## Online Appendix <br> For

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Not For Publication

Table A1: Simple, Controlled and Difference-in-Differences Estimated Effects of School Choice on High School Outcomes: Tel Aviv District 9 vs. Comparison Goup

|  | 1992 | 1993 | 1994 | DID |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | True | False |
|  |  |  |  | 92/3 vs. 94 | 92 vs. 93 |
| Dependent variable | (1) | (2) | (3) | (4) | (5) |
| Drop out |  |  |  |  |  |
| Control group mean | 0.128 | 0.123 | 0.133 |  |  |
| Treatment-control difference | 0.052 | 0.070 | -0.006 | -0.073 | 0.013 |
|  | (0.028) | (0.024) | (0.023) | (0.017) | (0.021) |
| Treatment-control controlled difference | 0.014 | 0.031 | -0.041 | -0.084 | 0.013 |
|  | (0.017) | (0.021) | (0.018) | (0.015) | (0.019) |
| Eligible for Bagrut |  |  |  |  |  |
| Control group mean | 0.504 | 0.542 | 0.528 |  |  |
| Treatment-control difference | $\begin{aligned} & -0.067 \\ & (0.063) \end{aligned}$ | $\begin{aligned} & -0.097 \\ & (0.043) \end{aligned}$ | $\begin{gathered} -0.008 \\ (0.044) \end{gathered}$ | $\begin{gathered} 0.081 \\ (0.023) \end{gathered}$ | $\begin{aligned} & -0.025 \\ & (0.026) \end{aligned}$ |
| Treatment-control controlled difference | $\begin{gathered} 0.043 \\ (0.043) \end{gathered}$ | $\begin{aligned} & -0.016 \\ & (0.022) \end{aligned}$ | $\begin{gathered} 0.053 \\ (0.027) \end{gathered}$ | $\begin{gathered} 0.061 \\ (0.023) \end{gathered}$ | $\begin{gathered} -0.041 \\ (0.025) \end{gathered}$ |
| Average score |  |  |  |  |  |
| Control group mean | 68.068 | 69.401 | 69.251 |  |  |
| Treatment-control difference | $\begin{aligned} & -8.225 \\ & (3.771) \end{aligned}$ | $\begin{aligned} & -9.325 \\ & (3.078) \end{aligned}$ | $\begin{aligned} & -2.553 \\ & (3.305) \end{aligned}$ | $\begin{gathered} 6.883 \\ (1.541) \end{gathered}$ | $\begin{aligned} & -0.654 \\ & (1.860) \end{aligned}$ |
| Treatment-control controlled difference | $\begin{aligned} & -1.101 \\ & (2.023) \end{aligned}$ | $\begin{aligned} & -3.368 \\ & (1.998) \end{aligned}$ | $\begin{gathered} 2.553 \\ (2.029) \end{gathered}$ | $\begin{gathered} 6.580 \\ (1.452) \end{gathered}$ | $\begin{aligned} & -1.695 \\ & (1.733) \end{aligned}$ |
| Number of Bagrut credits |  |  |  |  |  |
