**Supplement of “The Association between Local Economic Conditions and Prescription Opioid Use among Disabled Medicare Beneficiaries**”

**1. Linear Least Square Regressions (LLS) with Log Median Household Income**

Stata runs standard LLS with 3,493,551 observations. Reference categories for categorical variables include: male, non-Hispanic white, no premium or cost sharing subsidy, and large central metro. In each cell, the first value is the estimated coefficient; value in parenthesis is the corresponding *p*-value, calculated based on robust standard errors clustered by county.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Opioid User | Long-Term User | Total Days of Usage | Log Mean Daily MME | Log Total MME |
| Economic Indicators |  |  |  |  |  |
| Log Median Household Income | -0.0532(0.0000) | -0.0433(0.0000) | -16.0250(0.0000) | -0.1181(0.0030) | -0.4570(0.0000) |
| Demographic Variables |  |  |  |  |  |
| Age | 0.0266(0.0000) | 0.0283(0.0000) | 8.5534(0.0000) | 0.1191(0.0000) | 0.2806(0.0000) |
| Age Squared | -0.0003(0.0000) | -0.0003(0.0000) | -0.0818(0.0000) | -0.0012(0.0000) | -0.0028(0.0000) |
| Female | 0.0887(0.0000) | 0.0437(0.0000) | 10.9950(0.0000) | 0.2806(0.0000) | 0.6325(0.0000) |
| Black | -0.0333(0.0000) | -0.0579(0.0000) | -19.6626(0.0000) | -0.2159(0.0000) | -0.4943(0.0000) |
| Other Race/Ethnicity | -0.0738(0.0000) | -0.0705(0.0000) | -20.3720(0.0000) | -0.3309(0.0000) | -0.7223(0.0000) |
| Asian | -0.1605(0.0000) | -0.1444(0.0000) | -41.3458(0.0000) | -0.7167(0.0000) | -1.5360(0.0000) |
| Hispanic | -0.0584(0.0000) | -0.0868(0.0000) | -26.2157(0.0000) | -0.3315(0.0000) | -0.7390(0.0000) |
| North American Native | 0.0033(0.6110) | -0.0022(0.7820) | -2.6012(0.3000) | -0.0621(0.0610) | -0.0834(0.2750) |
| Subsidy Status\* |  |  |  |  |  |
| Low-Income Subsidy Status 1 | -0.1870(0.0000) | -0.0935(0.0000) | -30.7930(0.0000) | -0.7744(0.0000) | -1.5815(0.0000) |
| Low-Income Subsidy Status 2 | 0.0037(0.0170) | 0.0161(0.0000) | 1.3157(0.0050) | -0.0671(0.0000) | -0.0695(0.0000) |
| Low-Income Subsidy Status 3 | 0.0092(0.0000) | 0.0305(0.0000) | 7.4175(0.0000) | -0.0117(0.0220) | 0.0738(0.0000) |
| Low-Income Subsidy Status 4 | 0.0017(0.3120) | 0.0323(0.0000) | 9.4242(0.0000) | 0.0150(0.0490) | 0.1040(0.0000) |
| Low-Income Subsidy Status 5 | -0.0827(0.0000) | -0.0418(0.0000) | -12.3282(0.0000) | -0.3349(0.0000) | -0.6910(0.0000) |
| Low-Income Subsidy Status 6 | 0.0112(0.0020) | 0.0417(0.0000) | 13.3107(0.0000) | 0.0448(0.0030) | 0.1962(0.0000) |
| Low-Income Subsidy Status 7 | 0.0235(0.0000) | 0.0476(0.0000) | 15.1460(0.0000) | 0.0855(0.0000) | 0.2894(0.0000) |
| Low-Income Subsidy Status 8 | 0.0312(0.0000) | 0.0650(0.0000) | 19.9004(0.0000) | 0.1300(0.0000) | 0.4090(0.0000) |
| Comorbid Conditions |  |  |  |  |  |
| Myocardial Infarction | 0.0857(0.0000) | 0.0527(0.0000) | 11.5633(0.0000) | 0.3473(0.0000) | 0.6909(0.0000) |
| CHF | 0.0399(0.0000) | 0.0307(0.0000) | 6.3340(0.0000) | 0.1653(0.0000) | 0.3509(0.0000) |
| Peripheral Vascular Disease | 0.0730(0.0000) | 0.0656(0.0000) | 17.1487(0.0000) | 0.2984(0.0000) | 0.6932(0.0000) |
| Cerebrovascular Disease | 0.0448(0.0000) | 0.0222(0.0000) | 3.8518(0.0000) | 0.1420(0.0000) | 0.3139(0.0000) |
| COPD | 0.1716(0.0000) | 0.1401(0.0000) | 39.1190(0.0000) | 0.6701(0.0000) | 1.5327(0.0000) |
| Dementia | -0.0460(0.0000) | -0.0413(0.0000) | -16.0150(0.0000) | -0.2207(0.0000) | -0.4810(0.0000) |
| Paralysis | 0.1132(0.0000) | 0.0899(0.0000) | 23.6009(0.0000) | 0.4862(0.0000) | 1.0666(0.0000) |
| Diabetes | 0.0587(0.0000) | 0.0312(0.0000) | 8.8015(0.0000) | 0.1852(0.0000) | 0.4415(0.0000) |
| Diabetes With Sequelae | 0.0492(0.0000) | 0.0380(0.0000) | 9.9231(0.0000) | 0.1892(0.0000) | 0.4343(0.0000) |
| Chronic Renal Failure | 0.0407(0.0000) | 0.0142(0.0000) | 1.5985(0.0000) | 0.1416(0.0000) | 0.2800(0.0000) |
| Various Cirrhodites | 0.0980(0.0000) | 0.0795(0.0000) | 21.2053(0.0000) | 0.4170(0.0000) | 0.9001(0.0000) |
| Moderate-Severe Liver Disease | 0.0404(0.0000) | 0.0235(0.0000) | 2.6382(0.0060) | 0.1490(0.0000) | 0.3176(0.0000) |
| Ulcers | 0.1338(0.0000) | 0.1203(0.0000) | 29.0413(0.0000) | 0.5346(0.0000) | 1.2220(0.0000) |
| Rheumatoid arthritis | 0.1921(0.0000) | 0.1876(0.0000) | 58.2278(0.0000) | 0.7991(0.0000) | 1.9646(0.0000) |
| AIDS | 0.0563(0.0000) | 0.0145(0.0000) | 2.4862(0.0330) | 0.1981(0.0000) | 0.3417(0.0000) |
| Other Diseases\*\* |  |  |  |  |  |
| Depression | 0.1317(0.0000) | 0.1149(0.0000) | 30.1439(0.0000) | 0.5388(0.0000) | 1.2176(0.0000) |
| Serious Mental Illness | -0.0851(0.0000) | -0.0789(0.0000) | -27.8646(0.0000) | -0.3794(0.0000) | -0.8928(0.0000) |
| Alcohol Abuse | 0.0188(0.0000) | -0.0317(0.0000) | -17.2494(0.0000) | -0.0056(0.5460) | -0.1171(0.0000) |
| State |  |  |  |  |  |
| AK | 0.0386(0.0200) | 0.0642(0.0010) | 20.4827(0.0020) | 0.0488(0.5890) | 0.4256(0.0320) |
| AZ | 0.0129(0.4350) | 0.0261(0.1370) | 4.5122(0.4560) | -0.0317(0.7230) | 0.1135(0.5590) |
| AR | -0.0090(0.6910) | 0.0107(0.6190) | 5.0356(0.4830) | 0.0057(0.9580) | 0.1019(0.6690) |
| CA | -0.0262(0.1340) | 0.0135(0.4470) | 5.3088(0.3870) | -0.1210(0.1970) | -0.0311(0.8770) |
| CO | 0.0216(0.1720) | 0.0291(0.0790) | 7.5919(0.1940) | 0.0899(0.3030) | 0.2601(0.1650) |
| CT | -0.0751(0.0000) | -0.0434(0.0080) | -11.4749(0.0470) | -0.3095(0.0000) | -0.5916(0.0010) |
| DE | -0.0628(0.0000) | -0.0548(0.0020) | -14.3290(0.0200) | -0.3535(0.0000) | -0.5878(0.0020) |
| DC | -0.0418(0.0230) | -0.0008(0.9660) | 4.3928(0.5030) | -0.0834(0.4170) | -0.1059(0.6260) |
| FL | -0.0424(0.0270) | -0.0037(0.8490) | 3.4030(0.6070) | -0.1456(0.1340) | -0.1552(0.4670) |
| GA | 0.0040(0.8220) | 0.0235(0.2170) | 7.3379(0.2610) | -0.0446(0.6340) | 0.0965(0.6390) |
| HI | -0.0740(0.0070) | -0.0309(0.1190) | -8.7415(0.2130) | -0.2743(0.0350) | -0.4922(0.0620) |
| ID | -0.0695(0.0000) | -0.0577(0.0010) | -20.2505(0.0010) | -0.3539(0.0000) | -0.6870(0.0010) |
| IL | 0.0137(0.3840) | 0.0277(0.1000) | 6.8838(0.2420) | 0.0688(0.4260) | 0.2262(0.2260) |
| IN | -0.0553(0.0050) | -0.0228(0.2470) | -7.5266(0.2410) | -0.3142(0.0010) | -0.4657(0.0290) |
| IA | 0.0122(0.4700) | 0.0360(0.0410) | 12.8840(0.0360) | -0.0235(0.7970) | 0.1938(0.3240) |
| KS | -0.0081(0.6160) | 0.0119(0.5130) | 0.2029(0.9740) | -0.0283(0.7510) | 0.0094(0.9610) |
| KY | -0.0403(0.0170) | 0.0077(0.6640) | 5.6985(0.3580) | -0.2665(0.0040) | -0.2917(0.1390) |
| LA | 0.0110(0.5210) | 0.0312(0.0890) | 8.5591(0.1780) | -0.0382(0.6760) | 0.1356(0.4960) |
| ME | -0.0961(0.0000) | -0.0721(0.0000) | -20.5759(0.0010) | -0.4549(0.0000) | -0.8995(0.0000) |
| MD | -0.0468(0.0080) | -0.0188(0.2960) | -2.9909(0.6350) | -0.1832(0.0540) | -0.2798(0.1690) |
| MA | -0.0888(0.0000) | -0.0603(0.0010) | -17.4661(0.0070) | -0.3383(0.0000) | -0.7304(0.0000) |
| MI | -0.0013(0.9410) | 0.0438(0.0320) | 17.4445(0.0140) | -0.0667(0.4770) | 0.1926(0.3650) |
| MN | -0.0543(0.0030) | -0.0425(0.0170) | -15.9263(0.0090) | -0.2673(0.0040) | -0.5523(0.0060) |
| MS | -0.0112(0.5100) | 0.0129(0.4730) | 2.5125(0.6850) | -0.0646(0.4760) | -0.0011(0.9950) |
| MO | 0.0206(0.2460) | 0.0222(0.2570) | 2.5861(0.7070) | -0.0227(0.8090) | 0.0990(0.6340) |
| MT | -0.0643(0.0000) | -0.0314(0.0710) | -10.0185(0.0980) | -0.2537(0.0040) | -0.4939(0.0100) |
| NE | 0.0071(0.6670) | 0.0303(0.0900) | 10.5895(0.0890) | 0.0182(0.8390) | 0.1961(0.3160) |
| NV | -0.1110(0.0000) | -0.0781(0.0000) | -24.9480(0.0000) | -0.4776(0.0000) | -0.9865(0.0000) |
| NH | -0.0466(0.0090) | -0.0272(0.1170) | -12.1624(0.0400) | -0.2282(0.0130) | -0.4193(0.0330) |
| NJ | -0.0586(0.0000) | -0.0399(0.0190) | -14.3330(0.0160) | -0.2433(0.0080) | -0.5271(0.0060) |
| NM | -0.0991(0.0000) | -0.0512(0.0050) | -11.8345(0.0610) | -0.3817(0.0000) | -0.6980(0.0010) |
| NY | -0.0585(0.0010) | -0.0364(0.0530) | -9.0742(0.1570) | -0.2576(0.0050) | -0.4681(0.0210) |
| NC | 0.0417(0.0910) | 0.0848(0.0010) | 29.0092(0.0010) | 0.2659(0.0390) | 0.7587(0.0100) |
| ND | -0.1501(0.0000) | -0.0923(0.0000) | -23.3673(0.0000) | -0.5987(0.0000) | -1.1646(0.0000) |
| OH | -0.0377(0.0270) | -0.0177(0.3220) | -5.8290(0.3440) | -0.2529(0.0060) | -0.3743(0.0590) |
| OK | 0.0381(0.0220) | 0.0630(0.0000) | 20.3972(0.0010) | 0.1774(0.0500) | 0.5399(0.0050) |
| OR | 0.0073(0.6460) | 0.0251(0.1390) | 6.0333(0.3160) | 0.0349(0.6930) | 0.1505(0.4300) |
| PA | -0.0618(0.0000) | -0.0216(0.1970) | -4.6592(0.4290) | -0.2491(0.0050) | -0.3972(0.0350) |
| RI | -0.0814(0.0000) | -0.0635(0.0000) | -19.1737(0.0020) | -0.4310(0.0000) | -0.8180(0.0000) |
| SC | 0.0153(0.3900) | 0.0309(0.1070) | 9.9336(0.1400) | 0.0308(0.7430) | 0.2300(0.2680) |
| SD | -0.1060(0.0000) | -0.0704(0.0000) | -24.0231(0.0000) | -0.4599(0.0000) | -0.9329(0.0000) |
| TN | 0.0275(0.1020) | 0.0713(0.0000) | 25.2966(0.0000) | 0.1165(0.2100) | 0.4503(0.0310) |
| TX | -0.0155(0.3540) | -0.0029(0.8710) | -0.0539(0.9930) | -0.1631(0.0710) | -0.1209(0.5350) |
| UT | 0.0041(0.8010) | 0.0444(0.0120) | 13.5952(0.0270) | 0.0611(0.5070) | 0.2601(0.1880) |
| VT | -0.0256(0.1240) | -0.0056(0.7520) | -2.1749(0.7240) | -0.1625(0.0690) | -0.2066(0.2880) |
| VA | -0.0996(0.0000) | -0.0588(0.0010) | -16.9414(0.0080) | -0.3936(0.0000) | -0.8089(0.0000) |
| WA | -0.0151(0.3330) | 0.0010(0.9540) | -0.4233(0.9430) | -0.1036(0.2350) | -0.1314(0.4850) |
| WV | -0.0337(0.0940) | -0.0147(0.4580) | -5.1300(0.4470) | -0.1505(0.1620) | -0.2608(0.2540) |
| WI | -0.0361(0.0350) | 0.0055(0.7660) | 3.1417(0.6150) | -0.2698(0.0030) | -0.2833(0.1530) |
| WY | -0.0294(0.0870) | -0.0199(0.2790) | -7.2687(0.2610) | -0.1280(0.1710) | -0.2340(0.2460) |
| Urban-Rural Classification |  |  |  |  |  |
| Large Fringe Metro | 0.0416(0.0000) | 0.0338(0.0000) | 10.6089(0.0000) | 0.1597(0.0000) | 0.3805(0.0000) |
| Medium Metro | 0.0381(0.0000) | 0.0264(0.0000) | 7.6692(0.0000) | 0.1423(0.0000) | 0.3173(0.0000) |
| Small Metro | 0.0448(0.0000) | 0.0301(0.0000) | 8.1746(0.0000) | 0.1506(0.0000) | 0.3479(0.0000) |
| Micropolitan | 0.0470(0.0000) | 0.0358(0.0000) | 10.0946(0.0000) | 0.1598(0.0000) | 0.3862(0.0000) |
| Noncore | 0.0600(0.0000) | 0.0520(0.0000) | 14.4121(0.0000) | 0.2050(0.0000) | 0.5284(0.0000) |
| Intercept | 0.3067(0.0030) | -0.0626(0.5370) | 13.3739(0.6730) | 0.0169(0.9700) | 1.0394(0.3030) |

