

Online Appendix  
Work of the Past, Work of the Future

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Table 1: The Urban Wage Gradient among Working Age Adults, 1950 - 2015

	1950	1970	1980	1990	2000	2007	2015
<i>A. Less Than High School Education</i>							
Log pop density	0.098 (0.005)	0.081 (0.004)	0.050 (0.003)	0.066 (0.002)	0.035 (0.002)	0.031 (0.002)	0.016 (0.002)
Intercept	1.521 (0.026)	2.133 (0.020)	2.270 (0.016)	2.117 (0.014)	2.309 (0.011)	2.323 (0.012)	2.347 (0.013)
R <sup>2</sup>	0.368	0.407	0.294	0.508	0.325	0.240	0.072
<i>B. High School Degree</i>							
Log pop density	0.073 (0.003)	0.068 (0.002)	0.051 (0.003)	0.076 (0.002)	0.056 (0.002)	0.047 (0.002)	0.028 (0.002)
Intercept	1.781 (0.018)	2.320 (0.014)	2.402 (0.014)	2.241 (0.013)	2.417 (0.012)	2.472 (0.012)	2.504 (0.012)
R <sup>2</sup>	0.400	0.522	0.365	0.608	0.512	0.404	0.190
<i>C. Some College</i>							
Log pop density	0.071 (0.004)	0.079 (0.002)	0.060 (0.002)	0.090 (0.002)	0.076 (0.002)	0.069 (0.002)	0.051 (0.002)
Intercept	1.904 (0.021)	2.347 (0.012)	2.396 (0.013)	2.271 (0.013)	2.444 (0.013)	2.497 (0.014)	2.516 (0.013)
R <sup>2</sup>	0.304	0.648	0.470	0.673	0.621	0.550	0.412
<i>D. College Graduate</i>							
Log pop density	0.065 (0.005)	0.081 (0.002)	0.061 (0.002)	0.078 (0.002)	0.078 (0.002)	0.083 (0.002)	0.078 (0.003)
Intercept	2.136 (0.027)	2.668 (0.013)	2.691 (0.011)	2.658 (0.012)	2.759 (0.012)	2.782 (0.014)	2.757 (0.016)
R <sup>2</sup>	0.191	0.620	0.550	0.664	0.649	0.623	0.540
<i>E. Post-College Education</i>							
Log pop density	0.015 (0.008)	0.075 (0.003)	0.064 (0.002)	0.082 (0.002)	0.077 (0.002)	0.090 (0.003)	0.086 (0.003)
Intercept	2.308 (0.043)	2.774 (0.015)	2.808 (0.011)	2.863 (0.012)	2.983 (0.012)	3.017 (0.016)	3.008 (0.018)
R <sup>2</sup>	0.005	0.513	0.579	0.668	0.639	0.616	0.531

Each column of each panel reports a separate log wage regression of log hourly earnings of the indicated education group on log population density and a constant. N is 722 Commuting Zones in all years except in 1950, where N is 722 in Panels A through C, 711 in Panel D, and 685 in Panel E. Log population density equals the ratio of residents to land area in the indicated decade, and regressions are weighted by CZ working-age population in the indicated year. Data sources: U.S. Census of Population data for 1970, 1980, 1990, 2000, and pooled American Community Survey (ACS) data for years 2006 through 2008 and for 2014 through 2016 (Ruggles et al. 2018).