| Control group mean | 18.526 | 18.936 | 18.621 |  |  |
| Treatment-control difference | $\begin{aligned} & -2.855 \\ & (1.103) \end{aligned}$ | $\begin{aligned} & -3.130 \\ & (1.022) \end{aligned}$ | $\begin{aligned} & -1.047 \\ & (0.973) \end{aligned}$ | $\begin{gathered} 2.113 \\ (0.494) \end{gathered}$ | $\begin{aligned} & -0.075 \\ & (0.582) \end{aligned}$ |
| Treatment-control controlled difference | $\begin{aligned} & -0.564 \\ & (0.595) \end{aligned}$ | $\begin{aligned} & -1.093 \\ & (0.648) \end{aligned}$ | $\begin{gathered} 0.592 \\ (0.709) \end{gathered}$ | $\begin{gathered} 1.962 \\ (0.476) \end{gathered}$ | $\begin{aligned} & -0.311 \\ & (0.548) \end{aligned}$ |
| Number of science credits |  |  |  |  |  |
| Control group mean | 2.603 | 2.427 | 2.414 |  |  |
| Treatment-control difference | $\begin{aligned} & -1.021 \\ & (0.385) \end{aligned}$ | $\begin{aligned} & -0.935 \\ & (0.253) \end{aligned}$ | $\begin{aligned} & -0.685 \\ & (0.276) \end{aligned}$ | $\begin{gathered} 0.331 \\ (0.161) \end{gathered}$ | $\begin{gathered} 0.132 \\ (0.184) \end{gathered}$ |
| Treatment-control controlled difference | $\begin{aligned} & -0.285 \\ & (0.209) \end{aligned}$ | $\begin{gathered} -0.317 \\ (0.146) \end{gathered}$ | $\begin{aligned} & -0.130 \\ & (0.138) \end{aligned}$ | $\begin{gathered} 0.269 \\ (0.157) \end{gathered}$ | $\begin{gathered} 0.040 \\ (0.180) \end{gathered}$ |
| Number of honor-level subjects |  |  |  |  |  |
| Control group mean | 2.029 | 2.093 | 2.057 |  |  |
| Treatment-control difference | $\begin{aligned} & -0.531 \\ & (0.160) \end{aligned}$ | $\begin{aligned} & -0.542 \\ & (0.151) \end{aligned}$ | $\begin{aligned} & -0.282 \\ & (0.143) \end{aligned}$ | $\begin{gathered} 0.275 \\ (0.069) \end{gathered}$ | $\begin{gathered} 0.020 \\ (0.078) \end{gathered}$ |
| Treatment-control controlled difference | $\begin{aligned} & -0.198 \\ & (0.080) \end{aligned}$ | $\begin{aligned} & -0.223 \\ & (0.094) \end{aligned}$ | $\begin{aligned} & -0.024 \\ & (0.088) \end{aligned}$ | $\begin{gathered} 0.236 \\ (0.066) \end{gathered}$ | $\begin{aligned} & -0.003 \\ & (0.073) \end{aligned}$ |
| Number of students |  |  |  |  |  |
| Control group | 4,037 | 4,095 | 4,411 | 12,543 | 8,132 |
| Treatment group | 761 | 829 | 791 | 2,381 | 1,590 |