\*Low-Income Subsidy Status is defined as being enrolled in Medicare Parts A and/or B and enrolled in Part D with

1 = eligible for LIS with 100% premium subsidy and no copayment,

2 = eligible for LIS with 100% premium subsidy and low copayment,

3 = eligible for LIS with 100% premium subsidy and high copayment,

4 = enrolled in LIS with 100% premium subsidy and high copayment,

5 = enrolled in LIS with 100% premium subsidy and 15% copayment,

6 = enrolled in LIS with 75% premium subsidy and 15% copayment,

7 = enrolled in LIS with 50% premium subsidy and 15% copayment,

8 = enrolled in LIS with 25% premium subsidy and 15% copayment, and

9 = no premium or cost sharing subsidy.

\*\* ICD9-codes for depression include 293.83, 296.2, 296.3, 296.90, 296.99, 298.0, 300.4, 301.12, 309.0, 309.1, and 311;
those for serious mental illness include 295.0, 295.1, 295.2, 295.3, 295.4, 295.6, 295.7, 295.8, and 295.9 (schizoaffective disorder) as well as 296.0, 296.1, 296.4, 296.5, 296.6, 296.7, 296.8, 297.0, 297.1, 297.2, 297.3, 297.8, 297.9, 298.0, 298.1, 298.2, 298.3, 298.4, 298.8, and 298.9 (bipolar); those for alcohol abuse include V113.x, V791.x, 291.0-291.9, and 303.0-303.9.

