

# 1 Definitions

Table 1: Number of core jobs by type and time in core threshold

Core type	Years as core				
	17	16	15	14	13
Below GCSE C	2	4	4	5	6
GCSE C to A lev.	10	13	15	16	18
Bachelor +	71	72	74	77	77
Below GCSE C - GCSE C to A lev.	17	24	30	34	36
Below GCSE C - Bach+	0	0	0	0	0
GCSE C to A lev. - Bach+	0	2	2	4	4
Total	100	115	125	136	141

*Note:* I force the intersection of the core and 4-2-3 transition definition to be empty. Table generated on 12 Jun 2020 at 12:36:13. Table generated with do file 4\_lfsAnalysis/relaxing\_core\_jobs.do

Table 2: Effect of relaxing number of switches constraint

Transition type	Definition					
	3-3-3	2-4-3	4-2-3	5-5-7	4-6-7	6-4-7
	(1)	(2)	(3)	(4)	(5)	(6)
Low to Low-Mid	17	18	20	22	22	22
Mid to Low-Mid	1	1	1	1	1	2
Mid to Mid-High	0	0	1	1	1	1
Low-Mid to Mid	1	1	1	1	1	1
Mid-High to High	3	4	4	4	4	4
Total	22	24	27	29	29	30

*Note:* each column shows the breakdown by transition type when my definition of a transitioning job is the union all the current and previous columns. Table generated on 10 Jun 2020 at 17:59:46.

# 2 Effect of transitioning

The basic specification is given by:

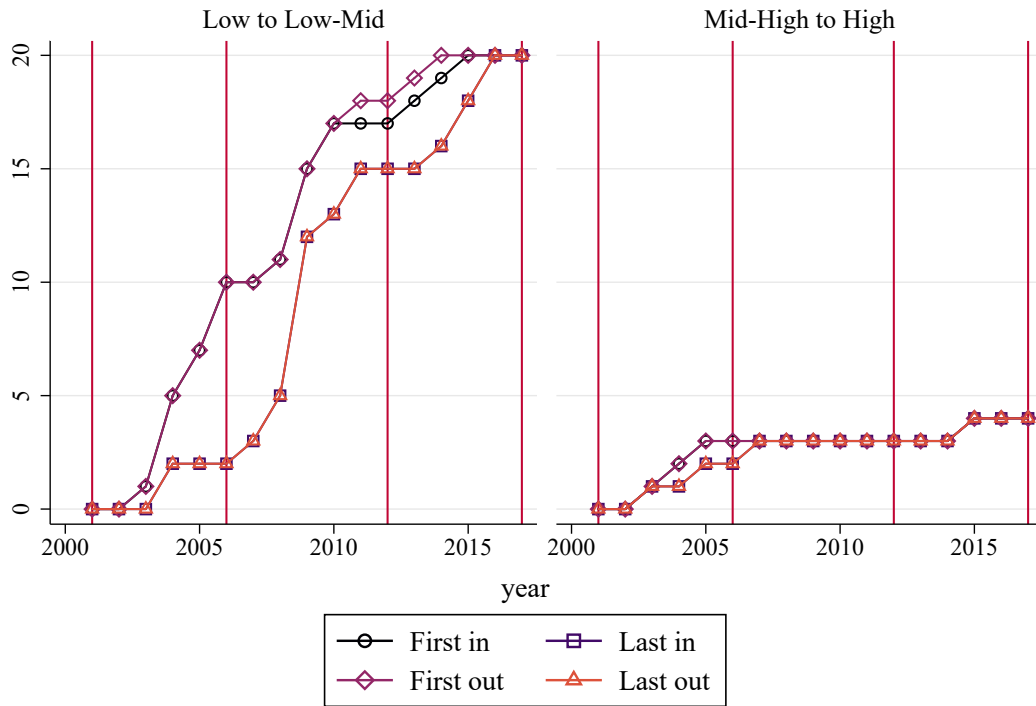
$$y_{iot} = \lambda_o + \beta_1 e_i + \beta_2 1_{\{t > \text{transition\_time}\}} + \beta_3 e_i \times 1_{\{t > \text{transition\_time}\}} \quad (1)$$

where  $\lambda_o$  denotes occupation fixed-effects,  $e_i$  is an education-level dummy. expectation:  $\beta_1 \neq 0$ ,  $\beta_2 = \beta_3 = 0$ . I try four different definitions of the transition

year:

- *First out*: first year out of the initial category.
- *Last out*: last year in initial category + 1.
- *First in*: first year in final category.
- *Last in*: latest year of transition into final category + 1.

Figure 1: Number of transitioned occupations by transition type



Graphs by restrictedType

**Note:** Transitions are defined as the union of 3-3-3, 4-2-3 and 2-4-3. Vertical lines indicate years for which I have SES data. Figure generated on 12 Jun 2020 at 15:09:22. Figure generated using the dofile 4\_lfsAnalysis/transition\_time\_graphs.do.

Table 3: Dependent variable: analytical skill

Regressor	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Low to Low-Mid</i>								
Mid	0.032 (0.019)	0.020 (0.019)	0.039* (0.018)	0.026 (0.017)	0.032 (0.019)	0.020 (0.019)	0.039* (0.018)	0.026 (0.017)
First out	0.038 (0.021)	0.002 (0.034)						
Mid × First out	-0.003 (0.028)	0.015 (0.028)						
Last out			0.021 (0.023)	0.077 (0.047)				
Mid × Last out			-0.016 (0.031)	0.002 (0.030)				
First in					0.038 (0.021)	0.002 (0.034)		
Mid × First in					-0.003 (0.028)	0.015 (0.028)		
Last in							0.021 (0.023)	0.077 (0.047)
Mid × Last in							-0.016 (0.031)	0.002 (0.030)
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓		✓
Number of jobs	17	17	17	17	17	17	17	17
Observations	852	852	852	852	852	852	852	852
<i>Mid-High to High</i>								
High	0.052** (0.018)	0.049** (0.018)	0.052** (0.017)	0.050** (0.017)	0.052** (0.018)	0.049** (0.018)	0.052** (0.017)	0.050** (0.017)
First out	-0.024 (0.020)	-0.061* (0.029)						
High × First out	-0.004 (0.024)	-0.002 (0.024)						
Last out			-0.023 (0.020)	-0.052* (0.026)				
High × Last out			-0.006 (0.023)	-0.003 (0.023)				
First in					-0.024 (0.020)	-0.061* (0.029)		
High × First in					-0.004 (0.024)	-0.002 (0.024)		
Last in							-0.023 (0.020)	-0.052* (0.026)
High × Last in							-0.006 (0.023)	-0.003 (0.023)
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓		✓
Number of jobs	4	4	4	4	4	4	4	4
Observations	621	621	621	621	621	621	621	621

*Note:* robust standard errors in parenthesis. The dependent variable ranges from 0 to 1. Columns differ in the fixed effect included and the definition of the transition year. Regressions pool observations from all years, but use observations from transitioning occupations only. I restrict observations to the education levels indicated in the panel subtitle. Table generated on 12 Jun 2020 at 17:15:22. Table generated with do file 3\_sesAnalysis/create\_did\_regressions.do



