

Appendix: Panel estimates

The appendix reports random-effects logit regression panel estimates which are used to confirm the two-census linkages for 1851-61 estimates in Tables 4-7. The estimates make clear that the covariates influenced proprietor choices in the same directions and similar significance levels as the 1851-61 estimates of Tables 4-7, which can thus be judged broadly representative. Table A.1 gives the panel estimates for non-farm proprietors and Table A.2 for farmers.

Table A.1. Random effects panel estimates for Non-Farm employers and own account.

	Employers		Own account	
Age	0.257***	(30.55)	0.177***	(7.98)
Age ²	-0.002***	(-27.25)	-0.001***	(-7.60)
Density RSD	-0.003***	(-4.07)	-0.005**	(-2.97)
Density RSD ² (000s)	0.011**	(3.12)	0.018**	(2.63)
Married	0.231***	(3.54)	0.381**	(2.89)
Widowed	0.338***	(4.41)	0.717***	(4.71)
CFU member	-0.569***	(-4.42)	-0.992***	(-4.65)
Older generation	-0.069	(-0.22)	0.677*	(2.19)
Siblings	-0.098	(-0.48)	-0.139	(-0.37)
Other family	-0.718	(-1.13)	0	(.)
Servants	0	(.)	0	(.)
Working title	0	(.)	0	(.)
Lodgers/boarders	-0.430	(-1.62)	-0.694	(-1.54)
Non-household	0	(.)	0	(.)
Unknown	0.275	(0.93)	-0.764	(-1.75)
Female	-0.901***	(-9.83)	-0.321*	(-2.56)
Urban transition	-0.201**	(-2.83)	-0.095	(-0.74)
Transition	0.144***	(4.40)	0.242***	(3.65)
Rural	0.051	(1.33)	0.366***	(4.87)
Rail line distance	-0.016*	(-2.10)	0.031*	(2.52)
Rail station distance	0.045***	(6.66)	0.001	(0.18)
Mining & quarrying	0.126	(1.10)	0.229	(0.90)
Construction	-0.018	(-0.51)	-0.238**	(-2.69)
Maker-dealer	0.051	(1.33)	0.282***	(3.66)
Retail	0.255***	(5.10)	0.095	(0.88)
Transport	-0.042	(-0.67)	-0.540*	(-2.08)
Prof & bus services	0.774***	(8.42)	-0.281	(-1.46)
Personal services	-0.170	(-1.11)	0.501***	(3.55)
Agric produce processing & dealing	0.647***	(11.74)	-0.134	(-0.92)
Food sales	0.462***	(10.32)	0.721***	(6.82)
Refreshment	0.495***	(5.95)	0.177	(1.75)
Finance & commerce	0.672***	(5.76)	-1.06**	(-3.00)
No occupation given	0.279**	(2.97)	-0.136	(-0.76)
Constant	8.285***	(38.27)	7.539***	(8.73)
Observations N	36,877		20,706	
Wald Chi ²	2189.7***		97.5***	

Table A.2. Random effects panel estimates for Farm employers and own account.

	Employers		Own account	
Age	0.228 ^{***}	(47.46)	0.191 ^{***}	(18.70)
Age ²	-0.001 ^{***}	(-39.18)	-0.001 ^{***}	(-15.67)
Density RSD	-0.007 ^{**}	(-2.60)	-0.050 ^{***}	(-3.86)
Density RSD ² (000s)	0.028 [*]	(2.19)	0.179 ^{***}	(3.70)
Married	0.207 ^{***}	(6.21)	0.146 [*]	(1.99)
Widowed	0.231 ^{***}	(5.37)	0.162	(1.91)
CFU member	-1.026 ^{***}	(-9.20)	-0.828 ^{***}	(-3.36)
Older generation	-1.330 ^{**}	(-3.11)	0.716	(1.05)
Siblings	-1.166 ^{***}	(-5.10)	-1.103 ^{**}	(-2.63)
Other family	-1.122 [*]	(-2.53)	0	(.)
Servants	0	(.)	0	(.)
Working title	-1.400	(-1.13)		
Lodgers/boarders	-1.084 ^{**}	(-3.17)	-0.069	(-0.11)
Non-household	-0.993	(-0.66)		
Unknown	-0.266	(-0.82)	-1.734	(-1.63)
Female	-1.330 ^{***}	(-29.06)	-0.730 ^{***}	(-9.48)
Urban transition	0.320 ^{***}	(5.49)	-0.172	(-1.95)
Transition	0.377 ^{***}	(7.57)	-0.404 ^{***}	(-5.28)
Rural	0.374 ^{***}	(7.54)	-0.272 ^{***}	(-3.43)
Rail line distance	-0.011 [*]	(-2.48)	0.039 ^{***}	(4.08)
Rail station distance	0.014 ^{***}	(3.57)	-0.056 ^{***}	(-6.27)
Acreage	0.002 ^{***}	(43.94)	0.0001	(0.28)
Constant	-7.598 ^{***}	(-55.83)	-6.138 ^{***}	(-20.64)
Observations N	61,909		17,032	
Wald Chi ²	7602.6 ^{***}		1025.6 ^{***}	

Notes for tables A1 and A2: coefficients, with z-values in brackets; base categories single, head, male, urban, manufacturing; * p < 0.05, ** p < 0.01, *** p < 0.001.

These panel estimates use the random-effects estimation. They were checked against equivalent conditional fixed-effects logistic regression panel estimates. There is an inevitable reduction of N and the number of covariates that can be estimated because only within-panel variation is estimated in fixed-effect models, but where these results can be compared they confirm that the random effects panel is robust. A Hausman test comparing the coefficients in the FE and RE (where they are both estimated) confirms that the RE estimates quoted here are to be preferred. The coefficients are similar, with smaller standard errors. The Hausman test compared the models for employers for farmers and non-farmers, and own account for farmers and non-farmers. All four tests have a low and insignificant value, with respective probabilities under Chi-square test of 0.32, 0.97, 0.99, and 0.99. There is also only a small difference between the coefficient values of the RE and FE models.