**2. Linear Least Square Regressions with Unemployment Rate**

Stata runs standard LLS with 3,493,551 observations. Reference categories for categorical variables include: male, non-Hispanic white, no premium or cost sharing subsidy, and large central metro. In each cell, the first value is the estimated coefficient; value in parenthesis is the corresponding *p*-value, calculated based on robust standard errors clustered by county.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Opioid User | Long-Term User | Total Days of Usage | Log Mean Daily MME | Log Total MME |
| Economic Indicators |  |  |  |  |  |
| Unemployment Rate | 0.4331(0.0000) | 0.3401(0.0080) | 139.9007(0.0010) | 0.8300(0.0670) | 3.8887(0.0010) |
| Demographic Variables |  |  |  |  |  |
| Age | 0.0266(0.0000) | 0.0283(0.0000) | 8.5535(0.0000) | 0.1191(0.0000) | 0.2806(0.0000) |
| Age Squared | -0.0003(0.0000) | -0.0003(0.0000) | -0.0818(0.0000) | -0.0012(0.0000) | -0.0028(0.0000) |
| Female | 0.0886(0.0000) | 0.0436(0.0000) | 10.9724(0.0000) | 0.2803(0.0000) | 0.6318(0.0000) |
| Black | -0.0333(0.0000) | -0.0578(0.0000) | -19.6862(0.0000) | -0.2154(0.0000) | -0.4946(0.0000) |
| Other Race/Ethnicity | -0.0744(0.0000) | -0.0710(0.0000) | -20.5499(0.0000) | -0.3320(0.0000) | -0.7273(0.0000) |
| Asian | -0.1622(0.0000) | -0.1458(0.0000) | -41.8285(0.0000) | -0.7208(0.0000) | -1.5501(0.0000) |
| Hispanic | -0.0589(0.0000) | -0.0871(0.0000) | -26.3914(0.0000) | -0.3318(0.0000) | -0.7435(0.0000) |
| North American Native | 0.0033(0.6210) | -0.0019(0.8170) | -2.5652(0.3200) | -0.0602(0.0730) | -0.0824(0.2930) |
| Subsidy Status |  |  |  |  |  |
| Low-Income Subsidy Status 1 | -0.1864(0.0000) | -0.0930(0.0000) | -30.5981(0.0000) | -0.7730(0.0000) | -1.5760(0.0000) |
| Low-Income Subsidy Status 2 | 0.0047(0.0030) | 0.0169(0.0000) | 1.5922(0.0010) | -0.0648(0.0000) | -0.0615(0.0000) |
| Low-Income Subsidy Status 3 | 0.0100(0.0000) | 0.0311(0.0000) | 7.6381(0.0000) | -0.0099(0.0540) | 0.0802(0.0000) |
| Low-Income Subsidy Status 4 | 0.0022(0.2000) | 0.0327(0.0000) | 9.5596(0.0000) | 0.0162(0.0350) | 0.1079(0.0000) |
| Low-Income Subsidy Status 5 | -0.0824(0.0000) | -0.0416(0.0000) | -12.2544(0.0000) | -0.3342(0.0000) | -0.6886(0.0000) |
| Low-Income Subsidy Status 6 | 0.0117(0.0020) | 0.0421(0.0000) | 13.4475(0.0000) | 0.0459(0.0020) | 0.2001(0.0000) |
| Low-Income Subsidy Status 7 | 0.0239(0.0000) | 0.0480(0.0000) | 15.2687(0.0000) | 0.0866(0.0000) | 0.2930(0.0000) |
| Low-Income Subsidy Status 8 | 0.0316(0.0000) | 0.0654(0.0000) | 20.0126(0.0000) | 0.1310(0.0000) | 0.4123(0.0000) |
| Comorbid Conditions |  |  |  |  |  |
| Myocardial Infarction | 0.0858(0.0000) | 0.0527(0.0000) | 11.5902(0.0000) | 0.3475(0.0000) | 0.6916(0.0000) |
| CHF | 0.0399(0.0000) | 0.0307(0.0000) | 6.3452(0.0000) | 0.1655(0.0000) | 0.3511(0.0000) |
| Peripheral Vascular Disease | 0.0729(0.0000) | 0.0655(0.0000) | 17.1015(0.0000) | 0.2983(0.0000) | 0.6920(0.0000) |
| Cerebrovascular Disease | 0.0446(0.0000) | 0.0221(0.0000) | 3.8004(0.0000) | 0.1417(0.0000) | 0.3125(0.0000) |
| COPD | 0.1718(0.0000) | 0.1402(0.0000) | 39.1691(0.0000) | 0.6706(0.0000) | 1.5342(0.0000) |
| Dementia | -0.0463(0.0000) | -0.0415(0.0000) | -16.0968(0.0000) | -0.2212(0.0000) | -0.4832(0.0000) |
| Paralysis | 0.1130(0.0000) | 0.0898(0.0000) | 23.5523(0.0000) | 0.4858(0.0000) | 1.0651(0.0000) |
| Diabetes | 0.0586(0.0000) | 0.0311(0.0000) | 8.7728(0.0000) | 0.1851(0.0000) | 0.4407(0.0000) |
| Diabetes With Sequelae | 0.0493(0.0000) | 0.0381(0.0000) | 9.9626(0.0000) | 0.1895(0.0000) | 0.4355(0.0000) |
| Chronic Renal Failure | 0.0407(0.0000) | 0.0142(0.0000) | 1.6025(0.0000) | 0.1416(0.0000) | 0.2802(0.0000) |
| Various Cirrhodites | 0.0979(0.0000) | 0.0795(0.0000) | 21.2008(0.0000) | 0.4170(0.0000) | 0.8999(0.0000) |
| Moderate-Severe Liver Disease | 0.0404(0.0000) | 0.0236(0.0000) | 2.6671(0.0060) | 0.1491(0.0000) | 0.3181(0.0000) |
| Ulcers | 0.1337(0.0000) | 0.1203(0.0000) | 29.0309(0.0000) | 0.5347(0.0000) | 1.2218(0.0000) |
| Rheumatoid arthritis | 0.1920(0.0000) | 0.1875(0.0000) | 58.1894(0.0000) | 0.7991(0.0000) | 1.9636(0.0000) |
| AIDS | 0.0561(0.0000) | 0.0143(0.0000) | 2.4200(0.0390) | 0.1975(0.0000) | 0.3398(0.0000) |
| Other Diseases |  |  |  |  |  |
| Depression | 0.1317(0.0000) | 0.1150(0.0000) | 30.1713(0.0000) | 0.5389(0.0000) | 1.2184(0.0000) |
| Serious Mental Illness | -0.0853(0.0000) | -0.0791(0.0000) | -27.9180(0.0000) | -0.3800(0.0000) | -0.8944(0.0000) |
| Alcohol Abuse | 0.0187(0.0000) | -0.0318(0.0000) | -17.2564(0.0000) | -0.0059(0.5260) | -0.1175(0.0000) |
| State |  |  |  |  |  |
| AK | 0.0612(0.0000) | 0.0828(0.0000) | 27.3557(0.0000) | 0.0969(0.2600) | 0.6180(0.0010) |
| AZ | 0.0391(0.0090) | 0.0474(0.0030) | 12.5283(0.0210) | 0.0231(0.7860) | 0.3377(0.0570) |
| AR | 0.0073(0.7340) | 0.0241(0.2410) | 9.9509(0.1460) | 0.0401(0.7000) | 0.2390(0.2950) |
| CA | -0.0228(0.1730) | 0.0165(0.3340) | 6.2606(0.2800) | -0.1141(0.2180) | -0.0063(0.9740) |
| CO | 0.0391(0.0070) | 0.0433(0.0050) | 13.0727(0.0150) | 0.1246(0.1390) | 0.4113(0.0180) |
| CT | -0.0741(0.0000) | -0.0425(0.0060) | -11.1197(0.0410) | -0.3097(0.0000) | -0.5852(0.0010) |
| DE | -0.0683(0.0000) | -0.0591(0.0010) | -16.0261(0.0070) | -0.3669(0.0000) | -0.6389(0.0010) |
| DC | -0.0256(0.1450) | 0.0124(0.4850) | 9.3984(0.1280) | -0.0510(0.6120) | 0.0324(0.8770) |
| FL | -0.0187(0.2900) | 0.0157(0.3850) | 10.6461(0.0780) | -0.0956(0.3070) | 0.0474(0.8110) |
| GA | 0.0244(0.1400) | 0.0403(0.0230) | 13.4785(0.0250) | -0.0008(0.9930) | 0.2685(0.1630) |
| HI | -0.0634(0.0270) | -0.0224(0.2590) | -5.2623(0.4490) | -0.2562(0.0520) | -0.3990(0.1360) |
| ID | -0.0488(0.0020) | -0.0411(0.0160) | -13.6605(0.0190) | -0.3139(0.0000) | -0.5056(0.0070) |
| IL | 0.0373(0.0090) | 0.0468(0.0030) | 14.2586(0.0080) | 0.1162(0.1640) | 0.4308(0.0130) |
| IN | -0.0440(0.0220) | -0.0135(0.4790) | -4.1068(0.4990) | -0.2911(0.0030) | -0.3714(0.0700) |
| IA | 0.0345(0.0270) | 0.0543(0.0010) | 19.7386(0.0000) | 0.0229(0.7950) | 0.3850(0.0360) |
| KS | 0.0159(0.2790) | 0.0313(0.0680) | 7.7099(0.1880) | 0.0197(0.8190) | 0.2175(0.2300) |
| KY | -0.0171(0.2580) | 0.0268(0.1010) | 12.7327(0.0230) | -0.2171(0.0120) | -0.0945(0.6010) |
| LA | 0.0359(0.0190) | 0.0516(0.0020) | 16.1736(0.0050) | 0.0143(0.8690) | 0.3487(0.0560) |
| ME | -0.0858(0.0000) | -0.0637(0.0000) | -17.3540(0.0020) | -0.4349(0.0000) | -0.8117(0.0000) |
| MD | -0.0365(0.0300) | -0.0103(0.5370) | 0.1777(0.9750) | -0.1628(0.0800) | -0.1932(0.3130) |
| MA | -0.0684(0.0000) | -0.0438(0.0120) | -11.1200(0.0600) | -0.2972(0.0010) | -0.5545(0.0040) |
| MI | 0.0143(0.3980) | 0.0568(0.0040) | 22.1546(0.0010) | -0.0332(0.7150) | 0.3241(0.1060) |
| MN | -0.0353(0.0400) | -0.0273(0.0990) | -9.9018(0.0770) | -0.2309(0.0100) | -0.3868(0.0390) |
| MS | 0.0129(0.4040) | 0.0325(0.0490) | 9.8855(0.0770) | -0.0141(0.8700) | 0.2050(0.2590) |
| MO | 0.0435(0.0070) | 0.0411(0.0240) | 9.4912(0.1350) | 0.0269(0.7640) | 0.2930(0.1280) |
| MT | -0.0393(0.0090) | -0.0112(0.4890) | -2.1727(0.6950) | -0.2038(0.0170) | -0.2763(0.1230) |
| NE | 0.0297(0.0460) | 0.0488(0.0030) | 17.5013(0.0020) | 0.0657(0.4460) | 0.3892(0.0320) |
| NV | -0.0884(0.0000) | -0.0601(0.0000) | -17.6719(0.0020) | -0.4355(0.0000) | -0.7870(0.0000) |
| NH | -0.0202(0.2390) | -0.0061(0.7150) | -3.7845(0.4950) | -0.1771(0.0520) | -0.1879(0.3180) |
| NJ | -0.0446(0.0050) | -0.0288(0.0860) | -9.8157(0.0890) | -0.2181(0.0190) | -0.4046(0.0330) |
| NM | -0.0950(0.0000) | -0.0477(0.0060) | -10.5955(0.0730) | -0.3741(0.0000) | -0.6656(0.0010) |
| NY | -0.0370(0.0200) | -0.0189(0.2760) | -2.5264(0.6640) | -0.2128(0.0150) | -0.2853(0.1260) |
| NC | 0.0511(0.0360) | 0.0927(0.0000) | 31.7861(0.0000) | 0.2860(0.0250) | 0.8354(0.0040) |
| ND | -0.1372(0.0000) | -0.0818(0.0000) | -19.3911(0.0000) | -0.5731(0.0000) | -1.0553(0.0000) |
| OH | -0.0153(0.3200) | 0.0006(0.9730) | 1.0642(0.8480) | -0.2065(0.0180) | -0.1822(0.3160) |
| OK | 0.0669(0.0000) | 0.0863(0.0000) | 29.3705(0.0000) | 0.2360(0.0060) | 0.7899(0.0000) |
| OR | 0.0227(0.1150) | 0.0378(0.0160) | 10.7103(0.0510) | 0.0675(0.4280) | 0.2808(0.1130) |
| PA | -0.0429(0.0030) | -0.0062(0.6880) | 1.1450(0.8300) | -0.2104(0.0130) | -0.2359(0.1780) |
| RI | -0.0687(0.0000) | -0.0530(0.0010) | -15.4309(0.0060) | -0.4035(0.0000) | -0.7135(0.0000) |
| SC | 0.0379(0.0200) | 0.0494(0.0060) | 16.8411(0.0070) | 0.0784(0.3830) | 0.4231(0.0290) |
| SD | -0.0792(0.0000) | -0.0480(0.0040) | -15.0948(0.0070) | -0.4052(0.0000) | -0.6906(0.0000) |
| TN | 0.0503(0.0010) | 0.0900(0.0000) | 32.2352(0.0000) | 0.1649(0.0640) | 0.6446(0.0010) |
| TX | 0.0081(0.5980) | 0.0163(0.3300) | 7.2740(0.1910) | -0.1151(0.1880) | 0.0828(0.6480) |
| UT | 0.0233(0.1270) | 0.0598(0.0000) | 19.6895(0.0010) | 0.0974(0.2780) | 0.4274(0.0220) |
| VT | -0.0053(0.7310) | 0.0110(0.5060) | 4.0765(0.4710) | -0.1207(0.1610) | -0.0328(0.8560) |
| VA | -0.0787(0.0000) | -0.0420(0.0130) | -10.2562(0.0810) | -0.3535(0.0000) | -0.6251(0.0010) |
| WA | -0.0048(0.7410) | 0.0095(0.5440) | 2.7503(0.6110) | -0.0832(0.3270) | -0.0446(0.8000) |
| WV | -0.0154(0.4490) | 0.0002(0.9930) | 0.5766(0.9300) | -0.1140(0.3000) | -0.1031(0.6530) |
| WI | -0.0124(0.4140) | 0.0248(0.1360) | 10.3224(0.0640) | -0.2197(0.0110) | -0.0822(0.6480) |
| WY | -0.0128(0.4250) | -0.0067(0.7060) | -1.9103(0.7540) | -0.0977(0.2860) | -0.0880(0.6450) |
| Urban-Rural Classification |  |  |  |  |  |
| Large Fringe Metro | 0.0327(0.0000) | 0.0265(0.0000) | 7.9526(0.0000) | 0.1395(0.0000) | 0.3044(0.0000) |
| Medium Metro | 0.0386(0.0000) | 0.0269(0.0000) | 7.8028(0.0000) | 0.1438(0.0000) | 0.3214(0.0000) |
| Small Metro | 0.0480(0.0000) | 0.0327(0.0000) | 9.0856(0.0000) | 0.1582(0.0000) | 0.3743(0.0000) |
| Micropolitan | 0.0526(0.0000) | 0.0405(0.0000) | 11.7041(0.0000) | 0.1733(0.0000) | 0.4330(0.0000) |
| Noncore | 0.0663(0.0000) | 0.0573(0.0000) | 16.1784(0.0000) | 0.2211(0.0000) | 0.5803(0.0000) |
| Intercept | -0.3159(0.0000) | -0.5687(0.0000) | -174.8165(0.0000) | -1.3549(0.0000) | -4.3176(0.0000) |