Table 4: Dependent variable: manual skill

<b>Regressor</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Low to Low-Mid</i>								
Mid	0.011 (0.019)	0.009 (0.019)	0.004 (0.017)	0.001 (0.017)	0.011 (0.019)	0.009 (0.019)	0.004 (0.017)	0.001 (0.017)
First out	0.045* (0.021)	0.033 (0.034)						
Mid $\times$ First out	-0.016 (0.028)	-0.016 (0.028)						
Last out			0.031 (0.022)	0.032 (0.050)				
Mid $\times$ Last out			0.002 (0.029)	0.002 (0.030)				
First in					0.045* (0.021)	0.033 (0.034)		
Mid $\times$ First in					-0.016 (0.028)	-0.016 (0.028)		
Last in							0.031 (0.022)	0.032 (0.050)
Mid $\times$ Last in							0.002 (0.029)	0.002 (0.030)
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓		✓
Number of jobs	17	17	17	17	17	17	17	17
Observations	852	852	852	852	852	852	852	852
<i>Mid-High to High</i>								
High	-0.091** (0.028)	-0.090** (0.028)	-0.087** (0.026)	-0.086** (0.026)	-0.091** (0.028)	-0.090** (0.028)	-0.087** (0.026)	-0.086** (0.026)
First out	0.044 (0.033)	0.040 (0.045)						
High $\times$ First out	-0.047 (0.038)	-0.050 (0.038)						
Last out			0.055 (0.033)	0.058 (0.042)				
High $\times$ Last out			-0.060 (0.038)	-0.063 (0.038)				
First in					0.044 (0.033)	0.040 (0.045)		
High $\times$ First in					-0.047 (0.038)	-0.050 (0.038)		
Last in							0.055 (0.033)	0.058 (0.042)
High $\times$ Last in							-0.060 (0.038)	-0.063 (0.038)
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓		✓
Number of jobs	4	4	4	4	4	4	4	4
Observations	621	621	621	621	621	621	621	621

*Note:* robust standard errors in parenthesis. The dependent variable ranges from 0 to 1. Columns differ in the fixed effect included and the definition of the transition year. Regressions pool observations from all years, but use observations from transitioning occupations only. I restrict observations to the education levels indicated in the panel subtitle. Table generated on 12 Jun 2020 at 17:15:22. Table generated with do file 3\_sesAnalysis/create\_did\_regressions.do



Table 5: Dependent variable: routine skill

Regressor	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Low to Low-Mid</i>								
Mid	0.085 (0.045)	0.056 (0.044)	0.089* (0.040)	0.055 (0.040)	0.085 (0.045)	0.056 (0.044)	0.089* (0.040)	0.055 (0.040)
First out	0.241*** (0.046)	0.019 (0.079)						
Mid × First out	-0.089 (0.064)	-0.052 (0.064)						
Last out			0.207*** (0.049)	-0.042 (0.114)				
Mid × Last out			-0.105 (0.068)	-0.064 (0.068)				
First in					0.241*** (0.046)	0.019 (0.079)		
Mid × First in					-0.089 (0.064)	-0.052 (0.064)		
Last in							0.207*** (0.049)	-0.042 (0.114)
Mid × Last in							-0.105 (0.068)	-0.064 (0.068)
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓		✓
Number of jobs	17	17	17	17	17	17	17	17
Observations	852	852	852	852	852	852	852	852
<i>Mid-High to High</i>								
High	-0.012 (0.059)	-0.006 (0.059)	-0.042 (0.056)	-0.034 (0.056)	-0.012 (0.059)	-0.006 (0.059)	-0.042 (0.056)	-0.034 (0.056)
First out	0.010 (0.063)	0.088 (0.092)						
High × First out	-0.162* (0.078)	-0.166* (0.078)						
Last out			-0.002 (0.063)	0.095 (0.086)				
High × Last out			-0.118 (0.078)	-0.125 (0.078)				
First in					0.010 (0.063)	0.088 (0.092)		
High × First in					-0.162* (0.078)	-0.166* (0.078)		
Last in							-0.002 (0.063)	0.095 (0.086)
High × Last in							-0.118 (0.078)	-0.125 (0.078)
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓		✓
Number of jobs	4	4	4	4	4	4	4	4
Observations	621	621	621	621	621	621	621	621

*Note:* robust standard errors in parenthesis. The dependent variable ranges from 0 to 1. Columns differ in the fixed effect included and the definition of the transition year. Regressions pool observations from all years, but use observations from transitioning occupations only. I restrict observations to the education levels indicated in the panel subtitle. Table generated on 12 Jun 2020 at 17:15:22. Table generated with do file 3\_sesAnalysis/create\_did\_regressions.do

### 3 Regressions of skill use at border jobs

Table 6: Relative skill use in border jobs across education groups (index with standardized variables)

	<b>Analytical</b>	<b>Manual</b>	<b>Routine</b>
	(1)	(2)	(3)
<i>Below GCSE C / GCSE C-A lev. border</i>			
GCSE C-A levels	0.042*** (0.007)	-0.008 (0.008)	0.066*** (0.018)
Effect size	0.374	-0.040	0.387
Overall $R^2$	0.17	0.29	0.10
Observations	3,100.00	3,100.00	3,100.00
<i>GCSE C to A lev. / Bachelor+ border</i>			
Bachelor+	0.050*** (0.009)	-0.065*** (0.016)	-0.021 (0.031)
Effect size	0.443	-0.327	-0.122
Overall $R^2$	0.10	0.22	0.06
Observations	961.00	961.00	961.00

*Note:* all skill indexes range between 0 and 1. Regressions use individual-level data. Robust standard errors in parenthesis. Coefficients represent the difference relative the lower education level. I use dummy of basic to moderate PC use complexity as measure of routineness. I pool data from all years. Regressions include occupation fixed-effects. Effect sizes are computed as the regression coefficient divided by the standard deviation in the occupation-level skill indexes. Table generated on 12 Jun 2020 at 15:55:03. Table generated with do file 3\_sesAnalysis/createSESSkillRegressions.do





## 4 Pooled regressions

Table 7: Relative skill use in border jobs across education groups (simple average indexes)

<b>Base level: Below GCSE C</b>	<b>Analytical</b> (1)	<b>Manual</b> (2)	<b>Routine</b> (3)
<i>Below GCSE C / GCSE C-A lev. border</i>			
GCSE C-A levels	0.042*** (0.007)	-0.005 (0.008)	0.066*** (0.018)
Bachelor+	0.063*** (0.010)	-0.054*** (0.012)	0.027 (0.025)
Overall $R^2$	0.19	0.29	0.09
Observations	3,669	3,669	3,669
<i>GCSE C to A lev. / Bachelor+ border</i>			
GCSE C-A levels	0.050** (0.017)	-0.096*** (0.026)	-0.096* (0.048)
Bachelor+	0.103*** (0.017)	-0.162*** (0.025)	-0.120* (0.048)
Overall $R^2$	0.11	0.26	0.05
Observations	1,076	1,076	1,076
<i>Below GCSE C jobs</i>			
GCSE C-A levels	0.022 (0.014)	0.011 (0.013)	0.081** (0.030)
Bachelor+	0.078** (0.029)	-0.023 (0.028)	0.120 (0.064)
Overall $R^2$	0.17	0.17	0.19
Observations	1,108	1,108	1,108
<i>GCSE C-A lev. jobs</i>			
GCSE C-A levels	0.020* (0.009)	-0.050*** (0.012)	-0.007 (0.022)
Bachelor+	0.054*** (0.010)	-0.099*** (0.013)	-0.108*** (0.025)
Overall $R^2$	0.11	0.40	0.06
Observations	3,695	3,695	3,695
<i>Bachelor+ jobs</i>			
GCSE C-A levels	0.026* (0.012)	-0.049* (0.020)	-0.078* (0.033)
Bachelor+	0.067*** (0.011)	-0.122*** (0.019)	-0.167*** (0.032)
Overall $R^2$	0.15	0.32	0.22
Observations	5,043	5,043	5,043

