Online appendix A. Spatial distribution of homicide rates in 2015, Source: INEGI

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|  |
| *Note:* Murder-free municipalities did not report any homicides in 2015; the remaining categories reflect quartiles, conditional on them being positive; ‘undefined’ reflects missing values |

Online appendix B. Variable definitions, sources and summary statistics for the baseline model (1995-2015)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Source** | **Mean** | **Std. Dev.** | **Observations** |
| OCVBIN - all homicides | Instituto Nacional de Geografía y Estadísticas (INEGI), SIMBAD database | 0.58 | O | 0.49 | N | 12223 |
| B | 0.37 | n | 2457 |
| W | 0.33 | years | 4.975 |
|   |   | msng (%) | 0 |
| ln(OCVCONT) - all homicides | INEGI SIMBAD database | -1.88 | O | 1.04 | N | 7132 |
| B | 0.93 | n | 2108 |
| W | 0.58 | years | 3.383 |
|   |   | msng (%) | 41.65 |
| Local spending | INEGI SIMBAD database | 2.64 | O | 2.39 | N | 10910 |
| B | 1.67 | n | 2457 |
| W | 1.70 | years | 4.44 |
|   |   | msng (%) | 10.74 |
| Own-source revenues | INEGI SIMBAD database | 10.93 | O | 12.14 | N | 10846 |
| B | 9.54 | n | 2441 |
| W | 7.31 | years | 4.443 |
|   |   | msng (%) | 11.27 |
| Human Development Index | INEGI SIMBAD database | 7.79 | O | 0.88 | N | 9766 |
| B | 0.79 | n | 2456 |
| W | 0.40 | years | 3.976 |
|   |   | msng (%) | 20.1 |
| Female headed households | INEGI SIMBAD database | 22.19 | O | 6.01 | N | 9809 |
| B | 5.05 | n | 2457 |
| W | 3.25 | years | 3.992 |
|   |   | msng (%) | 19.75 |
| Household size | INEGI SIMBAD database | 4.14 | O | 0.58 | N | 9809 |
| B | 0.51 | n | 2457 |
| W | 0.28 | years | 3.992 |
|   |   | msng (%) | 19.75 |
| Population density | INEGI, various databases | 2.65 | O | 11.69 | N | 12218 |
| B | 11.61 | n | 2454 |
| W | 1.11 | years | 4.979 |
|   |   | msng (%) | 0.041 |
| Young males | INEGI SIMBAD database | 25.17 | O | 3.10 | N | 12222 |
| B | 2.50 | n | 2457 |
| W | 1.83 | years | 4.974 |
|   |   | msng (%) | 0.008 |
| Males per females | INEGI SIMBAD database | 96.00 | O | 6.66 | N | 12223 |
| B | 6.01 | n | 2457 |
| W | 2.88 | years | 4.975 |
|   |   | msng (%) | 0 |
| Indigenous population | Comisión Nacional para el Desarrollo de los Pueblos Indígenas (CDI) | 25.32 | O | 35.74 | N | 9809 |
| B | 35.66 | n | 2457 |
| W | 2.54 | years | 3.992 |
|   |   | msng (%) | 19.75 |
| Population | INEGI SIMBAD database | 4.28 | O | 12.65 | N | 12223 |
| B | 12.52 | n | 2457 |
| W | 1.60 | years | 4.975 |
|   |   | msng (%) | 0 |
| Municipality size | INEGI SIMBAD database | 2.50 | O | 1.12 | N | 12223 |
| B | 1.10 | n | 2457 |
| W | 0.18 | years | 4.975 |
|   |   | msng (%) | 0 |
| Electoral competition | Centro de Investigación para el Desarrollo en México (CIDAC, http://cidac.org/), Electoral Institutes of the States | 2.41 | O | 1.03 | N | 11078 |
| B | 0.83 | n | 2457 |
| W | 0.64 | years | 4.509 |
|   |   | msng (%) | 9.368 |
| US border or Pacific coast |   | 0.21 | O | 0.41 | N | 12223 |
| B | 0.41 | n | 2457 |
| W | 0.00 | years | 4.975 |
|   |   | msng (%) | 0 |

|  |  |  |
| --- | --- | --- |
|  | Binary Part | Cont. Part |
|   | (1) | (2) |
| Local spending (between) | 0.946 | 13.373\*\* |
|  (-1.15) | (5.86) |
| Local spending (within) | 0.998 | 0.568 |
|  (-0.05) | (0.37) |
| Own-source revenues (between) | 0.992 | 0.668 |
|  (-0.06) | (0.23) |
| Own-source revenues (within) | 0.899 | -3.956 |
|  (-1.02) |  (-1.51) |
| Local security spending | 0.977 | -0.586 |
|  (-1.02) |  (-0.68) |
| Local police | 0.952\*\* | 1.690\* |
|  (-3.84) | (2.51) |
| Inequality | 1.039 | 4.874 |
| (0.28) | (0.94) |
| Poverty | 0.999 | 0.558\*\* |
|  (-0.14) | (3.01) |
| Female-headed households | 1.041\*\* | 3.082\*\* |
| (2.97) | (5.66) |
| Household size | 0.993 | -11.403 |
|  (-0.04) |  (-1.75) |
| Population density | 0.953\*\* | -0.178 |
|  (-2.87) |  (-0.98) |
| Young males | 1.049 | -0.573 |
| (1.88) |  (-0.57) |
| Males per females | 1.027\* | 2.881\*\* |
| (1.99) | (5.78) |
| Indigenous population | 0.996\* | -0.222\*\* |
|  (-2.15) |  (-2.77) |
| Population | 1.513\*\* | 0.444\*\* |
| (5.82) | (3.58) |
| Municipality size | 2.399\*\* | -28.024\*\* |
| (6.89) |  (-11.40) |
| Electoral competition | 0.964 | 0.130 |
|  (-0.56) | (0.07) |
| US border or Pacific coast | 2.722 | 84.233\*\* |
| (1.89) | (3.49) |
| 2015 | 1.263 | -9.212\* |
| (1.81) |  (-2.13) |
| Federal state dummies | x | x |
| Number of observations | 4099 | 2553 |
| Number of municipalities | 2282 | 1604 |
| R2 | - | 0.50 |
| F-value | 10.0 | 44.9 |
| \* - significant at 5 %; \*\* significant at 1 %; z- and t-values in parentheses; logit reported as odds ratios; cont. effect reflects percentage change of dep. variable; heteroscedasticity-corrected standard errors |

