

Intermediate Microeconomics

Introduction and Logistics

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About me

- ▶ From Southeast Asia (Manila, Jakarta, Ho Chi Minh City)
- ▶ Undergrad: NYU Stern (New York, London, Shanghai)
- ▶ Work: Stanford (Earth Systems Science)
- ▶ Grad School:
 - ▶ Oxford (MPhil, economics)
 - ▶ Columbia (PhD, economics)
 - ▶ Teaching: Intro to Econometrics in R (x3) and Intermediate Micro (x2)

About me

- Research: climate change, inequality, development, political economy

Previous:

1. Can we apply machine learning methods to satellite imagery to locate the most vulnerable?
2. What are the economic benefits of climate change mitigation?

Current:

1. How will climate change impact global inequality and poverty?
2. Why do gender norms get transmitted across generations?
3. How does descriptive political representation affect substantive representation?



Recitations (Fridays 2:00-3:00 PM, Uris 306)

- ▶ Homeworks due and assigned on Thursdays
- ▶ Organization (for now)
 - ▶ Trickiest problems in latest pset/quiz/exam
 - ▶ Review of relevant lecture material
 - ▶ Practice for new pset
 - ▶ Questions (time permitting)
- ▶ Let me know what's most helpful (e.g., less/more review of old problem set)
- ▶ Tentatively: Annotations on iPad slides with some whiteboard work
- ▶ Uploading all material to Courseworks under Files folder with my name
- ▶ Tentatively: screen recording then posting before exams

Office Hours (Fridays 9:30-10:30am on Zoom)

- ▶ Homework or general course help
- ▶ Advice: course selection, economics, grad school, research, etc.
- ▶ Feedback: pace of course, homework difficulty, recitation structure, general venting
- ▶ Uploading any iPad work to the same Courseworks folder
- ▶ Option if more convenient: move office hours to directly after recitation

Instructors (7 days) The table below shows the sample means and standard deviations from her sample.

Variable	Sample Mean	Sample Standard Deviation
TestScore	780.1	40.9
RPM	0.40	6.38
TEAP	13.2	3.8

After standardizing RPM and TEAP and subtracting the sample means from TestScore, she estimates the following regression:

$$\text{TestScore} = -48.7 \times \text{RPM} + 8.7 \times \text{TEAP} + 84.8$$

a. You are interested in using the estimated regression to predict average test scores for an out-of-sample school with $\text{RPM} = 0.52$ and $\text{TEAP} = 11.1$.

1. Compute the transformed (standardized) values of RPM and TEAP for this school; that is, compute the X^{**} values from the X^{***} values, as discussed preceding Equation (14.2).
2. Compute the predicted value of average test scores for this school.
3. The actual average test score for the school is 775.5. Compute the error for your prediction.
4. The regression shown above was estimated using the standardized regressors and the demeaned value of TestScore. Suppose the regression

Following equations will not be graded; they are for you to practice and will be discussed at the recitation.

1. [ungraded] SW Exercise (not Empirical Exercises) 14.1
2. [ungraded] SW Exercise (not Empirical Exercises) 14.3
3. [ungraded] SW Exercise (not Empirical Exercises) 14.5
4. [ungraded] SW Exercise (not Empirical Exercises) 14.8
5. [ungraded] We will use California School Data for this exercise: CEdSchoolData

Variables in use: school, testscore, rpm, teap

$$\hat{y} = \hat{\beta}_0 + \hat{\beta}_1 \tilde{x}_1 + \hat{\beta}_2 \tilde{x}_2 \Rightarrow \hat{y} = \hat{\beta}_0 + \hat{\beta}_1 \tilde{x}_1 + \hat{\beta}_2 \tilde{x}_2$$

$$\tilde{y} = \frac{y - \bar{y}}{s_y}, \tilde{x}_1 = \frac{x_1 - \bar{x}_1}{s_{x_1}}, \tilde{x}_2 = \frac{x_2 - \bar{x}_2}{s_{x_2}}$$
$$\hat{y} = \hat{\beta}_0 + \hat{\beta}_1 \tilde{x}_1 + \hat{\beta}_2 \tilde{x}_2$$
$$\hat{y} - \bar{y} = \hat{\beta}_1 \left(\frac{x_1 - \bar{x}_1}{s_{x_1}} \right) + \hat{\beta}_2 \left(\frac{x_2 - \bar{x}_2}{s_{x_2}} \right)$$
$$\Rightarrow \hat{y} = \left[\hat{\beta}_1 \left(\frac{x_1 - \bar{x}_1}{s_{x_1}} \right) + \hat{\beta}_2 \left(\frac{x_2 - \bar{x}_2}{s_{x_2}} \right) \right] + \bar{y}$$
$$\hat{y} = \left[\hat{\beta}_1 \left(\frac{x_1 - \bar{x}_1}{s_{x_1}} \right) + \hat{\beta}_2 \left(\frac{x_2 - \bar{x}_2}{s_{x_2}} \right) \right] + \bar{y}$$