*Note:* all skill indexes range between 0 and 1. Regressions use individual-level data. Robust standard errors in parenthesis. I use dummy of basic to moderate to use complexity as measure of routineness. I pool data from all years. Regressions include occupation fixed-effects. Effect sizes are computed as the regression coefficient divided by the standard deviation in the occupation-level skill indexes. Table generated on 12 Jun 2020 at 17:15:26. Table generated with do file 3\_sesAnalysis/createSESSkillRegressionsFull.do

Table 8: Relative skill use in border jobs across education groups (index with standardized variables)

<b>Base level: Below GCSE C</b>	<b>Analytical</b> (1)	<b>Manual</b> (2)	<b>Routine</b> (3)
<i>Below GCSE C / GCSE C-A lev. border</i>			
GCSE C-A levels	0.041*** (0.007)	-0.006 (0.008)	0.066*** (0.018)
Bachelor+	0.061*** (0.009)	-0.055*** (0.012)	0.027 (0.025)
Overall $R^2$	0.19	0.28	0.09
Observations	3,669	3,669	3,669
<i>GCSE C to A lev. / Bachelor+ border</i>			
GCSE C-A levels	0.049** (0.016)	-0.096*** (0.026)	-0.096* (0.048)
Bachelor+	0.099*** (0.016)	-0.162*** (0.025)	-0.120* (0.048)
Overall $R^2$	0.11	0.26	0.05
Observations	1,076	1,076	1,076
<i>Below GCSE C jobs</i>			
GCSE C-A levels	0.022 (0.014)	0.011 (0.013)	0.081** (0.030)
Bachelor+	0.077** (0.028)	-0.023 (0.028)	0.120 (0.064)
Overall $R^2$	0.16	0.17	0.19
Observations	1,108	1,108	1,108
<i>GCSE C-A lev. jobs</i>			
GCSE C-A levels	0.019* (0.009)	-0.051*** (0.012)	-0.007 (0.022)
Bachelor+	0.051*** (0.010)	-0.099*** (0.013)	-0.108*** (0.025)
Overall $R^2$	0.11	0.40	0.06
Observations	3,695	3,695	3,695
<i>Bachelor+ jobs</i>			
GCSE C-A levels	0.025* (0.011)	-0.050* (0.020)	-0.078* (0.033)
Bachelor+	0.064*** (0.011)	-0.123*** (0.019)	-0.167*** (0.032)
Overall $R^2$	0.15	0.32	0.22
Observations	5,043	5,043	5,043

*Note:* all skill indexes range between 0 and 1. Regressions use individual-level data. Robust standard errors in parenthesis. I use dummy of basic to moderate PC use complexity as measure of routineness. I pool data from all years. Regressions include occupation fixed-effects. Effect sizes are computed as the regression coefficient divided by the standard deviation in the occupation-level skill indexes. Table generated on 12 Jun 2020 at 17:15:26. Table generated with do file [usesAnalysis/createSESSkillRegressionsFull.do](#)

Table 9: Relative skill use across education groups  
(simple average indexes)

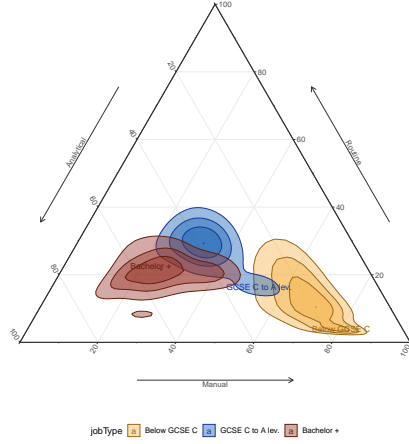
	<b>Analytical</b>	<b>Manual</b>	<b>Routine</b>
	(1)	(2)	(3)
GCSE C-A levels	0.034***	-0.018**	0.043***
	(0.005)	(0.006)	(0.011)
<i>Effect size</i>	0.293	-0.090	0.254
Bachelor+	0.072***	-0.081***	-0.039**
	(0.005)	(0.007)	(0.013)
<i>Effect size</i>	0.618	-0.409	-0.227
Overall $R^2$	0.35	0.44	0.13
Observations	14,592	14,592	14,592

*Note:* all skill indexes range between 0 and 1. Regressions use individual-level data. Robust standard errors in parenthesis. Coefficients represent the difference relative the lower education level. I use dummy of basic to moderate PC use complexity as measure of routineness. I pool data from all years. Regressions include occupation fixed-effects. Effect sizes are computed as the regression coefficient divided by the standard deviation in the occupation-level skill indexes. Table generated on 12 Jun 2020 at 17:15:28. Table generated with do file 3\_sesAnalysis/createSESSkillRegressionsPooled.do

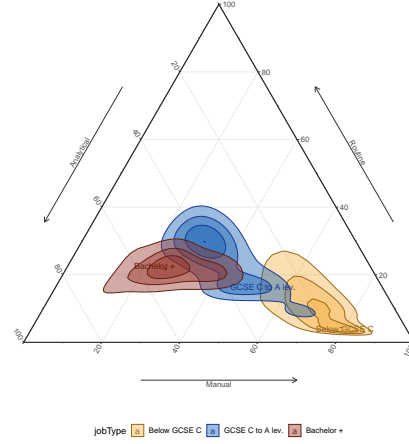
## 5 Triangle graphs

Figure 2: Exploring weighting schemes (density plots)

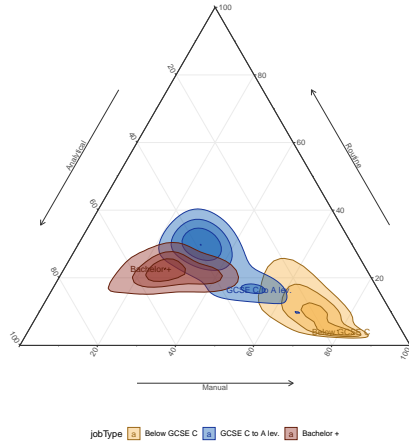
(a) Observations in SES education-occupation-  
job type cell



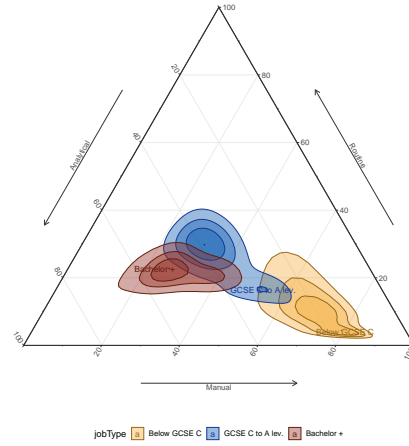
(b)  $\sqrt{d_1 d_2} \times observations_{LFS}$



