Appendix

Supplementary Tables

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| Table A.1: First-State Results from the IV Model in Table 4. |
|   | (1) | (2) | (3) |
| VARIABLES | $$PCR\_{t}$$ | $$PCR\_{t-1}$$ | $$PCR\_{t-2}$$ |
|   |   |   |   |
| $$ARC\_{t}$$ | 0.7558\*\*\* |  |  |
|  | (0.1142) |  |  |
| $$ARC\_{t-1}$$ |  | 0.7415\*\*\* |  |
|  |  | (0.1279) |  |
| $$ARC\_{t-2}$$ |  |  | 0.7464\*\*\* |
|  |  |  | (0.1365) |
|  |  |  |  |
| Controls | X | X | X |
| State FE  | X | X | X |
| Year FE | X | X | X |
| Observations | 672 | 622 | 572 |
|  |  |  |  |
| Kleibergen-Paap *rk* Wald *F* statistic | 43.77 | 33.60 | 29.89 |
| Note: Standard errors are clustered at the state level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 |

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| Table A.2: First-State Results from the IV Model in Table 6 where the First-Stage Outcome Variable is the Actual Pension Contribution Rate. |
|   | (1) | (2) | (3) |
| VARIABLES | $$PCR\_{t}$$ | $$PCR\_{t-1}$$ | $$PCR\_{t-2}$$ |
|   |   |   |   |
| $$ARC\_{t}$$ | 0.8311\*\*\* |  |  |
|  | (0.1937) |  |  |
| $ARC\_{t}$\* Post-Recession | -0.0967 |  |  |
|  | (0.1853) |  |  |
| $$ARC\_{t-1}$$ |  | 0.8152\*\*\* |  |
|  |  | (0.1998) |  |
| $ARC\_{t-1}$\* Post-Recession |  | -0.0951 |  |
|  |  | (0.1825) |  |
| $$ARC\_{t-2}$$ |  |  | 0.8223\*\*\* |
|  |  |  | (0.2098) |
| $ARC\_{t-2}$\* Post-Recession |  |  | -0.1010 |
|  |  |  | (0.1806) |
|  |  |  |  |
| Controls | X | X | X |
| State FE  | X | X | X |
| Year FE | X | X | X |
| Observations | 672 | 622 | 572 |
|  |  |  |  |
| Kleibergen-Paap *rk* Wald *F* statistic | 18.79 | 14.99 | 13.18 |
| Note: Post-Recession variable is an indicator equal to one if the years is 2008 or later. Standard errors are clustered at the state level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 |

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| Table A.3: First-State Results from the IV Model in Table 6 where the First-Stage Outcome Variable is the Interaction [Actual Pension Contribution Rate\*Post-Recession]. |
|   | (1) | (2) | (3) |
| VARIABLES | $$PCR\_{t}$$\*Post-Recession | $$PCR\_{t-1}$$\*Post-Recession | $$PCR\_{t-2}$$\*Post-Recession |
|   |   |   |   |
| $$ARC\_{t}$$ | -0.172\*\* |  |  |
|  | (0.0842) |  |  |
| $ARC\_{t}$\* Post-Recession | 0.8581\*\*\* |  |  |
|  | (0.0791) |  |  |
| $$ARC\_{t-1}$$ |  | -0.1807\* |  |
|  |  | (0.1013) |  |
| $ARC\_{t-1}$\* Post-Recession |  | 0.8584\*\*\* |  |
|  |  | (0.0808) |  |
| $$ARC\_{t-2}$$ |  |  | -0.1674 |
|  |  |  | (0.1110) |
| $ARC\_{t-2}$\* Post-Recession |  |  | 0.8514\*\*\* |
|  |  |  | (0.0820) |
|  |  |  |  |
| Controls | X | X | X |
| State FE  | X | X | X |
| Year FE | X | X | X |
| Observations | 672 | 622 | 572 |
|  |  |  |  |
| Kleibergen-Paap *rk* Wald *F* statistic | 18.79 | 14.99 | 13.18 |
| Note: Post-Recession variable is an indicator equal to one if the years is 2008 or later. Standard errors are clustered at the state level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 |

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| Table A.4: Estimates of the Effect of the ARC on Total Salary Expenditures Net of Teachers’ Own Contributions, allowing for Effect Heterogeneity in the Pre- and Post-Recession Periods, Sparse Models. |
|   | (1) | (2) | (3) |
| VARIABLES | Log (Total Salary) |
|   |   |   |   |
| $$ARC\_{t}$$ | 0.0010 |  |  |
|  | (0.0018) |  |  |
| $ARC\_{t}$\* Post-Recession | -0.0029\*\* |  |  |
|  | (0.0014) |  |  |
| $$ARC\_{t-1}$$ |  | 0.0001 |  |
|  |  | (0.0018) |  |
| $ARC\_{t-1}$\* Post-Recession |  | -0.0026 |  |
|  |  | (0.0016) |  |
| $$ARC\_{t-2}$$ |  |  | -0.0007 |
|  |  |  | (0.0022) |
| $ARC\_{t-2}$\* Post-Recession |  |  | -0.0023 |
|  |  |  | (0.0017) |
|  |  |  |  |
| State FE  | X | X | X |
| Year FE | X | X | X |
| R-squared | 0.9974 | 0.9976 | 0.9977 |
| Observations | 672 | 622 | 572 |
| Note: Post-Recession variable is an indicator equal to one if the years is 2008 or later. Standard errors are clustered at the state level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 |