Table 2: The Urban Wage Gradient among Working Age Men, 1950 - 2015

	1950	1970	1980	1990	2000	2007	2015
<i>A. Less Than High School Education</i>							
Log pop density	0.100 (0.005)	0.083 (0.004)	0.051 (0.003)	0.064 (0.003)	0.031 (0.002)	0.025 (0.002)	0.008 (0.002)
Intercept	1.623 (0.025)	2.259 (0.021)	2.414 (0.019)	2.241 (0.016)	2.420 (0.012)	2.441 (0.013)	2.473 (0.014)
R <sup>2</sup>	0.390	0.407	0.235	0.427	0.230	0.143	0.016
<i>B. High School Degree</i>							
Log pop density	0.077 (0.004)	0.070 (0.003)	0.051 (0.003)	0.067 (0.003)	0.047 (0.002)	0.037 (0.002)	0.021 (0.002)
Intercept	1.887 (0.020)	2.477 (0.015)	2.580 (0.018)	2.421 (0.015)	2.574 (0.014)	2.616 (0.013)	2.621 (0.014)
R <sup>2</sup>	0.381	0.501	0.255	0.468	0.354	0.266	0.102
<i>C. Some College</i>							
Log pop density	0.074 (0.005)	0.079 (0.002)	0.058 (0.003)	0.083 (0.002)	0.067 (0.002)	0.061 (0.002)	0.043 (0.002)
Intercept	2.016 (0.024)	2.479 (0.013)	2.564 (0.016)	2.444 (0.014)	2.605 (0.014)	2.647 (0.014)	2.661 (0.014)
R <sup>2</sup>	0.274	0.618	0.371	0.607	0.531	0.482	0.329
<i>D. College Graduate</i>							
Log pop density	0.078 (0.006)	0.093 (0.003)	0.069 (0.002)	0.080 (0.002)	0.078 (0.002)	0.084 (0.003)	0.077 (0.003)
Intercept	2.185 (0.034)	2.705 (0.015)	2.788 (0.013)	2.763 (0.013)	2.874 (0.013)	2.896 (0.015)	2.892 (0.017)
R <sup>2</sup>	0.179	0.635	0.550	0.649	0.614	0.599	0.499
<i>E. Post-College Education</i>							
Log pop density	0.026 (0.010)	0.081 (0.003)	0.072 (0.002)	0.089 (0.002)	0.081 (0.002)	0.096 (0.003)	0.089 (0.003)
Intercept	2.290 (0.054)	2.795 (0.017)	2.848 (0.013)	2.916 (0.013)	3.061 (0.013)	3.118 (0.017)	3.144 (0.019)
R <sup>2</sup>	0.010	0.496	0.590	0.667	0.630	0.603	0.523

Each column of each panel reports a separate log wage regression of log hourly earnings of the indicated education group on log population density and a constant. N is 722 Commuting Zones in all years except in 1950, where N is 722 in Panels A and B, 716 in Panel C, 685 in Panel D, and 664 in Panel E. Log population density equals the ratio of residents to land area in the indicated decade, and regressions are weighted by CZ working-age population in the indicated year. Data sources: U.S. Census of Population data for 1970, 1980, 1990, 2000, and pooled American Community Survey (ACS) data for years 2006 through 2008 and for 2014 through 2016 (Ruggles et al. 2018).

