README.pdf for data and programs in support of Abowd & Vilhuber (2012)

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Detailed instructions on all data sources and how they were prepared is available in the online appendix to Abowd and Vilhuber (2012: Papers and Proceedings).

Data files

All regression programs used the included data file "analysis_09.sas7bdat". We used SAS 9.3 for the analysis.

Program

The following generic program was used to estimate the mixed-effect equations for the paper:

```
/* $Id: generic_program_09.sas 2264 2012-01-17 03:33:12Z
    vilhu001 $  */

/* defines the dependent variable */
%let depvar=fjdr;
/* defines the corresponding RHS variable at the national
     level*/
%let indvar=nqwi_&depvar.;

proc hpmixed data=OUTPUTS.analysis_09;
id &depvar. &indvar. geocode qtime year quarter;
class geocode;
model &depvar. =

            &indvar.
            log_hpi_00
                      lag1_log_hpi_00 lag2_log_hpi_00
```

```
                        lag3_log_hpi_00 lag4_log_hpi_00
                        lag5_log_hpi_00
            qtr_unemprat_00
                        lag1_qtr_unemprat_00
                            lag2_qtr_unemprat_00
                        lag3_qtr_unemprat_00
                            lag4_qtr_unemprat_00
                        lag5_qtr_unemprat_00
            log_hpi
                        lag1_log_hpi lag2_log_hpi
                        lag3_log_hpi lag4_log_hpi
                        lag5_log_hpi
            laus_qtr_unemprat
                        lag1_laus_qtr_unemprat
                            lag2_laus_qtr_unemprat
                        lag3_laus_qtr_unemprat
                            lag4_laus_qtr_unemprat
                        lag5_laus_qtr_unemprat

    /solution;
/* various random variables from the full interaction are
    commented out after an initial run
    to improve convergence. This varies by variable. */
random geocode*&indvar.
       geocode*log_hpi_00
       geocode*lag1_log_hpi_00
       geocode*lag2_log_hpi_00
       geocode*lag3_log_hpi_00
       geocode*lag4_log_hpi_00
       geocode*lag5_log_hpi_00
       geocode*qtr_unemprat_00
       geocode*lag1_qtr_unemprat_00
       geocode*lag2_qtr_unemprat_00
       geocode*lag3_qtr_unemprat_00
       geocode*lag4_qtr_unemprat_00
       geocode*lag5_qtr_unemprat_00
       geocode*log_hpi
       geocode*lag1_log_hpi
       geocode*lag2_log_hpi
       geocode*lag3_log_hpi
       geocode*lag4_log_hpi
       geocode*lag5_log_hpi
       geocode*laus_qtr_unemprat
       geocode*lag1_laus_qtr_unemprat
       geocode*lag2_laus_qtr_unemprat
       geocode*lag3_laus_qtr_unemprat
```

```
        geocode*lag4_laus_qtr_unemprat
        geocode*lag5_laus_qtr_unemprat
          /solution nofullz type=vc;
ods output SolutionR=OUTPUTS.re_09_&depvar._eblup;
ods output ParameterEstimates=OUTPUTS.re_09_&depvar.
    _fixed;
ods output CovParms=OUTPUTS.re_09_&depvar._cov;
output out=OUTPUTS.re_09_&depvar.
        predicted(noblup)=&depvar._marg_pred
        predicted(blup)=&depvar._pred
        stderr(blup)=&depvar._stderr
        stderr(noblup)=&depvar._marg_stderr
        residual(blup)=&depvar._resid;
run;

/* compute the EBLUPs directly */
data OUTPUTS.re_09_&depvar.;
  set OUTPUTS.re_09_&depvar.;
  &depvar._eblup = &depvar._pred - &depvar._marg_pred;
run;

/* for graphing purposes, we use the data files
    OUTPUTS.re_09_&depvar. directly*/
```

The actual version of the code used in this paper was archived by the authors as

```
> svn info https://.../releases/qwi-housing/2012-01-04
Path: 2012-01-04
URL: https://.../releases/qwi-housing/2012-01-04
Last Changed Author: Vilhuber
Last Changed Rev: 2176
Last Changed Date: 2012-01-04 10:03:46 -0500 (Wed, 04 Jan 2012)
```

Complete results

The complete result files for all estimated variables, including EBLUPs, are provided as individual data sets, one per dependent variable (see Table 1).

Table 1: List of complete result data files

FAR	re_09_far.sas7bdat
FSR	re_09_fsr.sas7bdat
$FJCR$	re_09_fjcr.sas7bdat
$FJDR$	re_09_fjdr.sas7bdat
F	re_09_log_f.sas7bdat
$log(ZW_3)$	re_09_log_z_w3_deflated.sas7bdat
$log(ZWFA)$	re_09_log_z_wfa_deflated.sas7bdat
$log(ZWFS)$	re_09_log_z_wfs_deflated.sas7bdat

Id