(c)  $\sqrt{d_1 d_2} \times observations_{LFS} \times observations_{SES}$



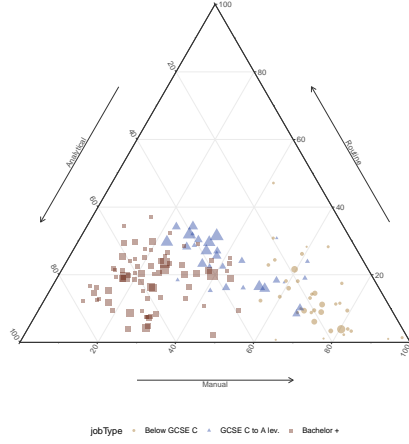
(d)  $\sqrt{d_1 d_2} \times observations_{SES}$



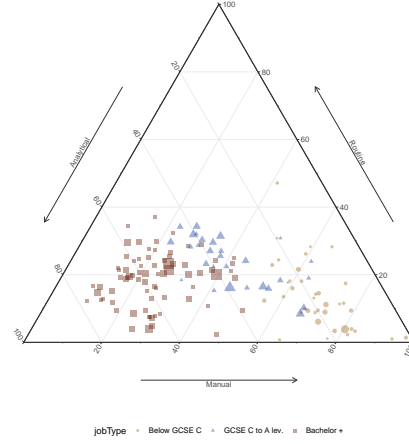
**Note:** figure based on occupation-level averages. Figure generated on 15 Jun 2020 at 16:04:16. Figure generated using the dofile 3\_sesAnalysis/skillUseTriangles.do.

Figure 3: Exploring weighting schemes (scatterplots)

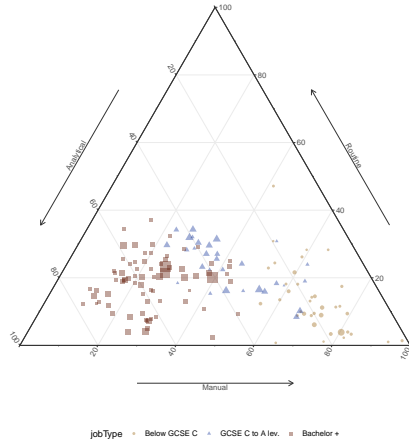
(a) Observations in SES education-occupation-  
job type cell



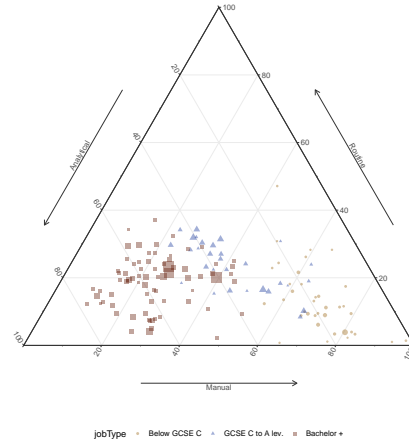
(b)  $\sqrt{d_1 d_2} \times observations_{LFS}$



(c)  $\sqrt{d_1 d_2} \times observations_{LFS} \times observations_{SES}$



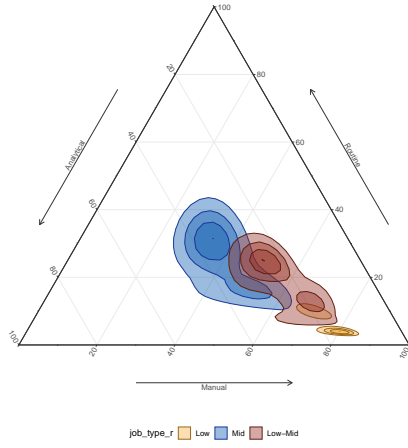
(d)  $\sqrt{d_1 d_2} \times observations_{SES}$



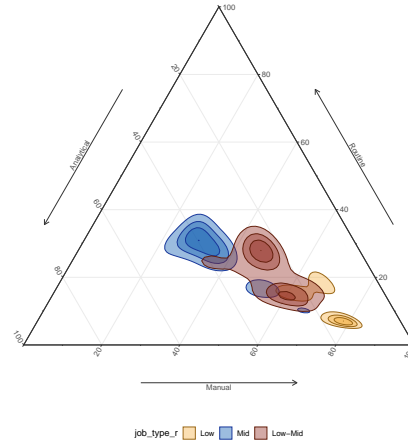
**Note:** figure based on occupation-level averages. Figure generated on 15 Jun 2020 at 16:04:16. Figure generated using the dofile 3\_sesAnalysis/skillUseTriangles.do.

Figure 4: Comparing core vs border jobs

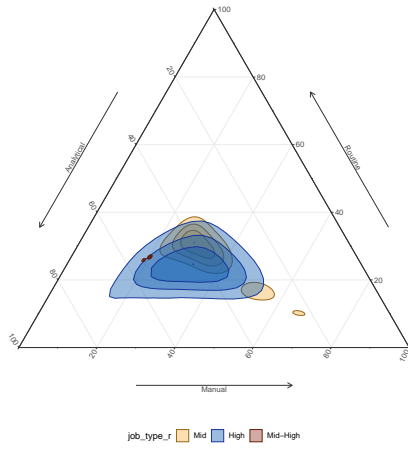
(a) Low individuals



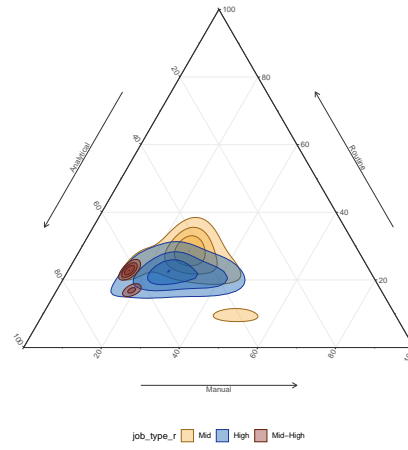
(b) Mid individuals



(c) Mid individuals



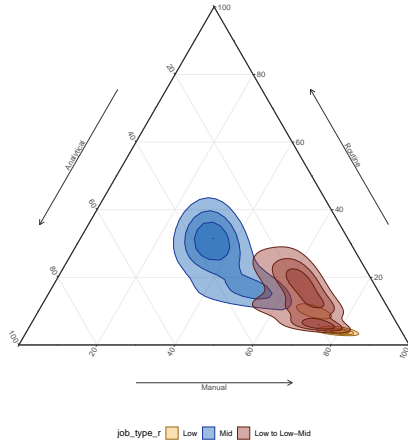
(d) High individuals



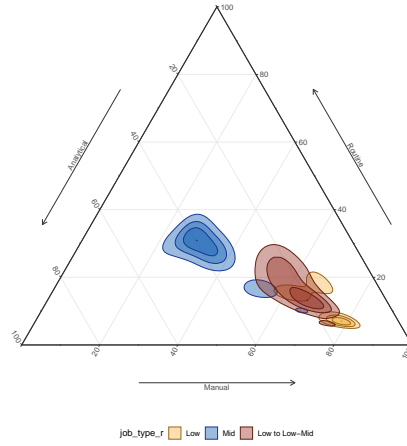
**Note:** graphs show occupation level averages. Observations weighted using  $\sqrt{d_1 d_2} \times observations_{LFS} \times observations_{SES}$  Figure generated on 15 Jun 2020 at 16:04:17. Figure generated using the dofile 3\_sesAnalysis/skillUseTriangles.do.

