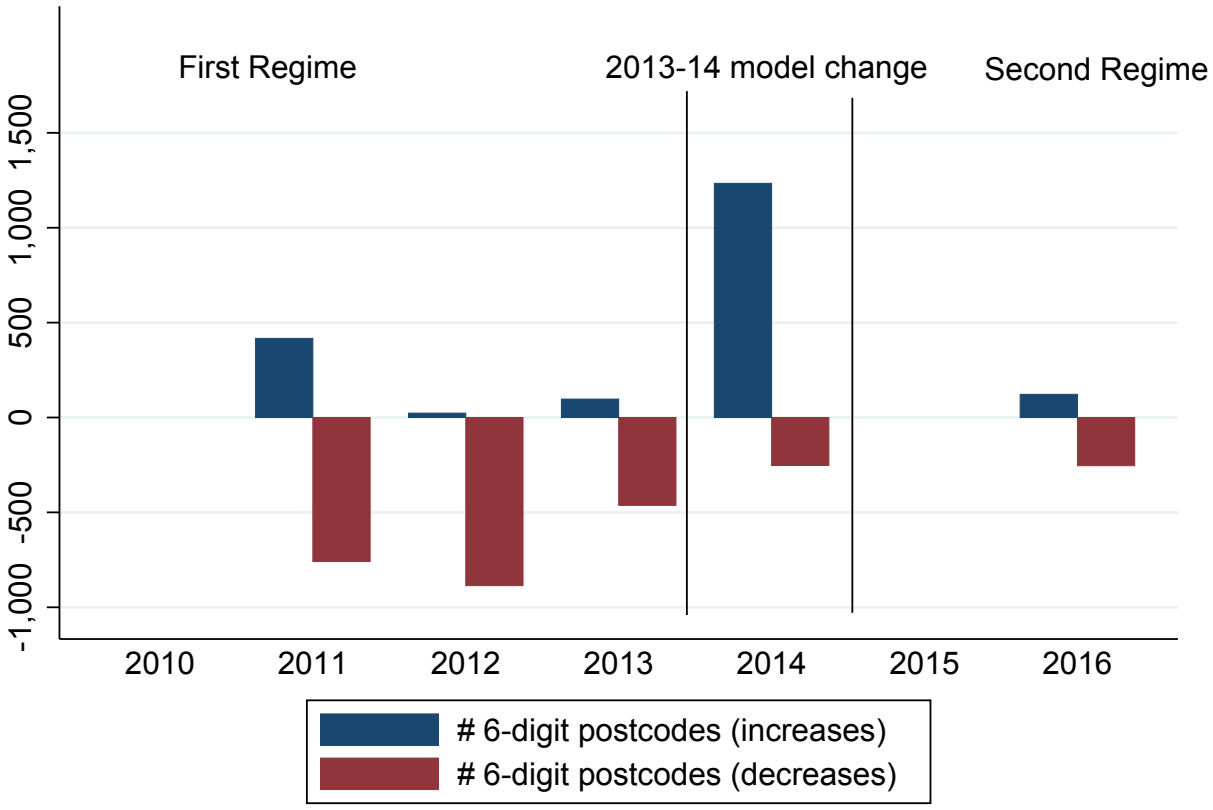
Logit regressions estimated using ML. Marginal effects are reported at the mean. Standard errors clustered at the postcode district and reported in brackets. Standard errors clustered at the postcode district and reported in brackets. Stars denote statistical significance at the 0.01 & 0.05 & 0.10-level respectively.

Table 3: Logit estimates: mortgage market

| Dependent variable<br>Column | Flood<br>(1) | Risk up<br>(2) |
|---|---|---|
| L.Property value (Ln) | 0.003*** | -0.002 |
| | (0.001) | (0.003) |
| Distance to water (Ln) | -0.001 | 0.000 |
| | (0.000) | (0.002) |
| Distance to water (<100m) | 0.000 | 0.014*** |
| | (0.001) | (0.004) |
| Distance to water (<200m) | 0.002*** | 0.006* |
| | (0.001) | (0.004) |
| Distance to water (<500m) | 0.002 | 0.001 |
| | (0.002) | (0.003) |
| Risk (EA) (2013) | 0.005*** | 0.030*** |
| | (0.001) | (0.003) |
| Matrix Scores (JBA) (2013) | 0.000*** | 0.001*** |
| | (0.000) | (0.000) |
| Observations | 36,563 | 37,475 |
| Pseudo R2 | 0.344 | 0.268 |
| Mean of dependent variable | 0.013 | 0.037 |

Logit regressions estimated using ML. Marginal effects are reported at the mean. Standard errors clustered at the postcode district and reported in brackets. Standard errors clustered at the postcode district and reported in brackets. Stars denote statistical significance at the 0.01 & 0.05 & 0.10-level respectively.

Figure 1: Number of reclassified 6-digit postcodes




Large increase or decrease in flood risk is defined as at least .8 percentage point change.

These graph shows the number of reclassified 6-digit postcodes over time.

Figure 2: Timing of events