**3. Linear Least Square Regressions with Gini Index**

Stata runs standard LLS with 3,493,551 observations. Reference categories for categorical variables include: male, non-Hispanic white, no premium or cost sharing subsidy, and large central metro. In each cell, the first value is the estimated coefficient; value in parenthesis is the corresponding *p*-value, calculated based on robust standard errors clustered by county.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Opioid User | Long-Term User | Total Days of Usage | Log Mean Daily MME | Log Total MME |
| Economic Indicators |  |  |  |  |  |
| Gini Index | -0.3957(0.0000) | -0.3118(0.0000) | -91.8825(0.0000) | -1.6716(0.0000) | -3.6182(0.0000) |
| Demographic Variables |  |  |  |  |  |
| Age | 0.0266(0.0000) | 0.0283(0.0000) | 8.5487(0.0000) | 0.1190(0.0000) | 0.2804(0.0000) |
| Age Squared | -0.0003(0.0000) | -0.0003(0.0000) | -0.0817(0.0000) | -0.0012(0.0000) | -0.0028(0.0000) |
| Female | 0.0883(0.0000) | 0.0434(0.0000) | 10.8690(0.0000) | 0.2792(0.0000) | 0.6285(0.0000) |
| Black | -0.0281(0.0000) | -0.0538(0.0000) | -18.3637(0.0000) | -0.1972(0.0000) | -0.4481(0.0000) |
| Other Race/Ethnicity | -0.0727(0.0000) | -0.0697(0.0000) | -20.1303(0.0000) | -0.3257(0.0000) | -0.7119(0.0000) |
| Asian | -0.1622(0.0000) | -0.1458(0.0000) | -41.9344(0.0000) | -0.7183(0.0000) | -1.5501(0.0000) |
| Hispanic | -0.0542(0.0000) | -0.0834(0.0000) | -25.1135(0.0000) | -0.3169(0.0000) | -0.7011(0.0000) |
| North American Native | 0.0081(0.2310) | 0.0016(0.8410) | -1.3149(0.6100) | -0.0468(0.1660) | -0.0408(0.6030) |
| Subsidy Status |  |  |  |  |  |
| Low-Income Subsidy Status 1 | -0.1856(0.0000) | -0.0924(0.0000) | -30.4363(0.0000) | -0.7697(0.0000) | -1.5692(0.0000) |
| Low-Income Subsidy Status 2 | 0.0056(0.0000) | 0.0176(0.0000) | 1.8405(0.0000) | -0.0620(0.0000) | -0.0533(0.0000) |
| Low-Income Subsidy Status 3 | 0.0102(0.0000) | 0.0313(0.0000) | 7.7083(0.0000) | -0.0093(0.0680) | 0.0822(0.0000) |
| Low-Income Subsidy Status 4 | 0.0025(0.1560) | 0.0328(0.0000) | 9.6441(0.0000) | 0.0166(0.0320) | 0.1102(0.0000) |
| Low-Income Subsidy Status 5 | -0.0825(0.0000) | -0.0416(0.0000) | -12.2844(0.0000) | -0.3346(0.0000) | -0.6897(0.0000) |
| Low-Income Subsidy Status 6 | 0.0117(0.0010) | 0.0421(0.0000) | 13.4819(0.0000) | 0.0459(0.0020) | 0.2009(0.0000) |
| Low-Income Subsidy Status 7 | 0.0240(0.0000) | 0.0480(0.0000) | 15.2946(0.0000) | 0.0864(0.0000) | 0.2934(0.0000) |
| Low-Income Subsidy Status 8 | 0.0316(0.0000) | 0.0654(0.0000) | 20.0434(0.0000) | 0.1304(0.0000) | 0.4124(0.0000) |
| Comorbid Conditions |  |  |  |  |  |
| Myocardial Infarction | 0.0854(0.0000) | 0.0524(0.0000) | 11.4809(0.0000) | 0.3458(0.0000) | 0.6876(0.0000) |
| CHF | 0.0401(0.0000) | 0.0308(0.0000) | 6.3906(0.0000) | 0.1658(0.0000) | 0.3525(0.0000) |
| Peripheral Vascular Disease | 0.0736(0.0000) | 0.0661(0.0000) | 17.2976(0.0000) | 0.3003(0.0000) | 0.6982(0.0000) |
| Cerebrovascular Disease | 0.0447(0.0000) | 0.0222(0.0000) | 3.8351(0.0000) | 0.1417(0.0000) | 0.3133(0.0000) |
| COPD | 0.1716(0.0000) | 0.1401(0.0000) | 39.1557(0.0000) | 0.6696(0.0000) | 1.5329(0.0000) |
| Dementia | -0.0461(0.0000) | -0.0414(0.0000) | -16.0537(0.0000) | -0.2210(0.0000) | -0.4821(0.0000) |
| Paralysis | 0.1128(0.0000) | 0.0897(0.0000) | 23.5122(0.0000) | 0.4853(0.0000) | 1.0638(0.0000) |
| Diabetes | 0.0590(0.0000) | 0.0315(0.0000) | 8.8983(0.0000) | 0.1861(0.0000) | 0.4445(0.0000) |
| Diabetes With Sequelae | 0.0491(0.0000) | 0.0379(0.0000) | 9.8987(0.0000) | 0.1885(0.0000) | 0.4331(0.0000) |
| Chronic Renal Failure | 0.0405(0.0000) | 0.0141(0.0000) | 1.5521(0.0000) | 0.1409(0.0000) | 0.2784(0.0000) |
| Various Cirrhodites | 0.0981(0.0000) | 0.0797(0.0000) | 21.2348(0.0000) | 0.4176(0.0000) | 0.9013(0.0000) |
| Moderate-Severe Liver Disease | 0.0402(0.0000) | 0.0234(0.0000) | 2.6047(0.0070) | 0.1484(0.0000) | 0.3162(0.0000) |
| Ulcers | 0.1340(0.0000) | 0.1206(0.0000) | 29.1222(0.0000) | 0.5354(0.0000) | 1.2245(0.0000) |
| Rheumatoid arthritis | 0.1923(0.0000) | 0.1877(0.0000) | 58.2677(0.0000) | 0.7996(0.0000) | 1.9659(0.0000) |
| AIDS | 0.0577(0.0000) | 0.0156(0.0000) | 2.7822(0.0220) | 0.2051(0.0000) | 0.3550(0.0000) |
| Other Diseases |  |  |  |  |  |
| Depression | 0.1317(0.0000) | 0.1149(0.0000) | 30.1423(0.0000) | 0.5391(0.0000) | 1.2179(0.0000) |
| Serious Mental Illness | -0.0852(0.0000) | -0.0790(0.0000) | -27.9269(0.0000) | -0.3786(0.0000) | -0.8934(0.0000) |
| Alcohol Abuse | 0.0188(0.0000) | -0.0318(0.0000) | -17.2855(0.0000) | -0.0049(0.5950) | -0.1172(0.0000) |
| State |  |  |  |  |  |
| AK | 0.0903(0.0000) | 0.1057(0.0000) | 34.4676(0.0000) | 0.2092(0.0180) | 0.8820(0.0000) |
| AZ | 0.0632(0.0000) | 0.0664(0.0000) | 18.1516(0.0020) | 0.1233(0.1580) | 0.5571(0.0030) |
| AR | 0.0282(0.1460) | 0.0406(0.0310) | 15.3398(0.0170) | 0.1139(0.2450) | 0.4281(0.0430) |
| CA | 0.0059(0.7380) | 0.0392(0.0250) | 13.7727(0.0230) | -0.0151(0.8710) | 0.2539(0.2040) |
| CO | 0.0552(0.0010) | 0.0560(0.0010) | 16.5606(0.0050) | 0.1975(0.0230) | 0.5575(0.0030) |
| CT | -0.0474(0.0030) | -0.0214(0.1960) | -4.5994(0.4330) | -0.2057(0.0180) | -0.3423(0.0660) |
| DE | -0.0262(0.1300) | -0.0259(0.1510) | -5.5401(0.3780) | -0.2078(0.0230) | -0.2559(0.1990) |
| DC | -0.0100(0.5970) | 0.0247(0.2010) | 13.0262(0.0450) | 0.0142(0.8880) | 0.1744(0.4200) |
| FL | 0.0073(0.6880) | 0.0361(0.0480) | 16.8779(0.0070) | 0.0076(0.9350) | 0.2831(0.1630) |
| GA | 0.0555(0.0010) | 0.0648(0.0000) | 21.2730(0.0010) | 0.1150(0.2040) | 0.5509(0.0050) |
| HI | -0.0562(0.1050) | -0.0167(0.4770) | -4.1804(0.6080) | -0.2115(0.1640) | -0.3328(0.2940) |
| ID | -0.0450(0.0080) | -0.0381(0.0310) | -13.5922(0.0280) | -0.2785(0.0020) | -0.4707(0.0180) |
| IL | 0.0430(0.0060) | 0.0514(0.0020) | 15.1199(0.0090) | 0.1515(0.0770) | 0.4832(0.0090) |
| IN | -0.0195(0.3070) | 0.0059(0.7570) | 2.0553(0.7420) | -0.2005(0.0350) | -0.1492(0.4690) |
| IA | 0.0495(0.0030) | 0.0661(0.0000) | 23.3079(0.0000) | 0.0835(0.3520) | 0.5214(0.0070) |
| KS | 0.0250(0.1220) | 0.0385(0.0320) | 9.2620(0.1390) | 0.0715(0.4170) | 0.3008(0.1180) |
| KY | 0.0109(0.5090) | 0.0489(0.0050) | 19.6562(0.0010) | -0.1096(0.2160) | 0.1607(0.4020) |
| LA | 0.0678(0.0000) | 0.0768(0.0000) | 23.7568(0.0000) | 0.1441(0.1030) | 0.6396(0.0010) |
| ME | -0.0552(0.0020) | -0.0395(0.0190) | -10.1007(0.0900) | -0.3102(0.0010) | -0.5331(0.0060) |
| MD | -0.0181(0.3530) | 0.0042(0.8160) | 4.7418(0.4420) | -0.0937(0.3400) | -0.0267(0.8990) |
| MA | -0.0549(0.0010) | -0.0331(0.0610) | -8.2124(0.1820) | -0.2348(0.0110) | -0.4311(0.0300) |
| MI | 0.0384(0.0470) | 0.0757(0.0010) | 28.3756(0.0000) | 0.0512(0.5900) | 0.5418(0.0150) |
| MN | -0.0309(0.1020) | -0.0237(0.1780) | -9.5563(0.1160) | -0.1957(0.0360) | -0.3459(0.0860) |
| MS | 0.0316(0.0500) | 0.0473(0.0050) | 14.3551(0.0150) | 0.0613(0.4810) | 0.3753(0.0460) |
| MO | 0.0784(0.0000) | 0.0686(0.0000) | 18.2198(0.0060) | 0.1578(0.0830) | 0.6103(0.0020) |
| MT | -0.0281(0.0930) | -0.0024(0.8900) | -0.2230(0.9700) | -0.1408(0.1120) | -0.1737(0.3670) |
| NE | 0.0523(0.0020) | 0.0666(0.0000) | 22.9355(0.0000) | 0.1552(0.0820) | 0.5942(0.0020) |
| NV | -0.0824(0.0000) | -0.0553(0.0020) | -17.6285(0.0040) | -0.3763(0.0000) | -0.7302(0.0000) |
| NH | -0.0203(0.3120) | -0.0061(0.7370) | -5.0035(0.4110) | -0.1477(0.1330) | -0.1873(0.3710) |
| NJ | -0.0389(0.0280) | -0.0242(0.1780) | -9.1790(0.1440) | -0.1770(0.0700) | -0.3517(0.0880) |
| NM | -0.0648(0.0000) | -0.0238(0.1900) | -3.0004(0.6360) | -0.2620(0.0070) | -0.3912(0.0610) |
| NY | -0.0089(0.6060) | 0.0033(0.8540) | 4.2144(0.4970) | -0.1000(0.2670) | -0.0293(0.8820) |
| NC | 0.0703(0.0010) | 0.1078(0.0000) | 37.0223(0.0000) | 0.3460(0.0030) | 1.0083(0.0000) |
| ND | -0.1155(0.0000) | -0.0647(0.0000) | -14.1943(0.0150) | -0.4863(0.0000) | -0.8580(0.0000) |
| OH | 0.0024(0.8850) | 0.0145(0.3950) | 5.1836(0.3810) | -0.1330(0.1380) | -0.0214(0.9110) |
| OK | 0.0812(0.0000) | 0.0976(0.0000) | 32.1080(0.0000) | 0.3103(0.0010) | 0.9206(0.0000) |
| OR | 0.0466(0.0040) | 0.0567(0.0010) | 16.7853(0.0050) | 0.1543(0.0800) | 0.4975(0.0090) |
| PA | -0.0250(0.1280) | 0.0079(0.6360) | 5.3955(0.3620) | -0.1377(0.1220) | -0.0731(0.7030) |
| RI | -0.0393(0.0170) | -0.0298(0.0770) | -7.7387(0.1880) | -0.3019(0.0010) | -0.4470(0.0190) |
| SC | 0.0632(0.0000) | 0.0693(0.0000) | 22.9421(0.0000) | 0.1785(0.0520) | 0.6530(0.0010) |
| SD | -0.0777(0.0000) | -0.0476(0.0050) | -16.3594(0.0060) | -0.3717(0.0000) | -0.6825(0.0000) |
| TN | 0.0773(0.0000) | 0.1113(0.0000) | 38.8373(0.0000) | 0.2695(0.0030) | 0.8899(0.0000) |
| TX | 0.0261(0.1170) | 0.0304(0.0770) | 11.1361(0.0600) | -0.0325(0.7160) | 0.2465(0.1970) |
| UT | 0.0167(0.3090) | 0.0547(0.0020) | 17.3789(0.0040) | 0.0896(0.3290) | 0.3686(0.0600) |
| VT | 0.0123(0.4750) | 0.0248(0.1560) | 8.1881(0.1830) | -0.0479(0.5910) | 0.1272(0.5140) |
| VA | -0.0739(0.0000) | -0.0382(0.0280) | -10.0702(0.1010) | -0.3111(0.0000) | -0.5809(0.0020) |
| WA | 0.0103(0.5240) | 0.0214(0.1960) | 6.5631(0.2620) | -0.0276(0.7520) | 0.0924(0.6250) |
| WV | -0.0076(0.7330) | 0.0064(0.7620) | 2.1693(0.7620) | -0.0763(0.5010) | -0.0322(0.8960) |
| WI | 0.0137(0.4160) | 0.0454(0.0100) | 16.7148(0.0060) | -0.1185(0.1820) | 0.1552(0.4210) |
| WY | -0.0177(0.2990) | -0.0104(0.5630) | -3.9512(0.5350) | -0.0958(0.3020) | -0.1315(0.5090) |
| Urban-Rural Classification |  |  |  |  |  |
| Large Fringe Metro | 0.0123(0.0700) | 0.0105(0.1040) | 3.0936(0.1370) | 0.0567(0.0380) | 0.1184(0.0670) |
| Medium Metro | 0.0271(0.0000) | 0.0179(0.0060) | 5.2454(0.0120) | 0.0928(0.0010) | 0.2164(0.0010) |
| Small Metro | 0.0361(0.0000) | 0.0233(0.0010) | 6.4993(0.0050) | 0.1037(0.0000) | 0.2653(0.0000) |
| Micropolitan | 0.0411(0.0000) | 0.0314(0.0000) | 9.3605(0.0000) | 0.1165(0.0000) | 0.3273(0.0000) |
| Noncore | 0.0574(0.0000) | 0.0502(0.0000) | 14.6860(0.0000) | 0.1682(0.0000) | 0.4973(0.0000) |
| Intercept | -0.1205(0.0000) | -0.4148(0.0000) | -127.2713(0.0000) | -0.5839(0.0000) | -2.5341(0.0000) |

