

Appendix

Table A1 Regression Results for College Premium within Industry and within occupation

	Age 23-29				Age 30-65			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Col	0.552*** (0.110)	0.581*** (0.114)	0.501*** (0.114)	0.514*** (0.120)	0.603*** (0.052)	0.618*** (0.057)	0.539*** (0.056)	0.540*** (0.057)
Lcol	0.171** (0.074)	0.204*** (0.077)	0.125 (0.084)	0.144* (0.086)	0.286*** (0.032)	0.294*** (0.034)	0.224*** (0.034)	0.224*** (0.034)
Lhs	-0.162* (0.095)	-0.157* (0.091)	-0.162* (0.093)	-0.161* (0.093)	-0.308*** (0.033)	-0.302*** (0.034)	-0.239*** (0.033)	-0.237*** (0.033)
\widetilde{AD}_{t-4}	-0.044 (0.012)	0.012 (0.075)	-0.015 (0.075)	-0.011 (0.076)	0.042 (0.031)	0.036 (0.031)	0.055* (0.031)	0.049 (0.030)
Col * \widetilde{AD}_{t-4}	-0.203*** (0.060)	-0.200*** (0.057)	-0.196*** (0.056)	-0.198*** (0.058)	-0.015 (0.029)	-0.019 (0.029)	-0.029 (0.029)	-0.027 (0.029)
Lcol * \widetilde{AD}_{t-4}	-0.035 (0.048)	-0.043 (0.046)	-0.028 (0.046)	-0.035 (0.046)	-0.003 (0.020)	0.003 (0.020)	0.001 (0.020)	0.004 (0.020)
Lhs * \widetilde{AD}_{t-4}	-0.016 (0.052)	-0.030 (0.049)	-0.012 (0.050)	-0.017 (0.050)	0.008 (0.018)	0.008 (0.018)	0.002 (0.018)	0.002 (0.018)
X_i	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
δ_p	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
\widetilde{TL}	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
$Z_{p,t}$	Yes	Yes	Yes	Yes	No	No	Yes	Yes
δ_t	Yes	Yes	Yes	Yes	No	No	No	Yes
$Ret_{p,t}$	Yes	Yes	Yes	Yes	No	No	No	Yes
δ_i	No	Yes	No	Yes	No	Yes	No	Yes
δ_o	No	No	Yes	Yes	No	No	Yes	Yes
N	1,711	1,711	1,711	1,711	7,752	7,752	7,752	7,752
R²	0.2739	0.2832	0.3002	0.3087	0.3424	0.3497	0.3734	0.3785

This table reports the regression results for equation (1), controlling for industry fixed effect and occupation fixed effect, using CGSS 2003, 2006, 2010, 2011, 2012, 2013. Columns (1)-(4) list estimates for young workers (23-29-year-olds), and columns (5)-(8) list estimates for older workers (30-65-year-olds). We control industry fixed effect in columns (2) and (6), control occupation fixed effect in columns (3) and (7), and control both industry and occupation effects in columns (4) and (8). The other control variables are the same as described in Table 5. Standard errors reported in this table are clustered at province level. The t-statistics are estimated using wild cluster bootstrap method (boottest).

Table A2 Marginal Effect Estimates Using Logit Model on Unemployment

	Age 23-29			Age 30-65		
	(1)	(2)	(3)	(4)	(5)	(6)
Col	-0.074*** (0.016)	-0.069*** (0.017)	-0.065*** (0.016)	-0.204*** (0.021)	-0.175*** (0.020)	-0.169*** (0.020)
Lcol	-0.080*** (0.013)	-0.077*** (0.013)	-0.075*** (0.013)	-0.126*** (0.014)	-0.118*** (0.011)	-0.118*** (0.011)
Lhs	0.046*** (0.011)	0.046*** (0.011)	0.045*** (0.011)	0.048*** (0.005)	0.045*** (0.005)	0.045*** (0.005)
\widetilde{AD}_{t-4}	-0.025* (0.013)	-0.011 (0.015)	-0.017 (0.019)	-0.073*** (0.010)	0.003 (0.015)	0.028** (0.011)
Col * \widetilde{AD}_{t-4}	0.042*** (0.012)	0.042*** (0.013)	0.041*** (0.013)	0.032*** (0.011)	0.010 (0.013)	0.008 (0.013)
Lcol * \widetilde{AD}_{t-4}	0.046*** (0.013)	0.046*** (0.012)	0.044*** (0.014)	0.021* (0.011)	0.010 (0.013)	0.010 (0.010)
Lhs * \widetilde{AD}_{t-4}	-0.029** (0.014)	-0.029** (0.013)	-0.027** (0.012)	-0.016*** (0.005)	-0.019*** (0.005)	-0.019*** (0.005)
X_i	Yes	Yes	Yes	Yes	Yes	Yes
δ_p	Yes	Yes	Yes	Yes	Yes	Yes
\widetilde{TL}	No	Yes	Yes	No	Yes	Yes
$Z_{p,t}$	No	Yes	Yes	No	Yes	Yes
δ_t	No	No	Yes	No	No	Yes
$Ret_{p,t}$	No	No	Yes	No	No	Yes
N	5,333	5,333	5,333	24,738	24,738	24,738
R²	0.1114	0.1153	0.1282	0.1507	0.1697	0.1822

This table reports the marginal effect obtained from Logit regression estimates for equation (1). All variables listed in the table have the same definitions as shown in Table 6. Columns (1)-(3) list estimates for young workers, and columns (4)-(6) list estimates for older workers. We control the province fixed effect in columns (1) and (4), adding provincial economic variables in columns (2) and (5), and including year fixed effect in columns (3) and (6). Standard errors reported in this table are clustered at province level. The t-statistics are estimated using wild cluster bootstrap method (boottest).