Notes: The estimates presented in the table are from difference-in-differences regressions that include primary school fied effects Standard errors in parentheses are adjusted for (primary) school level clustering. The sample is restricted to include schools that | appear | both | and | after | treatment |
| :--- | :--- | :--- | :--- | :--- |

Table A2: Simple, Controlled and Difference-in-Differences Estimated Effects of School Choice on High School Outcomes, Geographys Discontinuity Sample

|  |  |  | DID |
| :---: | :---: | :---: | :---: |
|  | 1993 | 1994 | 93 vs. 94 |
| Dependent variable | (1) | (2) | (3) |
| Drop out |  |  |  |
| Control group mean | 0.065 | 0.091 | $\ldots$ |
| Treatment-control difference | $\begin{gathered} 0.090 \\ (0.034) \end{gathered}$ | $\begin{gathered} 0.028 \\ (0.036) \end{gathered}$ | $\begin{gathered} -0.070 \\ (0.030) \end{gathered}$ |
| Treatment-control controlled difference | $\begin{gathered} 0.051 \\ (0.028) \end{gathered}$ | $\begin{aligned} & -0.008 \\ & (0.028) \end{aligned}$ | $\begin{gathered} -0.064 \\ (0.029) \end{gathered}$ |
| Eligible for Bagrut |  |  |  |
| Control group mean | 0.638 | 0.582 |  |
| Treatment-control difference | $\begin{aligned} & -0.121 \\ & (0.083) \end{aligned}$ | $\begin{aligned} & -0.015 \\ & (0.072) \end{aligned}$ | $\begin{gathered} 0.115 \\ (0.048) \end{gathered}$ |
| Treatment-control controlled difference | $\begin{aligned} & -0.018 \\ & (0.048) \end{aligned}$ | $\begin{gathered} 0.077 \\ (0.051) \end{gathered}$ | $\begin{gathered} 0.095 \\ (0.048) \end{gathered}$ |
| Average score |  |  |  |
| Control group mean | 78.677 | 75.723 |  |
| Treatment-control difference | $\begin{gathered} -14.528 \\ (4.802) \end{gathered}$ | $\begin{gathered} -5.494 \\ (5.268) \end{gathered}$ | $\begin{gathered} 9.738 \\ (2.983) \end{gathered}$ |
| Treatment-control controlled difference | $\begin{aligned} & -7.813 \\ & (2.160) \end{aligned}$ | $\begin{gathered} 0.444 \\ (3.128) \end{gathered}$ | $\begin{gathered} 8.681 \\ (2.879) \end{gathered}$ |
| Number of Bagrut credits |  |  |  |
| Control group mean | 21.334 | 20.138 | $\ldots$ |
| Treatment-control difference | $\begin{aligned} & -3.717 \\ & (1.426) \end{aligned}$ | $\begin{gathered} -1.557 \\ (1.452) \end{gathered}$ | $\begin{gathered} 2.478 \\ (0.982) \end{gathered}$ |
| Treatment-control controlled difference | $\begin{aligned} & -1.213 \\ & (0.927) \end{aligned}$ | $\begin{gathered} 0.138 \\ (1.138) \end{gathered}$ | $\begin{gathered} 1.800 \\ (0.965) \end{gathered}$ |
| Number of science credits |  |  |  |
| Control group mean | 3.142 | 2.894 | ... |
| Treatment-control difference | $\begin{aligned} & -1.264 \\ & (0.486) \end{aligned}$ | $\begin{aligned} & -0.772 \\ & (0.491) \end{aligned}$ | $\begin{gathered} 0.542 \\ (0.389) \end{gathered}$ |
| Treatment-control controlled difference | $\begin{aligned} & -0.498 \\ & (0.320) \end{aligned}$ | $\begin{aligned} & -0.194 \\ & (0.266) \end{aligned}$ | $\begin{gathered} 0.309 \\ (0.374) \end{gathered}$ |
| Number of honor-level subjects |  |  |  |
| Control group mean | 2.513 | 2.357 | ... |
| Treatment-control difference | $\begin{aligned} & -0.726 \\ & (0.231) \end{aligned}$ | $\begin{aligned} & -0.371 \\ & (0.236) \end{aligned}$ | $\begin{gathered} 0.396 \\ (0.151) \end{gathered}$ |
| Treatment-control controlled difference | $\begin{aligned} & -0.321 \\ & (0.149) \end{aligned}$ | $\begin{gathered} -0.067 \\ (0.167) \end{gathered}$ | $\begin{gathered} 0.282 \\ (0.147) \end{gathered}$ |
| Number of students |  |  |  |
| Control group | 464 | 471 | 935 |
| Treatment group | 329 | 344 | 344 |

Notes: The estimates presented in the table are from difference-in-differences regressions for the geography discontinuity sample described in the paper that include primary school fied effects. Standard errors in parentheses are adjusted for (primary) school level clustering. The sample is restricted to include schools
that appear both before and after treatment.