**4. Linear Least Square Regressions with all three economic indicators**

Stata runs standard LLS with 3,493,551 observations. Reference categories for categorical variables include: male, non-Hispanic white, no premium or cost sharing subsidy, and large central metro. In each cell, the first value is the estimated coefficient; value in parenthesis is the corresponding *p*-value, calculated based on robust standard errors clustered by county.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Opioid User(Yes vs. No) | Long-Term User(Yes vs. No) | Total Days of Usage | Log Mean Daily MME | Log Total MME |
| Economic Indicators |  |  |  |  |  |
| Log Median Household Income | -0.0639(0.0000) | -0.0530(0.0000) | -17.4243(0.0000) | -0.1822(0.0000) | -0.5405(0.0000) |
| Unemployment Rate | 0.0797(0.4570) | 0.0430(0.7560) | 40.2352(0.3860) | -0.0604(0.8960) | 0.9652(0.4120) |
| Gini Index | -0.4795(0.0000) | -0.3793(0.0000) | -115.8516(0.0000) | -1.8898(0.0000) | -4.3441(0.0000) |
| Demographic Variables |  |  |  |  |  |
| Age | 0.0265(0.0000) | 0.0283(0.0000) | 8.5423(0.0000) | 0.1189(0.0000) | 0.2802(0.0000) |
| Age Squared | -0.0003(0.0000) | -0.0003(0.0000) | -0.0817(0.0000) | -0.0012(0.0000) | -0.0028(0.0000) |
| Female | 0.0886(0.0000) | 0.0436(0.0000) | 10.9698(0.0000) | 0.2800(0.0000) | 0.6315(0.0000) |
| Black | -0.0295(0.0000) | -0.0548(0.0000) | -18.7745(0.0000) | -0.2001(0.0000) | -0.4600(0.0000) |
| Other Race/Ethnicity | -0.0721(0.0000) | -0.0692(0.0000) | -19.9933(0.0000) | -0.3240(0.0000) | -0.7076(0.0000) |
| Asian | -0.1585(0.0000) | -0.1427(0.0000) | -40.8578(0.0000) | -0.7084(0.0000) | -1.5175(0.0000) |
| Hispanic | -0.0560(0.0000) | -0.0849(0.0000) | -25.7011(0.0000) | -0.3209(0.0000) | -0.7181(0.0000) |
| North American Native | 0.0053(0.4190) | -0.0003(0.9680) | -2.0878(0.4090) | -0.0523(0.1150) | -0.0643(0.4020) |
| Subsidy Status |  |  |  |  |  |
| Low-Income Subsidy Status 1 | -0.1861(0.0000) | -0.0928(0.0000) | -30.5553(0.0000) | -0.7711(0.0000) | -1.5730(0.0000) |
| Low-Income Subsidy Status 2 | 0.0040(0.0100) | 0.0163(0.0000) | 1.3842(0.0040) | -0.0663(0.0000) | -0.0673(0.0000) |
| Low-Income Subsidy Status 3 | 0.0091(0.0000) | 0.0304(0.0000) | 7.4016(0.0000) | -0.0123(0.0160) | 0.0729(0.0000) |
| Low-Income Subsidy Status 4 | 0.0015(0.3860) | 0.0321(0.0000) | 9.3676(0.0000) | 0.0140(0.0660) | 0.1018(0.0000) |
| Low-Income Subsidy Status 5 | -0.0826(0.0000) | -0.0418(0.0000) | -12.3208(0.0000) | -0.3349(0.0000) | -0.6907(0.0000) |
| Low-Income Subsidy Status 6 | 0.0110(0.0030) | 0.0415(0.0000) | 13.2669(0.0000) | 0.0438(0.0040) | 0.1944(0.0000) |
| Low-Income Subsidy Status 7 | 0.0233(0.0000) | 0.0474(0.0000) | 15.1002(0.0000) | 0.0846(0.0000) | 0.2875(0.0000) |
| Low-Income Subsidy Status 8 | 0.0307(0.0000) | 0.0646(0.0000) | 19.7787(0.0000) | 0.1280(0.0000) | 0.4044(0.0000) |
| Comorbid Conditions |  |  |  |  |  |
| Myocardial Infarction | 0.0853(0.0000) | 0.0523(0.0000) | 11.4668(0.0000) | 0.3456(0.0000) | 0.6872(0.0000) |
| CHF | 0.0399(0.0000) | 0.0307(0.0000) | 6.3270(0.0000) | 0.1653(0.0000) | 0.3506(0.0000) |
| Peripheral Vascular Disease | 0.0732(0.0000) | 0.0659(0.0000) | 17.1989(0.0000) | 0.2997(0.0000) | 0.6954(0.0000) |
| Cerebrovascular Disease | 0.0447(0.0000) | 0.0222(0.0000) | 3.8192(0.0000) | 0.1417(0.0000) | 0.3129(0.0000) |
| COPD | 0.1711(0.0000) | 0.1397(0.0000) | 38.9987(0.0000) | 0.6682(0.0000) | 1.5282(0.0000) |
| Dementia | -0.0460(0.0000) | -0.0413(0.0000) | -16.0298(0.0000) | -0.2206(0.0000) | -0.4813(0.0000) |
| Paralysis | 0.1131(0.0000) | 0.0899(0.0000) | 23.5900(0.0000) | 0.4861(0.0000) | 1.0662(0.0000) |
| Diabetes | 0.0587(0.0000) | 0.0312(0.0000) | 8.7914(0.0000) | 0.1854(0.0000) | 0.4414(0.0000) |
| Diabetes With Sequelae | 0.0490(0.0000) | 0.0378(0.0000) | 9.8636(0.0000) | 0.1881(0.0000) | 0.4321(0.0000) |
| Chronic Renal Failure | 0.0406(0.0000) | 0.0141(0.0000) | 1.5668(0.0000) | 0.1410(0.0000) | 0.2788(0.0000) |
| Various Cirrhodites | 0.0982(0.0000) | 0.0797(0.0000) | 21.2558(0.0000) | 0.4178(0.0000) | 0.9019(0.0000) |
| Moderate-Severe Liver Disease | 0.0402(0.0000) | 0.0234(0.0000) | 2.6038(0.0070) | 0.1482(0.0000) | 0.3159(0.0000) |
| Ulcers | 0.1338(0.0000) | 0.1203(0.0000) | 29.0396(0.0000) | 0.5348(0.0000) | 1.2221(0.0000) |
| Rheumatoid Arthritis | 0.1922(0.0000) | 0.1876(0.0000) | 58.2325(0.0000) | 0.7996(0.0000) | 1.9650(0.0000) |
| AIDS | 0.0588(0.0000) | 0.0164(0.0000) | 3.0878(0.0100) | 0.2079(0.0000) | 0.3643(0.0000) |
| Other Diseases |  |  |  |  |  |
| Depression | 0.1319(0.0000) | 0.1151(0.0000) | 30.2004(0.0000) | 0.5395(0.0000) | 1.2196(0.0000) |
| Serious Mental Illness | -0.0844(0.0000) | -0.0783(0.0000) | -27.6731(0.0000) | -0.3764(0.0000) | -0.8858(0.0000) |
| Alcohol Abuse | 0.0194(0.0000) | -0.0313(0.0000) | -17.1006(0.0000) | -0.0035(0.7050) | -0.1118(0.0000) |
| State |  |  |  |  |  |
| AL | 0.0577(0.0000) | 0.0789(0.0000) | 25.5728(0.0000) | 0.1156(0.1960) | 0.6042(0.0020) |
| AZ | 0.0314(0.0530) | 0.0400(0.0200) | 9.6172(0.0990) | 0.0294(0.7410) | 0.2881(0.1260) |
| AR | -0.0014(0.9450) | 0.0163(0.4140) | 7.1367(0.2860) | 0.0304(0.7640) | 0.1735(0.4320) |
| CA | -0.0119(0.4810) | 0.0249(0.1490) | 8.6765(0.1390) | -0.0627(0.4970) | 0.0976(0.6140) |
| CO | 0.0367(0.0170) | 0.0405(0.0130) | 11.7739(0.0370) | 0.1400(0.1060) | 0.4031(0.0260) |
| CT | -0.0534(0.0010) | -0.0263(0.1210) | -6.2369(0.2810) | -0.2239(0.0110) | -0.3953(0.0340) |
| DE | -0.0280(0.0980) | -0.0271(0.1370) | -6.1862(0.3210) | -0.2118(0.0210) | -0.2759(0.1610) |
| DC | -0.0311(0.0880) | 0.0073(0.7020) | 7.4199(0.2380) | -0.0488(0.6250) | -0.0037(0.9860) |
| FL | -0.0245(0.1750) | 0.0099(0.5950) | 8.2688(0.1840) | -0.0848(0.3710) | 0.0131(0.9480) |
| GA | 0.0224(0.1860) | 0.0377(0.0370) | 12.1568(0.0470) | 0.0216(0.8130) | 0.2677(0.1710) |
| HI | -0.0619(0.0560) | -0.0218(0.3270) | -5.3385(0.4860) | -0.2350(0.1090) | -0.3771(0.2070) |
| ID | -0.0600(0.0000) | -0.0509(0.0050) | -17.1788(0.0060) | -0.3299(0.0000) | -0.5917(0.0030) |
| IL | 0.0191(0.2190) | 0.0313(0.0590) | 8.9361(0.1190) | 0.0772(0.3730) | 0.2840(0.1200) |
| IN | -0.0412(0.0260) | -0.0118(0.5240) | -3.9276(0.5150) | -0.2619(0.0060) | -0.3356(0.0950) |
| IA | 0.0195(0.2350) | 0.0413(0.0160) | 15.2011(0.0100) | -0.0045(0.9600) | 0.2664(0.1610) |
| KS | 0.0030(0.8530) | 0.0199(0.2730) | 3.6374(0.5570) | 0.0015(0.9860) | 0.1182(0.5350) |
| KY | -0.0231(0.1600) | 0.0209(0.2280) | 10.3526(0.0810) | -0.2069(0.0220) | -0.1295(0.4970) |
| LA | 0.0367(0.0260) | 0.0510(0.0040) | 15.3675(0.0110) | 0.0529(0.5560) | 0.3758(0.0500) |
| ME | -0.0687(0.0000) | -0.0507(0.0020) | -13.6900(0.0150) | -0.3514(0.0000) | -0.6481(0.0000) |
| MD | -0.0369(0.0380) | -0.0112(0.5250) | -0.3759(0.9500) | -0.1479(0.1240) | -0.1874(0.3490) |
| MA | -0.0773(0.0000) | -0.0518(0.0040) | -14.0909(0.0210) | -0.3036(0.0010) | -0.6193(0.0020) |
| MI | 0.0084(0.6350) | 0.0512(0.0120) | 20.0328(0.0040) | -0.0326(0.7260) | 0.2834(0.1720) |
| MN | -0.0457(0.0170) | -0.0364(0.0430) | -13.1666(0.0300) | -0.2458(0.0090) | -0.4668(0.0210) |
| MS | -0.0004(0.9820) | 0.0209(0.2220) | 5.7145(0.3270) | -0.0321(0.7150) | 0.1039(0.5780) |
| MO | 0.0424(0.0140) | 0.0390(0.0390) | 8.2668(0.2080) | 0.0560(0.5450) | 0.3014(0.1330) |
| MT | -0.0494(0.0030) | -0.0205(0.2430) | -5.6039(0.3500) | -0.2096(0.0200) | -0.3495(0.0680) |
| NE | 0.0214(0.1850) | 0.0411(0.0180) | 14.5781(0.0150) | 0.0654(0.4650) | 0.3321(0.0810) |
| NV | -0.0894(0.0000) | -0.0620(0.0010) | -18.7591(0.0020) | -0.4095(0.0000) | -0.7794(0.0000) |
| NH | -0.0358(0.0670) | -0.0197(0.2890) | -8.5543(0.1620) | -0.2037(0.0390) | -0.3100(0.1340) |
| NJ | -0.0472(0.0040) | -0.0314(0.0670) | -10.9845(0.0650) | -0.2085(0.0260) | -0.4167(0.0310) |
| NM | -0.0784(0.0000) | -0.0349(0.0490) | -6.8459(0.2580) | -0.3002(0.0020) | -0.5109(0.0110) |
| NY | -0.0373(0.0320) | -0.0202(0.2750) | -3.4769(0.5750) | -0.1831(0.0460) | -0.2709(0.1700) |
| NC | 0.0442(0.0270) | 0.0867(0.0000) | 29.6671(0.0000) | 0.2748(0.0140) | 0.7819(0.0020) |
| ND | -0.1341(0.0000) | -0.0800(0.0000) | -19.1966(0.0010) | -0.5414(0.0000) | -1.0164(0.0000) |
| OH | -0.0260(0.1170) | -0.0090(0.6020) | -2.4299(0.6790) | -0.2169(0.0170) | -0.2617(0.1710) |
| OK | 0.0547(0.0010) | 0.0753(0.0000) | 25.3051(0.0000) | 0.2273(0.0130) | 0.7012(0.0000) |
| OR | 0.0189(0.2270) | 0.0340(0.0410) | 9.1130(0.1160) | 0.0760(0.3900) | 0.2590(0.1650) |
| PA | -0.0504(0.0010) | -0.0131(0.4270) | -1.4351(0.8000) | -0.2125(0.0160) | -0.2885(0.1170) |
| RI | -0.0684(0.0000) | -0.0534(0.0020) | -15.9295(0.0070) | -0.3817(0.0000) | -0.6992(0.0000) |
| SC | 0.0323(0.0580) | 0.0439(0.0180) | 14.5726(0.0230) | 0.0889(0.3340) | 0.3906(0.0500) |
| SD | -0.0936(0.0000) | -0.0606(0.0010) | -19.5890(0.0010) | -0.4267(0.0000) | -0.8018(0.0000) |
| TN | 0.0447(0.0070) | 0.0845(0.0000) | 29.9458(0.0000) | 0.1757(0.0580) | 0.6120(0.0030) |
| TX | 0.0019(0.9100) | 0.0102(0.5590) | 4.8294(0.4090) | -0.1069(0.2350) | 0.0443(0.8150) |
| UT | 0.0016(0.9210) | 0.0417(0.0160) | 13.7095(0.0210) | 0.0381(0.6760) | 0.2455(0.2000) |
| VT | -0.0138(0.4010) | 0.0032(0.8530) | 1.1941(0.8410) | -0.1252(0.1590) | -0.0938(0.6200) |
| VA | -0.0870(0.0000) | -0.0496(0.0070) | -13.0820(0.0390) | -0.3581(0.0000) | -0.6851(0.0000) |
| WA | -0.0090(0.5520) | 0.0055(0.7330) | 1.2602(0.8230) | -0.0834(0.3340) | -0.0739(0.6840) |
| WV | -0.0291(0.1400) | -0.0115(0.5510) | -3.4610(0.5950) | -0.1418(0.1840) | -0.2124(0.3410) |
| WI | -0.0199(0.2360) | 0.0177(0.3250) | 7.5500(0.2090) | -0.2152(0.0180) | -0.1312(0.4960) |
| WY | -0.0275(0.1050) | -0.0191(0.2970) | -6.1032(0.3350) | -0.1330(0.1560) | -0.2086(0.2930) |
| Urban-Rural Classification |  |  |  |  |  |
| Large Fringe Metro | 0.0210(0.0010) | 0.0177(0.0050) | 5.4735(0.0070) | 0.0816(0.0020) | 0.1921(0.0020) |
| Medium Metro | 0.0222(0.0000) | 0.0139(0.0290) | 3.8287(0.0580) | 0.0803(0.0030) | 0.1738(0.0050) |
| Small Metro | 0.0268(0.0000) | 0.0157(0.0220) | 3.8240(0.0850) | 0.0789(0.0060) | 0.1842(0.0060) |
| Micropolitan | 0.0262(0.0000) | 0.0193(0.0050) | 5.1081(0.0210) | 0.0773(0.0060) | 0.1984(0.0030) |
| Noncore | 0.0376(0.0000) | 0.0342(0.0000) | 8.9669(0.0000) | 0.1170(0.0000) | 0.3248(0.0000) |
| Intercept | 0.6355(0.0000) | 0.2124(0.0980) | 78.2183(0.0570) | 1.5803(0.0040) | 3.8511(0.0020) |