Table A3 Estimated Results of Equation (1) Using Alternative Measure of College Expansion

	Age 25 - 29		Age 30 - 65	
	(1) Income	(2) Unemployment	(3) Income	(4) Unemployment
Col	0.427*** (0.044)	-0.064*** (0.015)	0.576*** (0.042)	-0.078*** (0.009)
Lcol	0.159*** (0.035)	-0.086*** (0.013)	0.330*** (0.024)	-0.105*** (0.010)
Lhs	-0.153*** (0.051)	0.087*** (0.020)	-0.286*** (0.023)	0.083*** (0.008)
\widetilde{AD}_{t-4}	-0.017 (0.034)	-0.021 (0.017)	-0.003 (0.036)	0.016 (0.013)
Col * \widetilde{AD}_{t-4}	-0.084*** (0.027)	0.029*** (0.010)	0.032 (0.019)	0.014** (0.005)
Lcol * \widetilde{AD}_{t-4}	-0.030 (0.019)	0.040*** (0.008)	0.011 (0.020)	0.031*** (0.007)
Lhs * \widetilde{AD}_{t-4}	0.002 (0.035)	-0.040*** (0.008)	-0.004 (0.014)	-0.034*** (0.007)
X_i	Yes	Yes	Yes	Yes
δ_p	Yes	Yes	Yes	Yes
\widetilde{TL}	Yes	Yes	Yes	Yes
$Z_{p,t}$	Yes	Yes	Yes	Yes
δ_t	Yes	Yes	Yes	Yes
$Ret_{p,t}$	Yes	Yes	Yes	Yes
N	3,735	5,334	16,852	24,738
R²	0.3832	0.0916	0.4098	0.1530

This table reports the estimated results of equation (1) on the income and employment using number of new college graduates in each province of each year as a measure of the college expansion. Columns (1)-(2) list estimates for young workers, and columns (3)-(4) list estimates for older workers. Columns (1) and (3) list estimated coefficients and standard errors on income, and columns (2) and (4) list the estimated results on unemployment. We control personal demographic variables X_i (age, age squared and gender), and province fixed effect δ_p and changes in overall labor force and its interaction with each education dummies \widetilde{TL} , and provincial economic and demographic variables $Z_{p,t}$ (log GDP, fixed capital investment, import and export, percentage of male, percentage of urban population), and including year fixed effect δ_t and the imputed number of retired workers with college degrees. Standard errors reported in this table are clustered at province level. The t-statistics are estimated using wild cluster bootstrap method (boottest).

Table A4 Estimates of Returns to Task Scores within Education

In(annual income)	(1)	(2)	(3)	(4)
Cognitive Analytical	1.325*** (0.110)	--	--	--
Cognitive Communicative	--	0.320*** (0.022)	--	--
Manual Precision	--	--	-0.252*** (0.024)	--
Manual Others	--	--	--	-0.759*** (0.069)
Col	0.504*** (0.024)	0.458*** (0.024)	0.529*** (0.023)	0.532*** (0.023)
Lcol	0.204*** (0.020)	0.169*** (0.021)	0.217*** (0.020)	0.218*** (0.020)
Lhs	-0.248*** (0.019)	-0.225*** (0.019)	-0.262*** (0.019)	-0.263*** (0.019)
Gender	0.263*** (0.015)	0.278*** (0.015)	0.274*** (0.015)	0.276*** (0.015)
Age	0.026*** (0.007)	0.027*** (0.007)	0.026*** (0.007)	0.027*** (0.007)
Age * Age	-0.0004*** (0.0001)	-0.0004*** (0.0001)	-0.0004*** (0.0001)	-0.0004*** (0.0001)
δ_p	Yes	Yes	Yes	Yes
δ_t	Yes	Yes	Yes	Yes
N	15,915	15,915	15,915	15,915
R²	0.2678	0.2715	0.2662	0.2661

This table reports the estimates for returns to task scores within education in current jobs for people in 25-65 years old. The dependent variable is log of annual income one year before the survey year for respondents with full-time employment. Our variable of interest is the score for each type of task for the respondent. The data is from CGSS 2003-2015, excluding 2005. We control province fixed effect and year fixed effect, as well as education dummies, gender, age and age squared in our estimation. Standard errors reported in this table are clustered at province level. The t-statistics are estimated using wild cluster bootstrap method (boottest).