Table A3: Effect of School Choice on Post-Secondary Schooling with Control for Family Earnings, 12 Years Since High School Graduation

|  | Enrollment | Years of Schooling |
| :---: | :---: | :---: |
|  | Mean, 1992-1993  <br> Cohorts in Treatment <br> Treated Schools  | Mean, 1992-1993  <br> Cohorts in Treatment <br> Treated Schools  |
|  | (1) (2) | (3) (4) |
| A. Post Secondary Schooling | $\begin{array}{cc} 0.425 & 0.046 \\ (0.494) & (0.022) \end{array}$ | 1.648 0.172 <br> $(2.363)$ $(0.086)$ |
| B. University Schooling | $\begin{array}{cc} 0.179 & 0.003 \\ (0.383) & (0.013) \end{array}$ | 0.717 0.025 <br> $(1.801)$ $(0.059)$ |
| C. College Schooling | $\begin{array}{cc} 0.209 & 0.041 \\ (0.407) & (0.018) \end{array}$ | $\begin{array}{cc} 0.589 & 0.170 \\ (1.361) & (0.050) \end{array}$ |
| Number of Observations | 153914656 | 153914656 |
| Notes: This table presents the differences-in-differences estimates of the effect of the School Choice program on post-secondary schooling with control for family earnings. Columns 1-2 measure enrollment into different types of post-secondary institutions, while columns 3-4 measure completed years of post-secondary education by institution type. The results are for 12 years after high school graduation. The variable "Any Post-Secondary Education" refers to all different post-secondary institutions. Columns 1 and 3 .represent the mean and standard deviation for the 1992-1993 (untreated) cohorts in the treated schools. Columns 2 and 4 report the differences-in-differences estimates for each of the dependent variables. Standard errors are clustered at the school level. |  |  |

Table A4: Effect of School Choice on Employment and Income with Control for Family Earnings, By Years Since High School Graduation

|  | 11 Years |  | 12 Years |  | 13 Years |  | Stacked Regression 11-13 Years |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mean 19921993 Cohorts in Treated Schools | Estimate | mean 19921993 Cohorts in Treated Schools | Estimate | mean 19921993 Cohorts in Treated Schools | Estimate | mean 19921993 Cohorts in Treated Schools | Estimate |
|  | (1) | (2) | (4) | (5) | (7) | (8) | (10) | (11) |
| Employment Indicator ( $1=$ Yes, $0=$ No) | $\begin{gathered} 0.870 \\ (0.337) \end{gathered}$ | $\begin{gathered} -0.029 \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.852 \\ (0.355) \end{gathered}$ | $\begin{aligned} & -0.008 \\ & (0.013) \end{aligned}$ | $\begin{gathered} 0.854 \\ (0.353) \end{gathered}$ | $\begin{aligned} & -0.006 \\ & (0.012) \end{aligned}$ | $\begin{gathered} 0.858 \\ (0.349) \end{gathered}$ | $\begin{gathered} -0.013 \\ (0.011) \end{gathered}$ |
| Total Annual Earnings (2009 NIS) | $\begin{gathered} 74,709 \\ (64,595) \end{gathered}$ | $\begin{gathered} 3,904 \\ (2,331) \end{gathered}$ | $\begin{gathered} 78,313 \\ (67,521) \end{gathered}$ | $\begin{gathered} 5,608 \\ (2,589) \end{gathered}$ | $\begin{gathered} 81,230 \\ (70,432) \end{gathered}$ | $\begin{gathered} 5,890 \\ (2,768) \end{gathered}$ | $\begin{gathered} 78,188 \\ (67,808) \end{gathered}$ | $\begin{gathered} 4,974 \\ (2,350) \end{gathered}$ |
| Total Annual Earnings (2009 NIS) | $\begin{gathered} 9.310 \\ (4.354) \end{gathered}$ | $\begin{gathered} -0.298 \\ (0.201) \end{gathered}$ | $\begin{gathered} 9.251 \\ (4.453) \end{gathered}$ | $\begin{gathered} -0.283 \\ (0.152) \end{gathered}$ | $\begin{gathered} 9.170 \\ (4.456) \end{gathered}$ | $\begin{aligned} & -0.127 \\ & (0.158) \end{aligned}$ | $\begin{gathered} 9.228 \\ (4.433) \end{gathered}$ | $\begin{gathered} -0.216 \\ (0.148) \end{gathered}$ |
| Number of Observations | 1,537 | 14,622 | 1,532 | 14,605 | 1,527 | 14,569 | 4,668 | 44,229 |