Table 3: The Urban Wage Gradient among Working Age Women, 1950 - 2015

	1950	1970	1980	1990	2000	2007	2015
<i>A. Less Than High School Education</i>							
Log pop density	0.120 (0.006)	0.090 (0.003)	0.059 (0.002)	0.073 (0.002)	0.045 (0.002)	0.044 (0.002)	0.032 (0.002)
Intercept	1.065 (0.030)	1.731 (0.018)	1.937 (0.010)	1.873 (0.012)	2.100 (0.012)	2.082 (0.013)	2.098 (0.014)
R <sup>2</sup>	0.389	0.525	0.607	0.614	0.415	0.347	0.199
<i>B. High School Degree</i>							
Log pop density	0.076 (0.004)	0.077 (0.002)	0.065 (0.002)	0.094 (0.002)	0.073 (0.002)	0.065 (0.002)	0.042 (0.002)
Intercept	1.561 (0.021)	1.999 (0.012)	2.096 (0.010)	1.972 (0.013)	2.182 (0.012)	2.245 (0.013)	2.292 (0.013)
R <sup>2</sup>	0.339	0.644	0.641	0.696	0.637	0.530	0.347
<i>C. Some College</i>							
Log pop density	0.054 (0.005)	0.078 (0.002)	0.069 (0.002)	0.102 (0.002)	0.086 (0.002)	0.079 (0.002)	0.060 (0.002)
Intercept	1.783 (0.028)	2.080 (0.012)	2.128 (0.011)	2.055 (0.014)	2.261 (0.013)	2.331 (0.014)	2.356 (0.014)
R <sup>2</sup>	0.135	0.661	0.644	0.697	0.672	0.588	0.471
<i>D. College Graduate</i>							
Log pop density	0.015 (0.007)	0.042 (0.002)	0.046 (0.002)	0.077 (0.002)	0.078 (0.002)	0.079 (0.002)	0.077 (0.003)
Intercept	2.196 (0.037)	2.630 (0.014)	2.508 (0.009)	2.486 (0.012)	2.623 (0.012)	2.665 (0.014)	2.629 (0.015)
R <sup>2</sup>	0.008	0.298	0.512	0.638	0.652	0.597	0.547
<i>E. Post-College Education</i>							
Log pop density	0.002 (0.011)	0.050 (0.004)	0.049 (0.002)	0.072 (0.002)	0.070 (0.002)	0.080 (0.003)	0.077 (0.003)
Intercept	2.327 (0.061)	2.728 (0.021)	2.693 (0.011)	2.765 (0.012)	2.888 (0.012)	2.925 (0.015)	2.910 (0.017)
R <sup>2</sup>	0.000	0.204	0.467	0.626	0.615	0.584	0.504

Each column of each panel reports a separate log wage regression of log hourly earnings of the indicated education group on log population density and a constant. N is 722 Commuting Zones in all years except in 1950, where N is 722 in Panel A, 721 in Panel B, 712 in Panel C, 652 in Panel D, and 515 in Panel E. Log population density equals the ratio of residents to land area in the indicated decade, and regressions are weighted by CZ working-age population in the indicated year. Data sources: U.S. Census of Population data for 1970, 1980, 1990, 2000, and pooled American Community Survey (ACS) data for years 2006 through 2008 and for 2014 through 2016 (Ruggles et al. 2018).

Table 4: The Urban Wage Gradient among Native-Born Men and Women, 1950 - 2015

	1950	1970	1980	1990	2000	2007	2015
<i>A. Less Than High School Education</i>							
Density	0.099 (0.005)	0.084 (0.004)	0.057 (0.003)	0.081 (0.002)	0.053 (0.002)	0.050 (0.002)	0.025 (0.002)
Intercept	1.518 (0.025)	2.121 (0.020)	2.247 (0.016)	2.068 (0.014)	2.246 (0.011)	2.257 (0.013)	2.313 (0.013)
R <sup>2</sup>	0.380	0.430	0.365	0.609	0.537	0.419	0.146
<i>B. High School Degree</i>							
Density	0.072 (0.003)	0.070 (0.002)	0.054 (0.003)	0.083 (0.002)	0.070 (0.002)	0.064 (0.002)	0.041 (0.002)
Intercept	1.788 (0.018)	2.315 (0.014)	2.393 (0.014)	2.213 (0.014)	2.362 (0.012)	2.406 (0.013)	2.453 (0.013)
R <sup>2</sup>	0.392	0.532	0.393	0.629	0.603	0.525	0.313
<i>C. Some College</i>							
Density	0.070 (0.004)	0.080 (0.002)	0.061 (0.002)	0.096 (0.002)	0.084 (0.002)	0.078 (0.002)	0.057 (0.002)
Intercept	1.909 (0.021)	2.347 (0.012)	2.394 (0.013)	2.252 (0.014)	2.412 (0.013)	2.464 (0.014)	2.494 (0.014)
R <sup>2</sup>	0.303	0.654	0.482	0.679	0.649	0.586	0.449
<i>D. College Graduate</i>							
Density	0.064 (0.005)	0.085 (0.002)	0.063 (0.002)	0.083 (0.002)	0.086 (0.002)	0.095 (0.003)	0.084 (0.003)
Intercept	2.141 (0.027)	2.653 (0.013)	2.686 (0.012)	2.641 (0.013)	2.729 (0.013)	2.737 (0.015)	2.737 (0.016)
R <sup>2</sup>	0.183	0.644	0.558	0.663	0.670	0.667	0.582
<i>E. Post-College Education</i>							
Density	0.017 (0.008)	0.079 (0.003)	0.067 (0.002)	0.089 (0.002)	0.088 (0.002)	0.101 (0.003)	0.090 (0.003)
Intercept	2.305 (0.043)	2.764 (0.016)	2.795 (0.012)	2.836 (0.013)	2.939 (0.013)	2.975 (0.016)	2.983 (0.017)
R <sup>2</sup>	0.007	0.522	0.590	0.675	0.686	0.649	0.568