**5. Correlations**

Stata calculates correlation coefficients with 3,493,551 observations.

**Table S5-1. Correlation between Opioid User Dummy and Local Economic Conditions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Opioid User | Log Median Household Income | Unemployment Rate | Gini Index |
| Opioid User | 1 |  |  |  |
| Log Median Household Income | -0.0947 | 1 |  |  |
| Unemployment Rate | 0.0439 | -0.5020 | 1 |  |
| Gini Index | -0.0455 | -0.1558 | 0.1752 | 1 |

**Table S5-2. Correlation between Long-Term User Dummy and Local Economic Conditions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Long-Term Opioid User | Log Median Household Income | Unemployment Rate | Gini Index |
| Long-Term Opioid User | 1 |  |  |  |
| Log Median Household Income | -0.0890 | 1 |  |  |
| Unemployment Rate | 0.0434 | -0.5020 | 1 |  |
| Gini Index | -0.0484 | -0.1558 | 0.1752 | 1 |

**Table S5-3. Correlation between Total Days of Usage and Local Economic Conditions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Total Days of Usage | Log Median Household Income | Unemployment Rate | Gini Index |
| Total Days of Usage | 1 |  |  |  |
| Log Median Household Income | -0.0949 | 1 |  |  |
| Unemployment Rate | 0.0521 | -0.5020 | 1 |  |
| Gini Index | -0.0497 | -0.1558 | 0.1752 | 1 |

**Table S5-4. Correlation between Log Mean Daily MME and Local Economic Conditions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Log Mean Daily MME | Log Median Household Income | Unemployment Rate | Gini Index |
| Log Mean Daily MME | 1 |  |  |  |
| Log Median Household Income | -0.0766 | 1 |  |  |
| Unemployment Rate | 0.0324 | -0.5020 | 1 |  |
| Gini Index | -0.0547 | -0.1558 | 0.1752 | 1 |

**Table S5-5. Correlation between Log Total MME and Local Economic Conditions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Log Total MME | Log Median Household Income | Unemployment Rate | Gini Index |
| Log Total MME | 1 |  |  |  |
| Log Median Household Income | -0.0967 | 1 |  |  |
| Unemployment Rate | 0.0482 | -0.5020 | 1 |  |
| Gini Index | -0.0539 | -0.1558 | 0.1752 | 1 |