Online appendix C. Uncorrelated longitudinal TPM for the effect of fiscal decentralization on organized crime violence (2010-2015)

|  |  |  |
| --- | --- | --- |
|   | Second stage | First stage |
| Local spending | 9.956\*\* | -0.010 |
| (3.15) |  (-0.30) |
| Own-source revenues | -0.052 | -0.004 |
|  (-0.11) |  (-0.62) |
| Local security spending | 0.361 | 0.017 |
| (0.13) | (0.62) |
| Local police | -2.353 | -0.020 |
|  (-1.36) |  (-1.29) |
| Inequality | 13.328 | 0.311\* |
| (0.98) | (2.28) |
| Poverty | 0.300 | -0.014\*\* |
| (0.69) |  (-2.87) |
| Female-headed households | 2.554 | 0.026 |
| (1.78) | (1.66) |
| Household size | -33.799\* | -0.248 |
|  (-2.38) |  (-1.39) |
| Population density | 0.157 | -0.003 |
| (0.46) |  (-0.29) |
| Young males | 0.427 | 0.040 |
| (0.16) | (1.47) |
| Males per females | 3.303\*\* | 0.031\* |
| (2.82) | (2.37) |
| Indigenous population | -0.760\*\* | -0.004 |
|  (-2.89) |  (-1.42) |
| Population | - | 0.063\*\* |
|  | (3.59) |
| Municipality size | -12.871 | 0.491\*\* |
|  (-1.45) | (5.97) |
| Electoral competition | -4.017 | 0.002 |
|  (-0.69) | (0.04) |
| US border or Pacific coast | - | 7.273\*\* |
|  | (12.74) |
| Federal state dummies | x | x |
| Inverse Mills ratio | 1.070\*\* |
|  (-4.26) |
| Number of observations | 1351 |
| \* - significant at 5 %; \*\* significant at 1 %; t-values in parentheses; Selection variables: population; US border or Pacific coast; first stage: probit |

Online appendix D. Heckman selection model for the effect of local spending on OCV for 2010

Online appendix E. Uncorrelated longitudinal TPM including the effect of disasters on organized crime violence (2000-2015)

|  |  |  |
| --- | --- | --- |
|  | Binary Part | Cont. Part |
|   | (1) | (2) |
| Local spending (between) | 0.909\*\* | 13.180\*\* |
|  (-3.11) | (8.10) |
| Local spending (within) | 1.007 | -1.001 |
| (0.26) |  (-0.88) |
| Own-source revenues (between) | 1.156 | 0.387 |
| (1.79) | (0.18) |
| Own-source revenues (within) | 0.968 | -1.210 |
|  (-0.48) |  (-0.63) |
| Hurricanes | 1.447\*\* | 8.066\*\* |
| (3.71) | (2.32) |
| Earthquakes and volcanic activity | 1.203 | 20.490\*\* |
| (1.14) | (3.90) |
| Human development | 0.682\*\* | -20.176\*\* |
|  (-5.89) |  (-7.31) |
| Female-headed households | 1.050\*\* | 3.015\*\* |
| (5.23) | (7.70) |
| Household size | 1.200 | -8.767\*\* |
| (1.86) |  (-2.03) |
| Population density | 0.956\*\* | -0.245 |
|  (-3.75) |  (-1.38) |
| Young males | 0.988 | -1.411\*\* |
|  (-0.79) |  (-2.24) |
| Males per females | 1.034\*\* | 2.681\*\* |
| (3.95) | (7.86) |
| Indigenous population | 0.995\*\* | -0.291\*\* |
|  (-4.05) |  (-4.67) |
| Population | 1.561\*\* | 0.411\*\* |
| (8.45) | (3.71) |
| Municipality size | 2.209\*\* | -31.234\*\* |
| (9.21) |  (-18.08) |
| Electoral competition | 1.013 | -2.849 |
| (0.28) |  (-1.89) |
| US border or Pacific coast | 1.461 | 22.036 |
| (1.07) | (1.69) |
| 2000 | 0.556\*\* | -21.881\*\* |
|  (-3.95) |  (-4.67) |
| 2005 | 0.551\*\* | -23.473\*\* |
|  (-4.70) |  (-6.35) |
| 2010 | 0.778\*\* | 8.399\*\* |
|  (-2.49) | (2.45) |
| Federal state dummies | X | x |
| Number of observations | 8040 | 4727 |
| Number of municipalities | 2413 | 1896 |
| R2 | - | 0.49 |
| Wald-Chi2 | 1260.6 | 3715.1 |
| *Note:* \* - significant at 5 %; \*\* significant at 1 %; z- and t-values in parentheses; logit reported as odds ratios; cont. effect reflects percentage change of dep. variable; heteroscedasticity-corrected standard errors |