Figure 5: Comparing core vs transitioning jobs

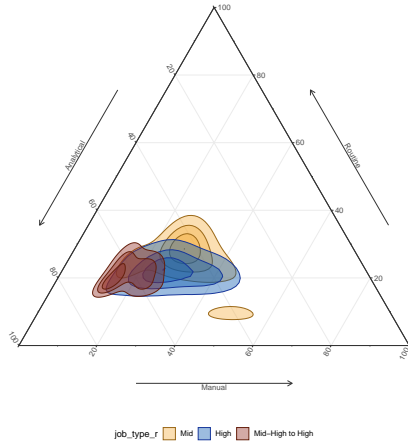
(a) Low individuals



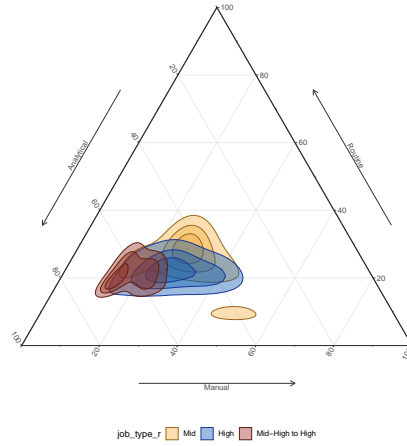
(b) Mid individuals



(c) Mid individuals



(d) High individuals



**Note:** graphs show occupation level averages. Observations weighted using  $\sqrt{d_1 d_2} \times observations_{LFS} \times observations_{SES}$  Figure generated on 15 Jun 2020 at 16:04:17. Figure generated using the dofile 3\_sesAnalysis/skillUseTriangles.do.



## 6 Average use tables

Table 10: Average skill use in core vs border jobs

<b>Job type</b>	<b>Analytical</b>	<b>Manual</b>	<b>Routine</b>
<i>Low-education individuals</i>			
Low	0.36	0.64	0.35
Mid	0.59	0.49	0.74
Low-mid	0.50	0.66	0.62
<i>Low-education individuals</i>			
Low	0.38	0.66	0.48
Mid	0.62	0.44	0.76
Low-mid	0.55	0.65	0.71
<i>Mid-education individuals</i>			
Mid	0.62	0.44	0.76
High	0.71	0.38	0.62
Mid-High	0.72	0.25	0.70
<i>High-education individuals</i>			
Mid	0.66	0.37	0.64
High	0.77	0.37	0.60
Mid-High	0.78	0.20	0.62

*Note:* the table shows unweighted average skill use by job type.  
Table generated on 19 Jun 2020 at 13:29:36. Table generated  
with do file 3\_sesAnalysis/create\_average\_use\_table.do

Table 11: Average skill use in core vs transitioning jobs

<b>Job type</b>	<b>Analytical</b>	<b>Manual</b>	<b>Routine</b>
<i>Low-education individuals</i>			
Low	0.36	0.64	0.35
Low-mid	0.50	0.66	0.62
Low to Low-Mid	0.43	0.67	0.56
<i>Low-education individuals</i>			
Low	0.38	0.66	0.48
Low-mid	0.55	0.65	0.71
Low to Low-Mid	0.46	0.67	0.63
<i>Mid-education individuals</i>			
High	0.71	0.38	0.62
Mid-High	0.72	0.25	0.70
Mid-High to High	0.70	0.35	0.68
<i>High-education individuals</i>			
High	0.77	0.37	0.60
Mid-High	0.78	0.20	0.62
Mid-High to High	0.75	0.23	0.57

*Note:* the table shows unweighted average skill use by job type.  
Table generated on 19 Jun 2020 at 13:29:36. Table generated  
with do file 3.sesAnalysis/create\_average\_use\_table.do

## 7 Masons

Entry requirements

Figure 5: Mid to Low-Mid transitions

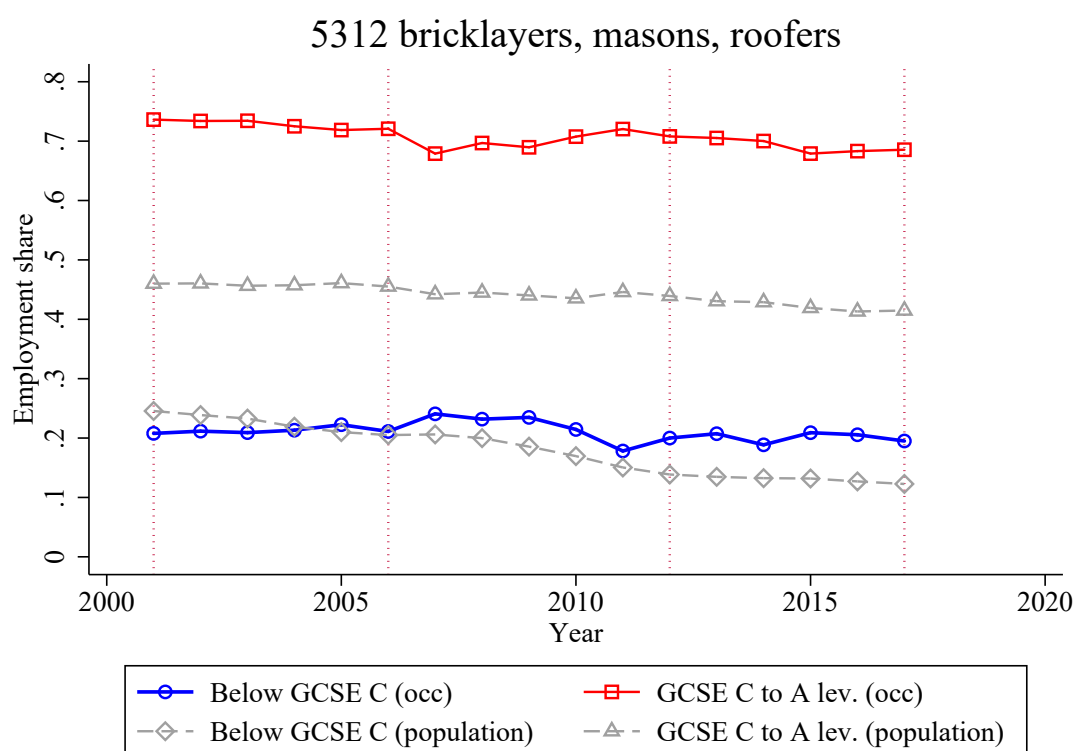
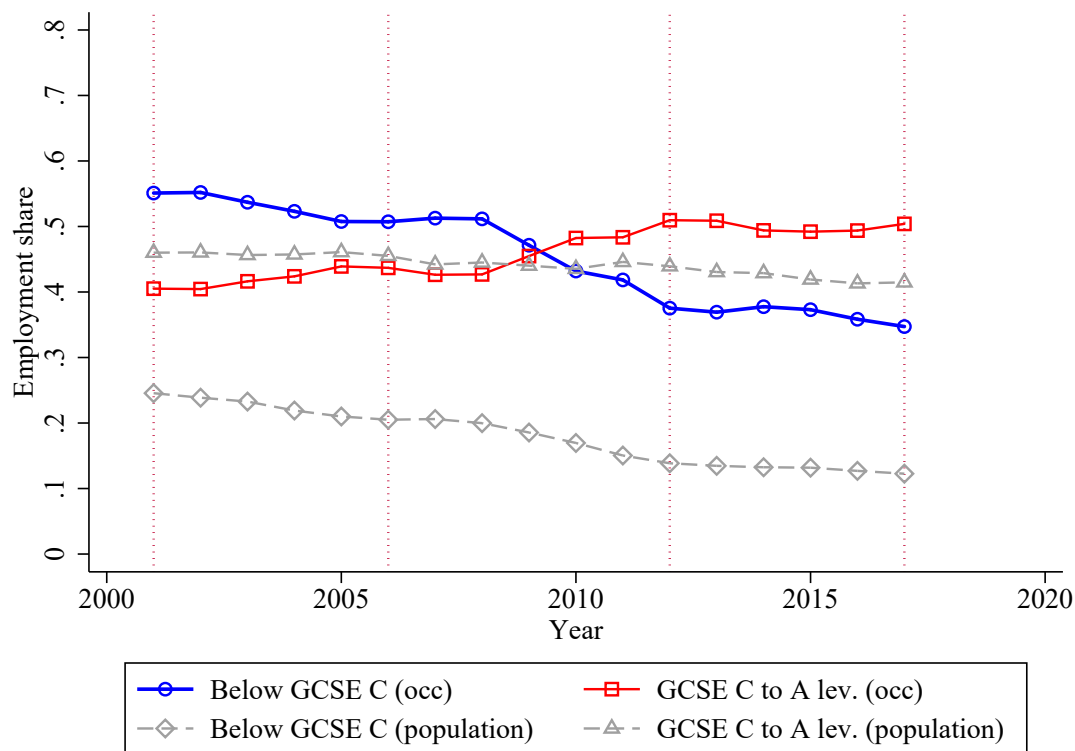