$\overline{\text { Notes: This table presents the differences-in-differences estimates of the effect of the School Choice program on different employment and earnings outcomes. Columns 1-2 report results for } 11}$ years after high school graduation, columns 3-4 report results for 12 years after high school graduation and columns 5-6 report results for 13. The variable "Employment Indicator" equals 1 if an individual has any work record for the given year and 0 otherwise. Columns $1,3,5$ and 7 report the mean and standard deviation for the 1992-1993 (untreated) cohorts in the treated schools. Columns 2, 4, 6 and 8 report the differences-in-differences estimates for each of the dependent variables listed above. Standard errors are clustered at the school level.

Table A5: OLS Relationships between High School Matriculation Outcomes, College Schooling, and Earnings at Adulthood

|  |  | Annual Earnings, 13 Years after High-School Graduation |  |  | Annual Earnings, Stacked Regression 11-13 Years After High School graduation |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \hline 1992-1993 \\ \text { Cohorts in } \\ \text { Treated } \\ \text { Schools } \\ \text { (Stacked } \\ \text { Sample) } \\ \hline \end{gathered}$ | Separate <br> Estimate | Joint Estimate Panel A/B | Joint Estimate <br> Panels A + B | Separate Estimate | Joint Estimate Panel A/B | Joint Estimate Panels A + B |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| A. High School Matriculation Outcomes |  |  |  |  |  |  |  |
| Average Matriculation Score | $\begin{gathered} 59.669 \\ (35.6) \end{gathered}$ | $\begin{aligned} & 641 \\ & (24) \end{aligned}$ | $\begin{aligned} & 187 \\ & (36) \end{aligned}$ | $\begin{aligned} & 122 \\ & (36) \end{aligned}$ | $\begin{aligned} & 610 \\ & (22) \end{aligned}$ | $\begin{aligned} & 173 \\ & (36) \end{aligned}$ | $\begin{aligned} & 129 \\ & (35) \end{aligned}$ |
| Received High School Matriculation ( $1=$ Yes, $0=$ No) | $\begin{gathered} 0.439 \\ (0.5) \end{gathered}$ | $\begin{aligned} & 39,249 \\ & (1,998) \end{aligned}$ | $\begin{gathered} 5,830 \\ (2,194) \end{gathered}$ | $\begin{gathered} -325 \\ (2,143) \end{gathered}$ | $\begin{aligned} & 37,902 \\ & (1,714) \end{aligned}$ | $\begin{gathered} 7,009 \\ (1,891) \end{gathered}$ | $\begin{gathered} 1,918 \\ (1,929) \end{gathered}$ |
| Number of Credit Units in Matriculation Exams | $\begin{gathered} 15.748 \\ (11.0) \end{gathered}$ | $\begin{gathered} 2,031 \\ (69) \end{gathered}$ | $\begin{gathered} 828 \\ (127) \end{gathered}$ | $\begin{gathered} 747 \\ (127) \end{gathered}$ | $\begin{gathered} 1,935 \\ (61) \end{gathered}$ | $\begin{gathered} 770 \\ (117) \end{gathered}$ | $\begin{gathered} 645 \\ (118) \end{gathered}$ |
| Number of Science Credit Units | $\begin{aligned} & 1.525 \\ & (3.3) \end{aligned}$ | $\begin{aligned} & 5,356 \\ & (282) \end{aligned}$ | $\begin{aligned} & 3,188 \\ & (281) \end{aligned}$ | $\begin{aligned} & 2,464 \\ & (289) \end{aligned}$ | $\begin{aligned} & 5,043 \\ & (235) \end{aligned}$ | $\begin{aligned} & 2,942 \\ & (230) \end{aligned}$ | $\begin{aligned} & 2,612 \\ & (250) \end{aligned}$ |