**6. Logistic and Tobit Regressions with all three economic indicators**

Stata runs logistic and Tobit regressions with 3,493,551 observations. Reference categories for categorical variables include: male, non-Hispanic white, no premium or cost sharing subsidy, and large central metro. In each cell, the first value is the estimated coefficient; value in parenthesis is the corresponding *p*-value, calculated based on robust standard errors clustered by county.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Opioid User | Long-Term User | Total Days of Usage | Log Mean Daily MME | Log Total MME |
| Economic Indicators |  |  |  |  |  |
| Log Median Household Income | -0.3123(0.0000) | -0.3411(0.0000) | -1.2101(0.0000) | -0.4702(0.0000) | -40.1468(0.0000) |
| Unemployment Rate | 0.2273(0.6470) | 0.0578(0.9380) | 1.2486(0.5470) | -0.0056(0.9950) | 50.6417(0.5100) |
| Gini Index | -2.3270(0.0000) | -2.3869(0.0000) | -9.0334(0.0000) | -4.0123(0.0000) | -268.7612(0.0000) |
| Demographic Variables |  |  |  |  |  |
| Age | 0.1304(0.0000) | 0.2332(0.0000) | 0.6037(0.0000) | 0.2595(0.0000) | 19.9951(0.0000) |
| Age Squared | -0.0013(0.0000) | -0.0023(0.0000) | -0.0059(0.0000) | -0.0026(0.0000) | -0.1928(0.0000) |
| Female | 0.4076(0.0000) | 0.2568(0.0000) | 1.3964(0.0000) | 0.6317(0.0000) | 34.3221(0.0000) |
| Black | -0.1377(0.0000) | -0.3131(0.0000) | -0.7407(0.0000) | -0.3276(0.0000) | -29.7051(0.0000) |
| Other Race/Ethnicity | -0.3466(0.0000) | -0.4525(0.0000) | -1.4659(0.0000) | -0.6730(0.0000) | -44.9963(0.0000) |
| Asian | -0.8053(0.0000) | -1.2225(0.0000) | -3.5369(0.0000) | -1.6356(0.0000) | -108.0268(0.0000) |
| Hispanic | -0.2688(0.0000) | -0.5757(0.0000) | -1.3022(0.0000) | -0.5871(0.0000) | -47.3267(0.0000) |
| North American Native | 0.0237(0.4400) | -0.0058(0.8930) | -0.0551(0.6720) | -0.0522(0.3660) | -1.9158(0.6550) |
| Subsidy Status |  |  |  |  |  |
| Low-Income Subsidy Status 1 | -0.9109(0.0000) | -0.6806(0.0000) | -3.7300(0.0000) | -1.7744(0.0000) | -96.3558(0.0000) |
| Low-Income Subsidy Status 2 | 0.0301(0.0000) | 0.0928(0.0000) | -0.0719(0.0070) | -0.0767(0.0000) | 2.2569(0.0060) |
| Low-Income Subsidy Status 3 | 0.0435(0.0000) | 0.1510(0.0000) | 0.0882(0.0000) | -0.0129(0.1900) | 9.2147(0.0000) |
| Low-Income Subsidy Status 4 | 0.0085(0.2790) | 0.1626(0.0000) | 0.0965(0.0020) | 0.0056(0.6880) | 10.6583(0.0000) |
| Low-Income Subsidy Status 5 | -0.3743(0.0000) | -0.2505(0.0000) | -1.4449(0.0000) | -0.6880(0.0000) | -35.0068(0.0000) |
| Low-Income Subsidy Status 6 | 0.0458(0.0060) | 0.1994(0.0000) | 0.2598(0.0000) | 0.0673(0.0150) | 16.9391(0.0000) |
| Low-Income Subsidy Status 7 | 0.1030(0.0000) | 0.2277(0.0000) | 0.4341(0.0000) | 0.1461(0.0000) | 21.1855(0.0000) |
| Low-Income Subsidy Status 8 | 0.1348(0.0000) | 0.3053(0.0000) | 0.6075(0.0000) | 0.2151(0.0000) | 27.8171(0.0000) |
| Comorbid Conditions |  |  |  |  |  |
| Myocardial Infarction | 0.4513(0.0000) | 0.2216(0.0000) | 1.1545(0.0000) | 0.5714(0.0000) | 25.5576(0.0000) |
| CHF | 0.2151(0.0000) | 0.1473(0.0000) | 0.6250(0.0000) | 0.2960(0.0000) | 14.7255(0.0000) |
| Peripheral Vascular Disease | 0.3730(0.0000) | 0.3308(0.0000) | 1.2364(0.0000) | 0.5516(0.0000) | 34.1649(0.0000) |
| Cerebrovascular Disease | 0.2248(0.0000) | 0.1166(0.0000) | 0.6572(0.0000) | 0.3026(0.0000) | 14.0694(0.0000) |
| COPD | 0.7834(0.0000) | 0.6987(0.0000) | 2.7805(0.0000) | 1.2493(0.0000) | 78.9176(0.0000) |
| Dementia | -0.2167(0.0000) | -0.1673(0.0000) | -0.6567(0.0000) | -0.3123(0.0000) | -22.9335(0.0000) |
| Paralysis | 0.5607(0.0000) | 0.5461(0.0000) | 2.2514(0.0000) | 1.0301(0.0000) | 60.7782(0.0000) |
| Diabetes | 0.2664(0.0000) | 0.1752(0.0000) | 0.9321(0.0000) | 0.4108(0.0000) | 23.8445(0.0000) |
| Diabetes With Sequelae | 0.2435(0.0000) | 0.1822(0.0000) | 0.7472(0.0000) | 0.3360(0.0000) | 19.8475(0.0000) |
| Chronic Renal Failure | 0.1999(0.0000) | 0.0827(0.0000) | 0.5930(0.0000) | 0.2893(0.0000) | 10.7533(0.0000) |
| Various Cirrhodites | 0.4881(0.0000) | 0.3854(0.0000) | 1.5718(0.0000) | 0.7329(0.0000) | 42.3279(0.0000) |
| Moderate-Severe Liver Disease | 0.2154(0.0000) | 0.1081(0.0000) | 0.5775(0.0000) | 0.2708(0.0000) | 10.3884(0.0000) |
| Ulcers | 0.7297(0.0000) | 0.5729(0.0000) | 2.0469(0.0000) | 0.9197(0.0000) | 55.2813(0.0000) |
| Rheumatoid arthritis | 1.0024(0.0000) | 0.8708(0.0000) | 3.1339(0.0000) | 1.3429(0.0000) | 96.1507(0.0000) |
| AIDS | 0.2750(0.0000) | 0.1214(0.0000) | 0.9899(0.0000) | 0.5030(0.0000) | 21.8238(0.0000) |
| Other Diseases |  |  |  |  |  |
| Depression | 0.6222(0.0000) | 0.6171(0.0000) | 2.2754(0.0000) | 1.0262(0.0000) | 63.8149(0.0000) |
| Serious Mental Illness | -0.3934(0.0000) | -0.4606(0.0000) | -1.6668(0.0000) | -0.7314(0.0000) | -54.2830(0.0000) |
| Alcohol Abuse | 0.0822(0.0000) | -0.1537(0.0000) | 0.0963(0.0140) | 0.0996(0.0000) | -13.3874(0.0000) |
| State |  |  |  |  |  |
| AK | 0.2603(0.0000) | 0.4036(0.0000) | 0.9559(0.0050) | 0.2487(0.1150) | 39.1943(0.0000) |
| AZ | 0.1349(0.0700) | 0.2086(0.0460) | 0.4666(0.1680) | 0.0893(0.5710) | 16.2895(0.1300) |
| AR | -0.0123(0.8970) | 0.0916(0.4570) | 0.1632(0.6930) | 0.0132(0.9440) | 7.6571(0.5570) |
| CA | -0.0542(0.4860) | 0.1523(0.1560) | -0.0039(0.9910) | -0.1368(0.4110) | 7.2326(0.5170) |
| CO | 0.1721(0.0150) | 0.2508(0.0130) | 0.7682(0.0190) | 0.2956(0.0540) | 24.1060(0.0210) |
| CT | -0.2527(0.0010) | -0.1795(0.0910) | -0.9273(0.0060) | -0.4772(0.0020) | -22.2184(0.0380) |
| DE | -0.1228(0.1150) | -0.2775(0.0140) | -0.6152(0.0830) | -0.3886(0.0180) | -18.0684(0.1160) |
| DC | -0.1464(0.0780) | 0.0429(0.7120) | -0.2448(0.5200) | -0.1742(0.3260) | 1.7707(0.8810) |
| FL | -0.1157(0.1670) | 0.0538(0.6350) | -0.1977(0.5930) | -0.2049(0.2310) | 3.7151(0.7520) |
| GA | 0.0999(0.1980) | 0.2005(0.0650) | 0.3816(0.2760) | 0.0518(0.7500) | 17.2945(0.1240) |
| HI | -0.2905(0.0790) | -0.1500(0.3910) | -0.9686(0.1710) | -0.5189(0.1200) | -23.3266(0.2540) |
| ID | -0.2856(0.0000) | -0.3024(0.0070) | -1.1794(0.0010) | -0.6160(0.0000) | -36.6221(0.0020) |
| IL | 0.0820(0.2510) | 0.1790(0.0800) | 0.4610(0.1600) | 0.1444(0.3470) | 15.2896(0.1460) |
| IN | -0.1938(0.0250) | -0.0675(0.5660) | -0.7309(0.0540) | -0.4745(0.0070) | -15.0884(0.2040) |
| IA | 0.0847(0.2620) | 0.2071(0.0480) | 0.3585(0.2950) | 0.0106(0.9470) | 20.2976(0.0610) |
| KS | 0.0111(0.8800) | 0.1138(0.3010) | 0.1394(0.6820) | -0.0033(0.9830) | 4.7744(0.6690) |
| KY | -0.1149(0.1290) | 0.0948(0.3720) | -0.3648(0.2900) | -0.3479(0.0300) | 6.0569(0.5820) |
| LA | 0.1690(0.0260) | 0.2862(0.0080) | 0.6376(0.0640) | 0.1460(0.3610) | 25.5772(0.0210) |
| ME | -0.3191(0.0000) | -0.3151(0.0020) | -1.3011(0.0000) | -0.6659(0.0000) | -33.8028(0.0020) |
| MD | -0.1753(0.0340) | -0.0756(0.4960) | -0.5450(0.1430) | -0.3284(0.0610) | -10.5670(0.3610) |
| MA | -0.3665(0.0000) | -0.2967(0.0080) | -1.2985(0.0000) | -0.6240(0.0000) | -35.2191(0.0020) |
| MI | 0.0317(0.6980) | 0.2678(0.0250) | 0.3251(0.3790) | -0.0480(0.7740) | 24.5400(0.0480) |
| MN | -0.2189(0.0140) | -0.2423(0.0280) | -0.9381(0.0140) | -0.4657(0.0080) | -29.0286(0.0150) |
| MS | -0.0093(0.9000) | 0.0968(0.3520) | 0.0306(0.9270) | -0.0847(0.5880) | 4.3482(0.6850) |
| MO | 0.1890(0.0170) | 0.2143(0.0570) | 0.5725(0.1090) | 0.1629(0.3210) | 17.6397(0.1320) |
| MT | -0.2322(0.0020) | -0.1078(0.3190) | -0.7754(0.0260) | -0.4205(0.0090) | -18.0905(0.1040) |
| NE | 0.0888(0.2310) | 0.2068(0.0500) | 0.4273(0.2090) | 0.0906(0.5670) | 19.2861(0.0760) |
| NV | -0.4196(0.0000) | -0.3844(0.0010) | -1.6472(0.0000) | -0.8209(0.0000) | -46.4116(0.0000) |
| NH | -0.1744(0.0540) | -0.1185(0.3030) | -0.6723(0.0860) | -0.3853(0.0350) | -20.2481(0.0930) |
| NJ | -0.2246(0.0030) | -0.1752(0.1030) | -0.8370(0.0170) | -0.4083(0.0130) | -24.3881(0.0280) |
| NM | -0.3641(0.0000) | -0.2095(0.0630) | -1.2051(0.0010) | -0.6385(0.0000) | -27.2067(0.0200) |
| NY | -0.1723(0.0320) | -0.1112(0.3370) | -0.5592(0.1250) | -0.3332(0.0460) | -11.4921(0.3210) |
| NC | 0.2060(0.0260) | 0.4802(0.0000) | 1.1821(0.0070) | 0.4385(0.0270) | 45.0467(0.0010) |
| ND | -0.6645(0.0000) | -0.6012(0.0000) | -2.4846(0.0000) | -1.2340(0.0000) | -64.4406(0.0000) |
| OH | -0.1256(0.1000) | -0.0554(0.6060) | -0.5291(0.1290) | -0.3652(0.0250) | -9.5372(0.3870) |
| OK | 0.2502(0.0010) | 0.3918(0.0000) | 1.1120(0.0020) | 0.3966(0.0160) | 40.2223(0.0000) |
| OR | 0.0833(0.2460) | 0.1865(0.0700) | 0.4074(0.2220) | 0.1334(0.3910) | 14.6864(0.1680) |
| PA | -0.2400(0.0010) | -0.0755(0.4610) | -0.7047(0.0340) | -0.4261(0.0060) | -13.0324(0.2170) |
| RI | -0.3202(0.0000) | -0.3294(0.0030) | -1.3490(0.0000) | -0.6981(0.0000) | -36.0588(0.0010) |
| SC | 0.1417(0.0690) | 0.2301(0.0380) | 0.5869(0.1000) | 0.1594(0.3300) | 22.1446(0.0570) |
| SD | -0.4430(0.0000) | -0.3700(0.0010) | -1.7227(0.0000) | -0.8655(0.0000) | -48.8856(0.0000) |
| TN | 0.2045(0.0070) | 0.4160(0.0000) | 0.8843(0.0120) | 0.2806(0.0810) | 41.5307(0.0000) |
| TX | 0.0073(0.9240) | 0.0624(0.5630) | 0.0329(0.9240) | -0.1432(0.3750) | 5.7510(0.6000) |
| UT | 0.0009(0.9900) | 0.2411(0.0220) | 0.2740(0.4230) | 0.0333(0.8350) | 16.7107(0.1240) |
| VT | -0.0694(0.3570) | 0.0122(0.9090) | -0.2712(0.4310) | -0.2271(0.1550) | -3.3207(0.7640) |
| VA | -0.4155(0.0000) | -0.2913(0.0100) | -1.4773(0.0000) | -0.7352(0.0000) | -36.9355(0.0010) |
| WA | -0.0403(0.5620) | 0.0421(0.6780) | -0.1424(0.6630) | -0.1278(0.4020) | 0.1517(0.9880) |
| WV | -0.1372(0.1320) | -0.0621(0.6030) | -0.4691(0.2580) | -0.2719(0.1640) | -10.9378(0.3910) |
| WI | -0.1014(0.1900) | 0.0825(0.4470) | -0.3282(0.3460) | -0.3403(0.0350) | 3.9353(0.7230) |
| WY | -0.1292(0.1010) | -0.0949(0.4020) | -0.4185(0.2440) | -0.2418(0.1490) | -12.7844(0.2720) |
| Urban-Rural Classification |  |  |  |  |  |
| Large Fringe Metro | 0.0991(0.0010) | 0.1131(0.0050) | 0.4079(0.0010) | 0.1803(0.0010) | 12.5608(0.0020) |
| Medium Metro | 0.1042(0.0010) | 0.0908(0.0250) | 0.3901(0.0020) | 0.1808(0.0010) | 10.6804(0.0080) |
| Small Metro | 0.1239(0.0000) | 0.0969(0.0240) | 0.4251(0.0010) | 0.1904(0.0010) | 11.3389(0.0090) |
| Micropolitan | 0.1200(0.0000) | 0.1108(0.0090) | 0.4319(0.0010) | 0.1845(0.0010) | 12.5175(0.0030) |
| Noncore | 0.1683(0.0000) | 0.1743(0.0000) | 0.6246(0.0000) | 0.2543(0.0000) | 18.4138(0.0000) |
| Intercept | 0.6962(0.2140) | -2.6517(0.0000) | 1.5738(0.4810) | 0.5418(0.5920) | -8.8973(0.9010) |