Figure 6: Aggregated graphs

(a) Low to Low-Mid



(b) Mid-High to High

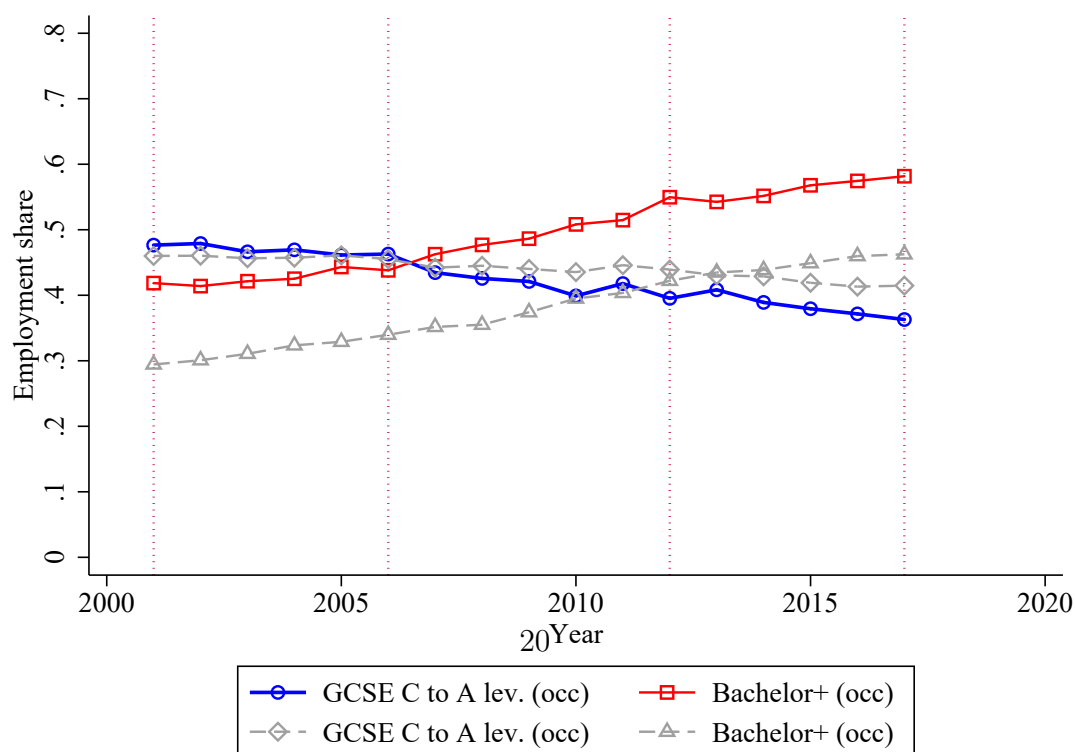


Figure 7: Low to Low-Mid transitions

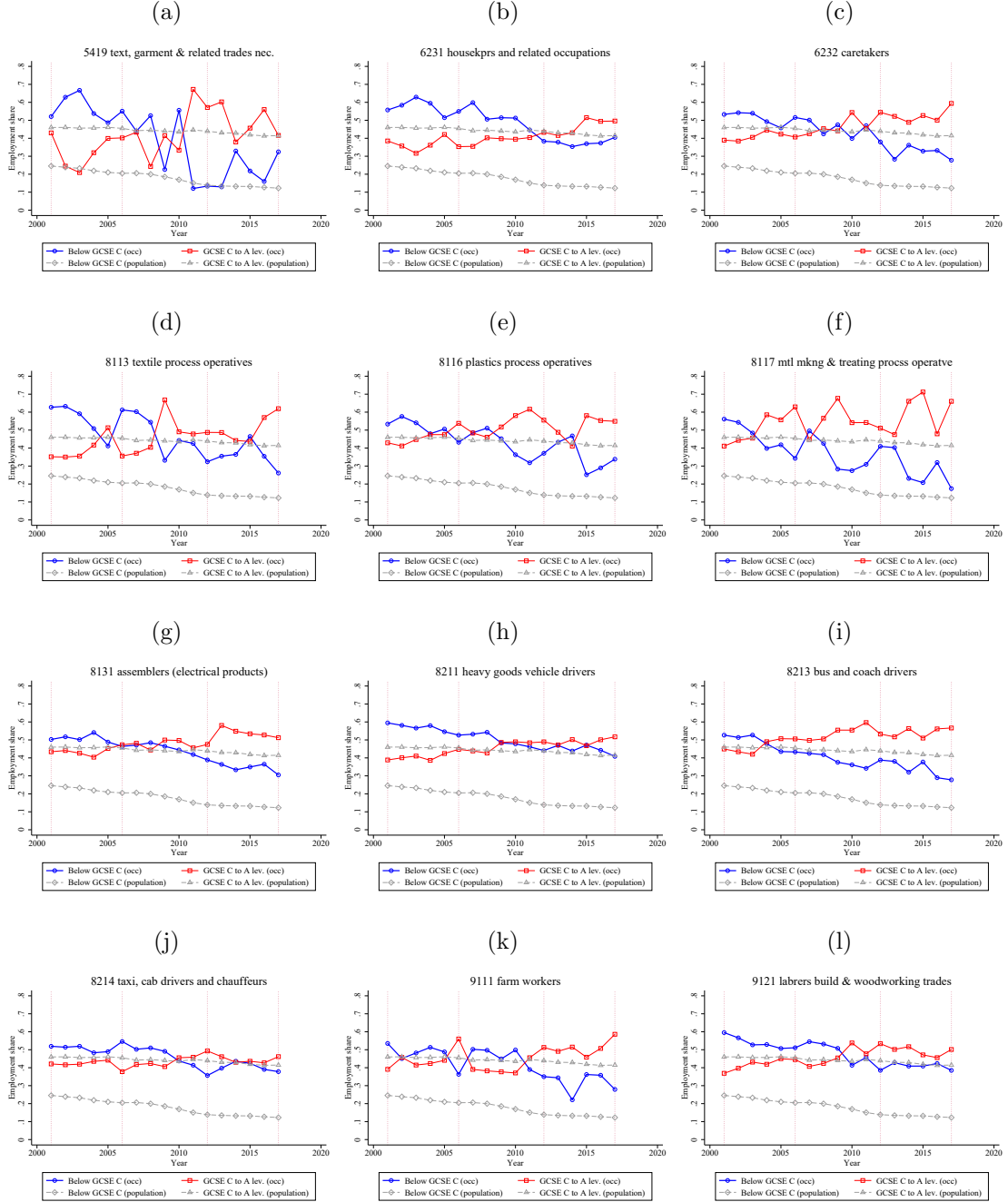


Figure 7: Low to Low-Mid transitions

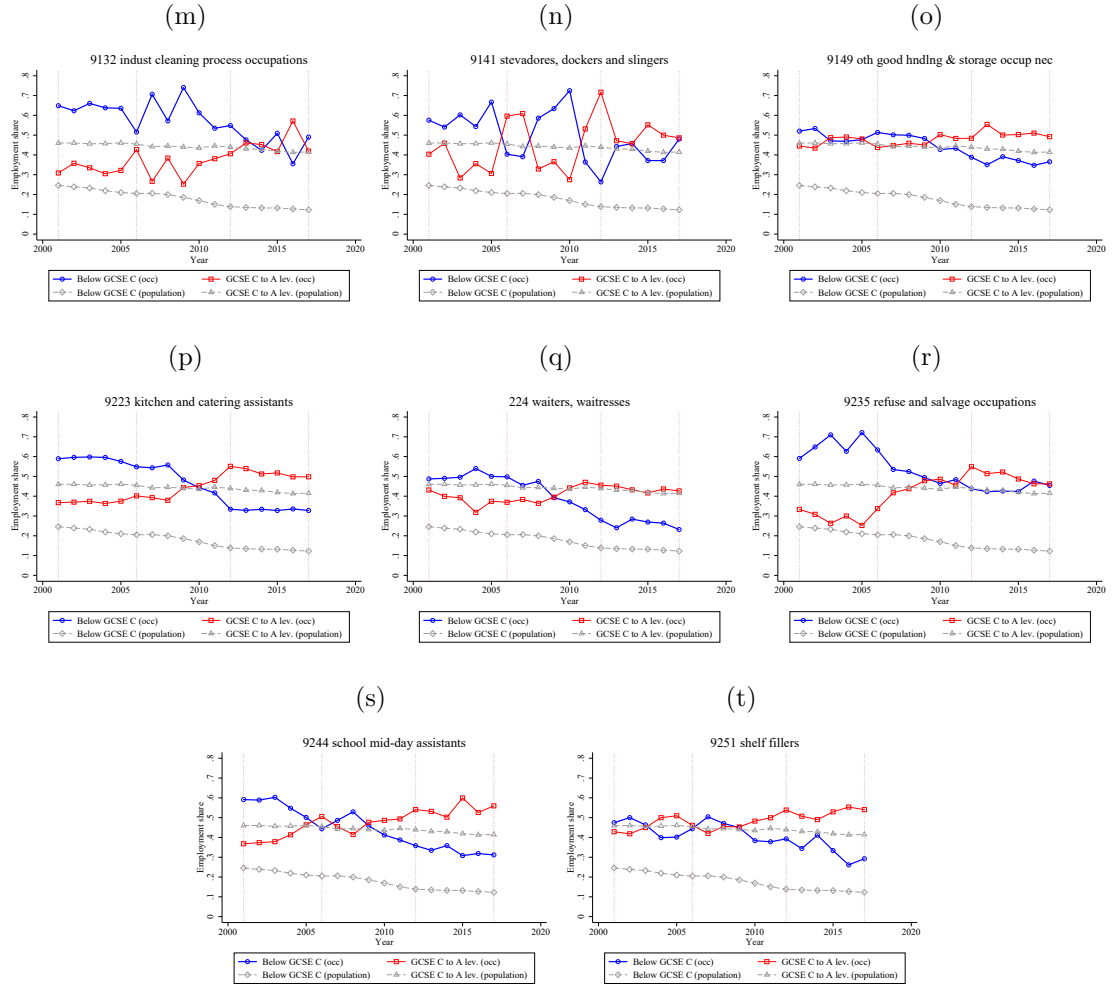


Figure 8: Mid-High to High transitions