| B. Post Secondary Schooling |  |  |  |  |  |  |  |
| Enrollment in Any Post Secondary Schooling ( $1=$ Yes, $0=$ No) | $\begin{gathered} 0.415 \\ (0.5) \end{gathered}$ | $\begin{aligned} & 42,185 \\ & (1,784) \end{aligned}$ | $\begin{aligned} & 17,628 \\ & (3,823) \end{aligned}$ | $\begin{gathered} 7,932 \\ (3,705) \end{gathered}$ | $\begin{aligned} & 38,854 \\ & (1,580) \end{aligned}$ | $\begin{gathered} 6,549 \\ (3,085) \end{gathered}$ | $\begin{gathered} -691 \\ (3,094) \end{gathered}$ |
| Completed Years of Any Post Secondary Schhooling | $\begin{aligned} & 1.545 \\ & (2.2) \end{aligned}$ | $\begin{aligned} & 8,737 \\ & (389) \end{aligned}$ | $\begin{gathered} 760 \\ (891) \end{gathered}$ | $\begin{gathered} 1 \\ (905) \end{gathered}$ | $\begin{aligned} & 7,766 \\ & (314) \end{aligned}$ | $\begin{aligned} & 4,727 \\ & (753) \end{aligned}$ | $\begin{aligned} & 3,305 \\ & (763) \end{aligned}$ |
| Enrollment in University or Academic College ( $1=$ Yes, $0=$ No) | $\begin{gathered} 0.331 \\ (0.5) \end{gathered}$ | $\begin{aligned} & 43,911 \\ & (1,662) \end{aligned}$ | $\begin{aligned} & 11,374 \\ & (4,092) \end{aligned}$ | $\begin{aligned} & 11,232 \\ & (3,925) \end{aligned}$ | $\begin{aligned} & 39,830 \\ & (1,456) \end{aligned}$ | $\begin{aligned} & 26,361 \\ & (2,963) \end{aligned}$ | $\begin{aligned} & 22,972 \\ & (2,900) \end{aligned}$ |
| Completed Years of University or Academic College | $\begin{aligned} & 1.208 \\ & (2.0) \end{aligned}$ | $\begin{aligned} & 9,132 \\ & (412) \end{aligned}$ | $\begin{gathered} 3,808 \\ (1,123) \end{gathered}$ | $\begin{gathered} 1,526 \\ (1,087) \end{gathered}$ | $\begin{aligned} & 6,769 \\ & (307) \end{aligned}$ | $\begin{gathered} 775 \\ (32,030) \end{gathered}$ | $\begin{gathered} -3,666 \\ (765) \end{gathered}$ |
| Number of Observations | 10,544 | 10,544 | 10,544 | 10,544 | 32,030 | 32,030 | 32,030 |

$\overline{\text { Notes: This table presents OLS relationships between high school matriculation outcomes, college schooling, and earnings at adulthood. Column } 1 \text { reports means and standard deviations for the 1992-1993 }}$ (untreated) cohorts in treated schools. Columns 2-4 represent the OLS estimates of a regression where the dependent variable is the annual wage for 13 years after high school graduation and the independent variables include the same control variables as in the main model presented in tables 2-6, in addition to the outcome variable described in the table. Columns 3 and 6 report the OLS estimate when all the variables that appear in Panel A are controlled for in the wage regression in addition to the rest of the control variables of the model. Columns 4 and 7 report the OLS estimate from a wage regression where all the explanatory variables in the table are controlled simultaneously. Standard errors are clustered at the school level.

Map 1 - Tel Aviv City, School Districts 1-9, and the cities Giv`ataim and Ramat Gan


Map 2 - Tel Aviv School District 9 and Tangent Neighborhoods of Giv`ataim and Ramat Gan.


Note: The red lines approximately draw the band.