**7. Linear Least Square Regressions with all three economic indicators but without Other Diseases**

Stata runs standard LLS with 3,493,551 observations, without controlling for other diseases. Reference categories for categorical variables include: male, non-Hispanic white, no premium or cost sharing subsidy, and large central metro. In each cell, the first value is the estimated coefficient; value in parenthesis is the corresponding *p*-value, calculated based on robust standard errors clustered by county.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Opioid User(Yes vs. No) | Long-Term User(Yes vs. No) | Total Days of Usage | Log Mean Daily MME | Log Total MME |
| Economic Indicators |  |  |  |  |  |
| Log Median Household Income | -0.0685(0.0000) | -0.0576(0.0000) | -19.1051(0.0000) | -0.2033(0.0000) | -0.5910(0.0000) |
| Unemployment Rate | 0.0477(0.6570) | 0.0225(0.8710) | 38.6748(0.4060) | -0.1694(0.7160) | 0.7445(0.5280) |
| Gini Index | -0.4902(0.0000) | -0.3937(0.0000) | -123.0919(0.0000) | -1.9516(0.0000) | -4.5049(0.0000) |
| Demographic Variables |  |  |  |  |  |
| Age | 0.0270(0.0000) | 0.0285(0.0000) | 8.4552(0.0000) | 0.1201(0.0000) | 0.2821(0.0000) |
| Age Squared | -0.0003(0.0000) | -0.0003(0.0000) | -0.0802(0.0000) | -0.0012(0.0000) | -0.0028(0.0000) |
| Female | 0.1006(0.0000) | 0.0549(0.0000) | 14.1082(0.0000) | 0.3307(0.0000) | 0.7479(0.0000) |
| Black | -0.0365(0.0000) | -0.0606(0.0000) | -19.9840(0.0000) | -0.2275(0.0000) | -0.5201(0.0000) |
| Other Race/Ethnicity | -0.0745(0.0000) | -0.0706(0.0000) | -19.9751(0.0000) | -0.3316(0.0000) | -0.7222(0.0000) |
| Asian | -0.1659(0.0000) | -0.1484(0.0000) | -42.0157(0.0000) | -0.7368(0.0000) | -1.5792(0.0000) |
| Hispanic | -0.0551(0.0000) | -0.0834(0.0000) | -24.8191(0.0000) | -0.3146(0.0000) | -0.7009(0.0000) |
| North American Native | 0.0050(0.4350) | -0.0011(0.8930) | -2.2083(0.3810) | -0.0535(0.1040) | -0.0676(0.3760) |
| Subsidy Status |  |  |  |  |  |
| Low-Income Subsidy Status 1 | -0.1889(0.0000) | -0.0953(0.0000) | -31.6479(0.0000) | -0.7844(0.0000) | -1.6048(0.0000) |
| Low-Income Subsidy Status 2 | -0.0005(0.7630) | 0.0115(0.0000) | -0.6170(0.1870) | -0.0882(0.0000) | -0.1210(0.0000) |
| Low-Income Subsidy Status 3 | 0.0065(0.0000) | 0.0274(0.0000) | 6.1432(0.0000) | -0.0256(0.0000) | 0.0399(0.0010) |
| Low-Income Subsidy Status 4 | -0.0020(0.2700) | 0.0290(0.0000) | 8.4436(0.0000) | -0.0006(0.9370) | 0.0682(0.0000) |
| Low-Income Subsidy Status 5 | -0.0889(0.0000) | -0.0473(0.0000) | -14.0682(0.0000) | -0.3617(0.0000) | -0.7525(0.0000) |
| Low-Income Subsidy Status 6 | 0.0089(0.0160) | 0.0393(0.0000) | 12.4024(0.0000) | 0.0338(0.0260) | 0.1701(0.0000) |
| Low-Income Subsidy Status 7 | 0.0222(0.0000) | 0.0460(0.0000) | 14.4577(0.0000) | 0.0785(0.0000) | 0.2720(0.0000) |
| Low-Income Subsidy Status 8 | 0.0296(0.0000) | 0.0632(0.0000) | 19.0604(0.0000) | 0.1218(0.0000) | 0.3885(0.0000) |
| Comorbid Conditions |  |  |  |  |  |
| Myocardial Infarction | 0.0898(0.0000) | 0.0559(0.0000) | 12.4637(0.0000) | 0.3639(0.0000) | 0.7282(0.0000) |
| CHF | 0.0418(0.0000) | 0.0326(0.0000) | 7.0115(0.0000) | 0.1742(0.0000) | 0.3718(0.0000) |
| Peripheral Vascular Disease | 0.0759(0.0000) | 0.0682(0.0000) | 17.8760(0.0000) | 0.3108(0.0000) | 0.7208(0.0000) |
| Cerebrovascular Disease | 0.0506(0.0000) | 0.0268(0.0000) | 4.8724(0.0000) | 0.1647(0.0000) | 0.3635(0.0000) |
| COPD | 0.1771(0.0000) | 0.1440(0.0000) | 39.6504(0.0000) | 0.6900(0.0000) | 1.5743(0.0000) |
| Dementia | -0.0380(0.0000) | -0.0368(0.0000) | -16.7044(0.0000) | -0.1974(0.0000) | -0.4397(0.0000) |
| Paralysis | 0.1244(0.0000) | 0.1004(0.0000) | 27.0289(0.0000) | 0.5355(0.0000) | 1.1814(0.0000) |
| Diabetes | 0.0571(0.0000) | 0.0299(0.0000) | 8.2712(0.0000) | 0.1784(0.0000) | 0.4250(0.0000) |
| Diabetes With Sequelae | 0.0521(0.0000) | 0.0409(0.0000) | 10.9815(0.0000) | 0.2023(0.0000) | 0.4660(0.0000) |
| Chronic Renal Failure | 0.0406(0.0000) | 0.0142(0.0000) | 1.5100(0.0000) | 0.1409(0.0000) | 0.2784(0.0000) |
| Various Cirrhodites | 0.1056(0.0000) | 0.0826(0.0000) | 21.3517(0.0000) | 0.4420(0.0000) | 0.9488(0.0000) |
| Moderate-Severe Liver Disease | 0.0418(0.0000) | 0.0226(0.0000) | 1.8426(0.0580) | 0.1504(0.0000) | 0.3156(0.0000) |
| Ulcers | 0.1423(0.0000) | 0.1265(0.0000) | 30.2382(0.0000) | 0.5667(0.0000) | 1.2908(0.0000) |
| Rheumatoid arthritis | 0.2015(0.0000) | 0.1962(0.0000) | 60.9028(0.0000) | 0.8398(0.0000) | 2.0583(0.0000) |
| AIDS | 0.0689(0.0000) | 0.0256(0.0000) | 5.9589(0.0000) | 0.2515(0.0000) | 0.4651(0.0000) |
| State |  |  |  |  |  |
| AL | 0.0587(0.0000) | 0.0811(0.0000) | 26.6385(0.0000) | 0.1230(0.1790) | 0.6246(0.0020) |
| AZ | 0.0321(0.0540) | 0.0421(0.0160) | 10.6388(0.0760) | 0.0358(0.6950) | 0.3064(0.1130) |
| AR | -0.0023(0.9120) | 0.0165(0.4130) | 7.5498(0.2690) | 0.0292(0.7750) | 0.1735(0.4370) |
| CA | -0.0104(0.5450) | 0.0272(0.1220) | 9.6207(0.1120) | -0.0545(0.5630) | 0.1190(0.5480) |
| CO | 0.0372(0.0190) | 0.0418(0.0120) | 12.3571(0.0330) | 0.1438(0.1040) | 0.4137(0.0260) |
| CT | -0.0481(0.0030) | -0.0218(0.2040) | -5.2494(0.3760) | -0.2028(0.0230) | -0.3486(0.0660) |
| DE | -0.0246(0.1560) | -0.0233(0.2110) | -4.7855(0.4550) | -0.1954(0.0370) | -0.2361(0.2410) |
| DC | -0.0270(0.1480) | 0.0118(0.5440) | 8.8981(0.1700) | -0.0300(0.7680) | 0.0414(0.8470) |
| FL | -0.0228(0.2150) | 0.0123(0.5130) | 9.0691(0.1560) | -0.0763(0.4300) | 0.0344(0.8680) |
| GA | 0.0229(0.1890) | 0.0391(0.0340) | 12.7949(0.0420) | 0.0254(0.7860) | 0.2787(0.1640) |
| HI | -0.0628(0.0590) | -0.0217(0.3450) | -5.1446(0.5190) | -0.2369(0.1160) | -0.3795(0.2190) |
| ID | -0.0529(0.0020) | -0.0439(0.0180) | -15.2188(0.0180) | -0.2995(0.0020) | -0.5213(0.0100) |
| IL | 0.0206(0.1990) | 0.0332(0.0500) | 9.4994(0.1090) | 0.0842(0.3430) | 0.3010(0.1090) |
| IN | -0.0377(0.0460) | -0.0078(0.6780) | -2.6399(0.6700) | -0.2458(0.0110) | -0.2969(0.1480) |
| IA | 0.0231(0.1720) | 0.0451(0.0100) | 16.4264(0.0070) | 0.0117(0.8990) | 0.3050(0.1190) |
| KS | 0.0059(0.7170) | 0.0233(0.2050) | 4.5867(0.4690) | 0.0147(0.8710) | 0.1494(0.4420) |
| KY | -0.0172(0.3060) | 0.0274(0.1220) | 12.6199(0.0390) | -0.1796(0.0510) | -0.0634(0.7450) |
| LA | 0.0381(0.0250) | 0.0535(0.0030) | 16.4445(0.0080) | 0.0615(0.5040) | 0.3986(0.0430) |
| ME | -0.0551(0.0010) | -0.0389(0.0200) | -10.5159(0.0710) | -0.2953(0.0010) | -0.5212(0.0060) |
| MD | -0.0322(0.0820) | -0.0066(0.7150) | 0.8375(0.8930) | -0.1284(0.1960) | -0.1425(0.4910) |
| MA | -0.0653(0.0000) | -0.0409(0.0270) | -11.0099(0.0810) | -0.2532(0.0080) | -0.5040(0.0130) |
| MI | 0.0124(0.4900) | 0.0554(0.0070) | 21.2910(0.0030) | -0.0149(0.8760) | 0.3252(0.1240) |
| MN | -0.0339(0.0850) | -0.0263(0.1530) | -10.5700(0.0910) | -0.1978(0.0420) | -0.3587(0.0840) |
| MS | 0.0042(0.7990) | 0.0255(0.1450) | 6.8912(0.2530) | -0.0129(0.8860) | 0.1481(0.4410) |
| MO | 0.0439(0.0130) | 0.0414(0.0310) | 9.2612(0.1690) | 0.0645(0.4950) | 0.3236(0.1150) |
| MT | -0.0467(0.0060) | -0.0177(0.3250) | -4.8698(0.4340) | -0.1982(0.0320) | -0.3229(0.1010) |
| NE | 0.0249(0.1320) | 0.0450(0.0110) | 15.8489(0.0100) | 0.0815(0.3730) | 0.3706(0.0570) |
| NV | -0.0810(0.0000) | -0.0544(0.0030) | -16.6482(0.0070) | -0.3744(0.0000) | -0.6992(0.0000) |
| NH | -0.0361(0.0730) | -0.0194(0.3080) | -8.5683(0.1750) | -0.2048(0.0430) | -0.3121(0.1430) |
| NJ | -0.0367(0.0300) | -0.0218(0.2150) | -8.1983(0.1820) | -0.1643(0.0870) | -0.3150(0.1130) |
| NM | -0.0753(0.0000) | -0.0313(0.0820) | -5.6801(0.3610) | -0.2858(0.0030) | -0.4762(0.0200) |
| NY | -0.0340(0.0530) | -0.0168(0.3740) | -2.3301(0.7150) | -0.1679(0.0720) | -0.2349(0.2440) |
| NC | 0.0445(0.0290) | 0.0871(0.0000) | 29.6852(0.0000) | 0.2757(0.0150) | 0.7837(0.0020) |
| ND | -0.1317(0.0000) | -0.0772(0.0000) | -18.2465(0.0020) | -0.5299(0.0000) | -0.9887(0.0000) |
| OH | -0.0233(0.1700) | -0.0059(0.7400) | -1.4004(0.8170) | -0.2043(0.0280) | -0.2311(0.2380) |
| OK | 0.0579(0.0010) | 0.0795(0.0000) | 26.8122(0.0000) | 0.2430(0.0100) | 0.7405(0.0000) |
| OR | 0.0193(0.2330) | 0.0351(0.0390) | 9.6715(0.1050) | 0.0793(0.3810) | 0.2687(0.1600) |
| PA | -0.0447(0.0050) | -0.0071(0.6720) | 0.4167(0.9430) | -0.1871(0.0370) | -0.2286(0.2260) |
| RI | -0.0535(0.0020) | -0.0405(0.0210) | -12.3222(0.0420) | -0.3199(0.0010) | -0.5587(0.0040) |
| SC | 0.0325(0.0660) | 0.0453(0.0170) | 15.3434(0.0210) | 0.0924(0.3300) | 0.4017(0.0510) |
| SD | -0.0886(0.0000) | -0.0555(0.0020) | -17.9696(0.0040) | -0.4043(0.0000) | -0.7491(0.0000) |
| TN | 0.0482(0.0050) | 0.0887(0.0000) | 31.4035(0.0000) | 0.1925(0.0440) | 0.6531(0.0020) |
| TX | 0.0012(0.9460) | 0.0107(0.5460) | 5.1830(0.3890) | -0.1079(0.2410) | 0.0447(0.8180) |
| UT | 0.0065(0.6900) | 0.0471(0.0070) | 15.4468(0.0110) | 0.0605(0.5140) | 0.2990(0.1260) |
| VT | -0.0120(0.4800) | 0.0057(0.7470) | 2.0069(0.7440) | -0.1163(0.2030) | -0.0717(0.7140) |
| VA | -0.0767(0.0000) | -0.0403(0.0310) | -10.2898(0.1170) | -0.3142(0.0010) | -0.5841(0.0030) |
| WA | -0.0081(0.6050) | 0.0073(0.6580) | 2.1133(0.7160) | -0.0771(0.3840) | -0.0567(0.7620) |
| WV | -0.0224(0.2620) | -0.0052(0.7920) | -1.5692(0.8140) | -0.1130(0.2970) | -0.1456(0.5200) |
| WI | -0.0151(0.3790) | 0.0231(0.2080) | 9.4371(0.1270) | -0.1926(0.0370) | -0.0764(0.6980) |
| WY | -0.0216(0.2140) | -0.0136(0.4630) | -4.4915(0.4870) | -0.1078(0.2610) | -0.1505(0.4580) |
| Urban-Rural Classification |  |  |  |  |  |
| Large Fringe Metro | 0.0210(0.0010) | 0.0179(0.0050) | 5.6324(0.0060) | 0.0820(0.0030) | 0.1939(0.0020) |
| Medium Metro | 0.0227(0.0000) | 0.0145(0.0240) | 4.1448(0.0420) | 0.0830(0.0020) | 0.1809(0.0040) |
| Small Metro | 0.0277(0.0000) | 0.0167(0.0150) | 4.2366(0.0580) | 0.0834(0.0040) | 0.1952(0.0040) |
| Micropolitan | 0.0270(0.0000) | 0.0203(0.0030) | 5.6524(0.0110) | 0.0817(0.0040) | 0.2101(0.0020) |
| Noncore | 0.0384(0.0000) | 0.0354(0.0000) | 9.7556(0.0000) | 0.1224(0.0000) | 0.3398(0.0000) |
| Intercept | 0.6831(0.0000) | 0.2639(0.0450) | 99.0706(0.0190) | 1.8124(0.0010) | 4.4191(0.0010) |