Harris Online Appendix

Figure A.1. Trends in High School Graduation for Southern Versus Other States

*Source*: Authors’ tabulation.

*Note*: weighted by cohort size, *N* (district) = 648 for southern states, and *N* (district) = 4,193 for other states. Southern states in our sample are AL, AR, DE, FL, KY, MD, SC, TN, TX, VA; non-Southern states are AK, AZ, CA, CO, CT, IA, ID, IN, MA, ME, MN, MO, NE, NH, NV, NY, OH, OR, PA, RI, SD, WA, and WY.

Figure A.2. Trends in High School Cohort Size

*Source*: Authors’ tabulation.

*Note*: Sample A includes districts with nonmissing graduation rates of 2016–22, weighted by cohort size, *N* (district) = 3,163. Sample B includes districts with nonmissing graduation rates of 2016–21, weighted by cohort size, *N* (district) = 4,841.

Figure A.3. Trends in Two-Year College Entry, For-Profit Versus Nonprofit

*Source*: Authors’ tabulation.

Figure A.4. Trends in Four-Year College Enrollment, For-Profit versus Nonprofit

*Source*: Authors’ tabulation.

Figure A.5. Trends in High School Graduation by Race

*Source*: Authors’ tabulation.

*Note*: The number of districts with Black less than 50 percent is 179, White less than 50 percent is 2,455, and Hispanic less than 5 percent is 334.

Figure A.6. Trend in High School Graduation Rates by Poverty Level

*Source*: Authors’ tabulation.

*Note*: The number of districts for FRL>50% is 1,464, and for FRL<=50% is 1,631.

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| Table A.1. Samples of States in High School Analyses  |
| State | 2016–21 | 2022 | Cohort size |
| Alaska | Yes | Yes | Yes |
| Alabama | Yes | Yes | Yes |
| Arkansas | Yes | Yes | Yes |
| Arizona | Yes |  | Yes |
| California | Yes | Yes | Yes |
| Colorado | Yes | Yes | Yes |
| Connecticut | Yes |  | Yes |
| District Of Columbia |  |  |  |
| Delaware | Yes |  | Yes |
| Florida | Yes |  | Yes |
| Georgia | Yes | Yes |  |
| Hawaii |  |  |  |
| Iowa | Yes | Yes | Yes |
| Idaho | Yes |  | Yes |
| Illinois | Yes |  |  |
| Indiana | Yes | Yes | Yes |
| Kansas | Yes | Yes |  |
| Kentucky | Yes |  | Yes |
| Louisiana | Yes |  |  |
| Massachusetts | Yes |  | Yes |
| Maryland | Yes | Yes | Yes |
| Maine | Yes | Yes | Yes |
| Michigan |  |  |  |
| Minnesota | Yes |  | Yes |
| Missouri | Yes | Yes | Yes |
| Mississippi | Yes | Yes |  |
| Montana |  |  |  |
| North Carolina | Yes |  |  |
| North Dakota | Yes |  |  |
| Nebraska | Yes | Yes | Yes |
| New Hampshire | Yes |  | Yes |
| New Jersey | Yes |  |  |
| New Mexico | Yes |  |  |
| Nevada | Yes | Yes | Yes |
| New York | Yes | Yes | Yes |
| Ohio | Yes | Yes | Yes |
| Oklahoma |  |  |  |
| Oregon | Yes | Yes | Yes |
| Pennsylvania | Yes |  | Yes |
| Rhode Island | Yes |  | Yes |
| South Carolina | Yes | Yes | Yes |
| South Dakota | Yes | Yes | Yes |
| Tennessee | Yes | Yes | Yes |
| Texas | Yes |  | Yes |
| Utah |  |  |  |
| Virginia | Yes | Yes | Yes |
| Vermont |  |  |  |
| Washington | Yes | Yes | Yes |
| Wisconsin | Yes |  | Yes |
| West Virginia | Yes |  |  |
| Wyoming | Yes | Yes | Yes |
| Total | 44 | 24 | 34 |
| *Source*: Authors’ tabulation. |

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| Table A.2. Comparing 2022 High School Samples of States on Covariates |
| Covariates | Sample A (Twenty-Four States) | Sample B (Forty-Four States) | All States |
| Mean | SD | Mean | SD | Mean | SD |
| In-person | 0.36 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| Remote | 0.17 | 0.25 | 0.16 | 0.24 | 0.15 | 0.23 |
| LFP | 48.22 | 5.20 | 47.79 | 5.64 | 47.88 | 5.58 |
| StdRelax | 1.79 | 1.01 | 1.78 | 0.91 | 2.01 | 0.93 |
| COVID cases | 89.51 | 26.49 | 91.64 | 24.12 | 90.64 | 23.86 |
| Black | 0.08 | 0.16 | 0.09 | 0.15 | 0.09 | 0.17 |
| Hispanic | 0.19 | 0.22 | 0.21 | 0.24 | 0.17 | 0.22 |
| White | 0.64 | 0.28 | 0.62 | 0.28 | 0.66 | 0.28 |
| *Source*: Authors’ tabulation.*Note*: Sample A includes states that have nonmissing graduation rates for 2016–22, and Sample B includes states that have nonmissing graduation rates for 2016-2021. See table A.1 for the complete list of states. |

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| Table A.3. Regression Results Dropping District-Specific Linear Trends |
|  | (1) | (2) | (3) |
| In-Person | 0.487\*\*\* | 0.660\*\*\* | 0.558 |
|  | [0.183] | [0.185] | [1.099] |
| Remote | 0.445 | -0.017 | 1.879 |
|  | [0.371] | [0.414] | [1.679] |
| LFP |  | 0.039 | 0.041 |
|  |  | [0.044] | [0.044] |
| StdRelax |  | -0.124 | -0.125 |
|  |  | [0.093] | [0.093] |
| StdRelax\* GradExam |  | 0.139\*\* | 0.137\*\* |
|  |  | [0.065] | [0.065] |
| COVID cases |  | -0.021\*\*\* | -0.018\*\* |
|  |  | [0.004] | [0.008] |
| In-person\* COVID cases |  |  | 0.001 |
|  |  |  | [0.012] |
| Remote\* COVID cases |  |  | -0.022 |
|  |  |  | [0.018] |
| Total *R*2 | 0.810 | 0.810 | 0.810 |
| Observations | 34,245 | 34,245 | 34,245 |
| District FE, Year FE | Y | Y | Y |
| *Source:* Authors’ tabulations.*Note*: Linear regression of high school graduation rate (0 to 100) on learning mode and other covariates Learning mode has three categories: in-person, hybrid, and remote, with hybrid as the reference group. The sample period is school years 2015–16 to 2020–21, excluding 2019–20. *Covid Case* was defined as cases per 1,000 population. Standard errors in parenthesis are clustered at the district level. \* *p* < .1; \*\* *p* < .05; \*\*\* *p* < .01 |