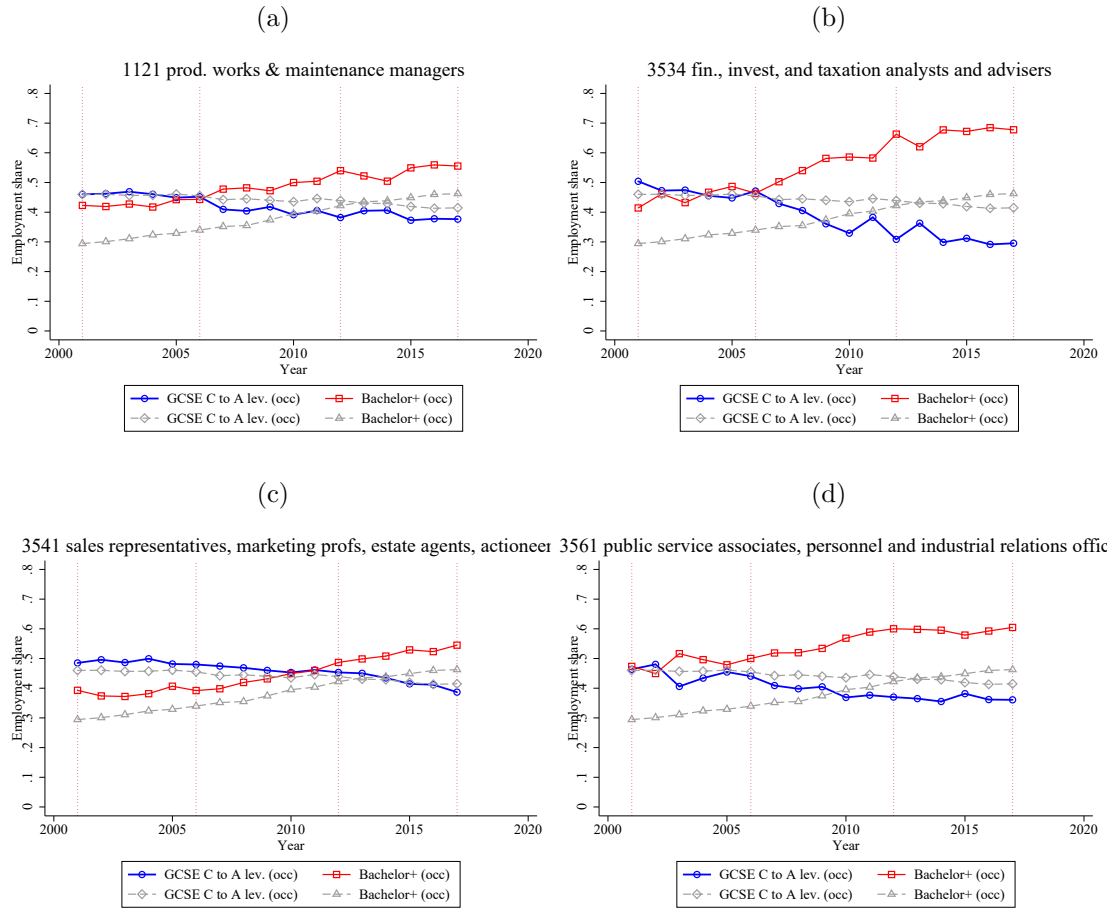
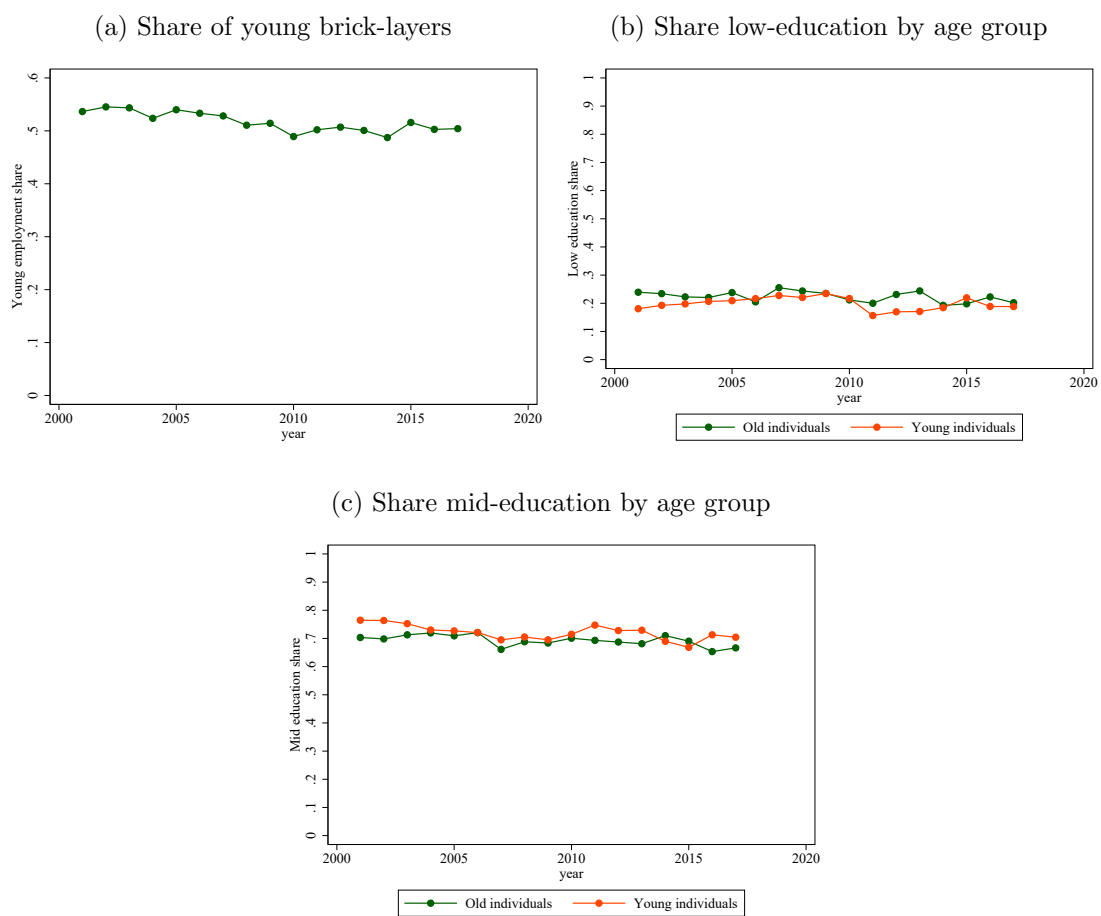


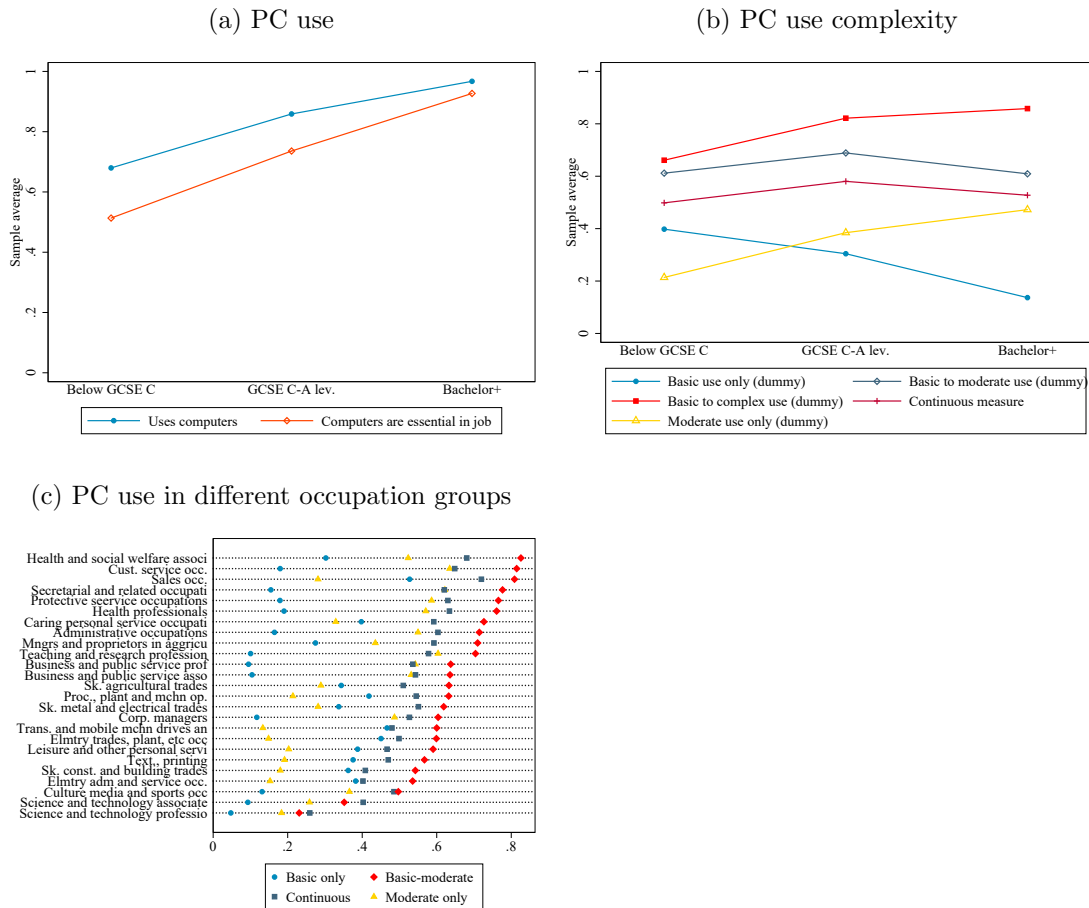
Figure 9: Various stats for brick layers





## 8 Other graphs

Figure 10: PC use complexity across different occupation groups



**Note:** basic use involves routine procedures such as printing and invoicing. Moderate use involves use of email and word processing and/or spreadsheets. Complex use involves use for statistical analysis. Figure generated on 12 Jun 2020 at 15:13:02. Figure generated using the dofile 3\_sesAnalysis/occRoutinePCUse.do.