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| Table A.5: Estimates of the Effect of the ARC on Total Salary Expenditures Net of Teachers’ Own Contributions, allowing for Effect Heterogeneity in the Pre- and Post-Recession Periods, Using a Balanced 41-State Panel (2003-15). |
|   | (1) | (2) | (3) |
| VARIABLES | Log (Total Take-Home Salary) |
|   |   |   |   |
| $$ARC\_{t}$$ | 0.0011 |  |  |
|  | (0.0015) |  |  |
| $ARC\_{t}$\* Post-Recession | -0.0018 |  |  |
|  | (0.0014) |  |  |
| $$ARC\_{t-1}$$ |  | 0.0000 |  |
|  |  | (0.0016) |  |
| $ARC\_{t-1}$\* Post-Recession |  | -0.0016 |  |
|  |  | (0.0015) |  |
| $$ARC\_{t-2}$$ |  |  | -0.0009 |
|  |  |  | (0.0018) |
| $ARC\_{t-2}$\* Post-Recession |  |  | -0.0014 |
|  |  |  | (0.0016) |
| Unemployment Rate | 0.0110\* | 0.0096 | 0.0085 |
|  | (0.0065) | (0.0062) | (0.0059) |
| Log(GDP) | 0.5112\*\*\* | 0.4844\*\*\* | 0.4669\*\*\* |
|  | (0.1053) | (0.1013) | (0.0954) |
|  |  |  |  |
| State FE  | X | X | X |
| Year FE | X | X | X |
| R-squared | 0.9982 | 0.9983 | 0.9983 |
| Observations | 533 | 492 | 451 |
| Note: Post-Recession variable is an indicator equal to one if the years is 2008 or later. We use 40 states and Washington DC with data in 2003 in this analysis. Standard errors are clustered at the state level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 |

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| Table A.6: Estimates of the Effect of the ARC on Total Salary Expenditures Net of Teachers’ Own Contributions, allowing for Effect Heterogeneity in the Pre- and Post-Recession Periods, by Plan Type. |
|   | (1) | (2) | (3) | (4) | (5) | (6) |
|  | Log (Total Salary) |
| VARIABLES | 27 Teacher-Only Plans | 23 Consolidated Plans |
|   |   |   |   |   |   |   |
| $$ARC\_{t}$$ | 0.0015 |  |  | -0.0004 |  |  |
|  | (0.0019) |  |  | (0.0023) |  |  |
| $ARC\_{t}$\*Post-Recession | -0.0021 |  |  | -0.0026 |  |  |
|  | (0.0020) |  |  | (0.0018) |  |  |
| $$ARC\_{t-1}$$ |  | 0.0004 |  |  | -0.0007 |  |
|  |  | (0.0018) |  |  | (0.0029) |  |
| $ARC\_{t-1}$\*Post-Recession |  | -0.0019 |  |  | -0.0019 |  |
|  |  | (0.0021) |  |  | (0.0021) |  |
| $$ARC\_{t-2}$$ |  |  | -0.0003 |  |  | -0.0020 |
|  |  |  | (0.0021) |  |  | (0.0041) |
| $ARC\_{t-2}$\*Post-Recession |  |  | -0.0017 |  |  | -0.0010 |
|  |  |  | (0.0021) |  |  | (0.0028) |
| Unemployment Rate | 0.0039 | 0.0054 | 0.0058 | 0.0143\* | 0.0133\* | 0.0108\* |
|  | (0.0072) | (0.0076) | (0.0076) | (0.0069) | (0.0065) | (0.0063) |
| Log(GDP) | 0.4464\*\*\* | 0.4507\*\*\* | 0.4621\*\*\* | 0.6554\*\*\* | 0.6697\*\*\* | 0.6853\*\*\* |
|  | (0.1448) | (0.1444) | (0.1404) | (0.0791) | (0.0942) | (0.1285) |
|  |  |  |  |  |  |  |
| State FE  | X | X | X | X | X | X |
| Year FE | X | X | X | X | X | X |
| R-squared | 0.9980 | 0.9981 | 0.9982 | 0.9977 | 0.9977 | 0.9978 |
| Observations | 385 | 358 | 331 | 287 | 264 | 241 |
| Note: Post-Recession variable is an indicator equal to one if the years is 2008 or later. Standard errors are clustered at the state level. The consolidated plans include those with a separate teacher division (four plans—see text for details).\*\*\* p<0.01, \*\* p<0.05, \* p<0.1 |

Table A.7: First-Differenced Regression of the Log of Average Salaries for Teachers with (a) 0-2 Years of Experience and (b) More than 20 Years of Experience in Years 2008 and 2012. These Models Match the Structure of the Models Shown in Table 7.

|  |  |  |
| --- | --- | --- |
|   |  (1) |  (2) |
| VARIABLES | 0-2 YearsExperience | More than 20 yearsExperience |
|   |   |   |
| First-Differenced ARC | -0.0012 | 0.0014 |
|  | (0.0023) | (0.0025) |
| First-Differenced Unemp. Rate | -0.0152 | -0.0183\* |
|  | (0.0103) | (0.0105) |
| First-Differenced Log (GDP) | 0.3447\*\* | 0.2044 |
|  | (0.1500) | (0.1421) |
| Constant | 0.0839\*\* | 0.0893\*\*\* |
|  | (0.0332) | (0.0314) |
|  |  |  |
| R-squared | 0.4424 | 0.2960 |
| Observations (states) | 33 | 34 |
| Notes: Standard errors are clustered at the state level. Only states with experience-conditional salary data in 2008 and 2012, as reported by Snyder, de Brey, and Dillow (2018), are included in these regressions.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1 |