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Table 5: The Urban Wage Density Gradient among Foreign-Born Men and Women, 1950 - 2015

	1950	1970	1980	1990	2000	2007	2015
<i>A. Less Than High School Education</i>							
Log pop density	0.067 (0.011)	0.082 (0.007)	0.061 (0.005)	0.072 (0.004)	0.034 (0.003)	0.033 (0.003)	0.012 (0.004)
Intercept	1.773 (0.058)	2.076 (0.040)	2.129 (0.028)	2.015 (0.024)	2.265 (0.017)	2.258 (0.019)	2.353 (0.021)
R <sup>2</sup>	0.060	0.165	0.177	0.288	0.161	0.122	0.016
<i>B. High School Degree</i>							
Log pop density	0.072 (0.014)	0.062 (0.007)	0.064 (0.004)	0.074 (0.003)	0.045 (0.003)	0.045 (0.003)	0.025 (0.003)
Intercept	1.819 (0.077)	2.297 (0.038)	2.246 (0.023)	2.146 (0.019)	2.354 (0.015)	2.336 (0.018)	2.415 (0.016)
R <sup>2</sup>	0.069	0.110	0.255	0.415	0.289	0.231	0.102
<i>C. Some College</i>							
Log pop density	0.068 (0.020)	0.111 (0.009)	0.074 (0.004)	0.086 (0.003)	0.061 (0.003)	0.062 (0.003)	0.053 (0.003)
Intercept	1.927 (0.119)	2.124 (0.053)	2.250 (0.025)	2.211 (0.020)	2.441 (0.016)	2.436 (0.019)	2.429 (0.019)
R <sup>2</sup>	0.039	0.178	0.283	0.463	0.412	0.325	0.273
<i>D. College Graduate</i>							
Log pop density	0.062 (0.026)	0.029 (0.011)	0.066 (0.006)	0.068 (0.004)	0.062 (0.003)	0.073 (0.004)	0.082 (0.004)
Intercept	2.227 (0.158)	2.895 (0.064)	2.571 (0.032)	2.611 (0.024)	2.760 (0.020)	2.709 (0.026)	2.655 (0.025)
R <sup>2</sup>	0.031	0.014	0.158	0.271	0.307	0.270	0.348
<i>E. Post-College Education</i>							
Log pop density	0.028 (0.035)	0.055 (0.010)	0.041 (0.005)	0.054 (0.005)	0.035 (0.004)	0.062 (0.006)	0.067 (0.005)
Intercept	2.265 (0.217)	2.839 (0.058)	2.933 (0.029)	2.964 (0.030)	3.168 (0.026)	3.139 (0.033)	3.137 (0.031)
R <sup>2</sup>	0.004	0.050	0.083	0.126	0.082	0.145	0.187

Each column of each panel reports a separate log wage regression of log hourly earnings of the indicated education group on log population density and a constant. N is 722 Commuting Zones in all years except in 1950, where N is 618 in Panel A, 373 in Panel B, 272 in Panel C, 178 in Panel D, and 154 in Panel E. Log population density equals the ratio of residents to land area in the indicated decade, and regressions are weighted by CZ working-age population in the indicated year. Data sources: U.S. Census of Population data for 1970, 1980, 1990, 2000, and pooled American Community Survey (ACS) data for years 2006 through 2008 and for 2014 through 2016 (Ruggles et al. 2018).