41. 118.1-121.8-124.1-126.1-128.1-130.1-132.1-134.1-136.1-138.1-140.1-142.1-144.1-146.1-148.1-150.1-152.1-154.1-156.1-158.1-160.1-162.1-164.1-166.1-168.1-170.1-172.1-174.1-176.1-178.1-180.1-182.1-184.1-186.1-188.1-190.1-192.1-194.1-196.1-198.1-200.1-202.1-204.1-206.1-208.1-210.1-212.1-214.1-216.1-218.1-220.1-222.1-224.1-226.1-228.1-230.1-232.1-234.1-236.1-238.1-240.1-242.1-244.1-246.1-248.1-250.1-252.1-254.1-256.1-258.1-260.1-262.1-264.1-266.1-268.1-270.1-272.1-274.1-276.1-278.1-280.1-282.1-284.1-286.1-288.1-290.1-292.1-294.1-296.1-298.1-300.1-302.1-304.1-306.1-308.1-310.1-312.1-314.1-316.1-318.1-320.1-322.1-324.1-326.1-328.1-330.1-332.1-334.1-336.1-338.1-340.1-342.1-344.1-346.1-348.1-350.1-352.1-354.1-356.1-358.1-360.1-362.1-364.1-366.1-368.1-370.1-372.1-374.1-376.1-378.1-380.1-382.1-384.1-386.1-388.1-390.1-392.1-394.1-396.1-398.1-400.1-402.1-404.1-406.1-408.1-410.1-412.1-414.1-416.1-418.1-420.1-422.1-424.1-426.1-428.1-430.1-432.1-434.1-436.1-438.1-440.1-442.1-444.1-446.1-448.1-450.1-452.1-454.1-456.1-458.1-460.1-462.1-464.1-466.1-468.1-470.1-472.1-474.1-476.1-478.1-480.1-482.1-484.1-486.1-488.1-490.1-492.1-494.1-496.1-498.1-500.1-502.1-504.1-506.1-508.1-510.1-512.1-514.1-516.1-518.1-520.1-522.1-524.1-526.1-528.1-530.1-532.1-534.1-536.1-538.1-540.1-542.1-544.1-546.1-548.1-550.1-552.1-554.1-556.1-558.1-560.1-562.1-564.1-566.1-568.1-570.1-572.1-574.1-576.1-578.1-580.1-582.1-584.1-586.1-588.1-590.1-592.1-594.1-596.1-598.1-600.1-602.1-604.1-606.1-608.1-610.1-612.1-614.1-616.1-618.1-620.1-622.1-624.1-626.1-628.1-630.1-632.1-634.1-636.1-638.1-640.1-642.1-644.1-646.1-648.1-650.1-652.1-654.1-656.1-658.1-660.1-662.1-664.1-666.1-668.1-670.1-672.1-674.1-676.1-678.1-680.1-682.1-684.1-686.1-688.1-690.1-692.1-694.1-696.1-698.1-700.1-702.1-704.1-706.1-708.1-710.1-712.1-714.1-716.1-718.1-720.1-722.1-724.1-726.1-728.1-730.1-732.1-734.1-736.1-738.1-740.1-742.1-744.1-746.1-748.1-750.1-752.1-754.1-756.1-758.1-760.1-762.1-764.1-766.1-768.1-770.1-772.1-774.1-776.1-778.1-780.1-782.1-784.1-786.1-788.1-790.1-792.1-794.1-796.1-798.1-800.1-802.1-804.1-806.1-808.1-810.1-812.1-814.1-816.1-818.1-820.1-822.1-824.1-826.1-828.1-830.1-832.1-834.1-836.1-838.1-840.1-842.1-844.1-846.1-848.1-850.1-852.1-854.1-856.1-858.1-860.1-862.1-864.1-866.1-868.1-870.1-872.1-874.1-876.1-878.1-880.1-882.1-884.1-886.1-888.1-890.1-892.1-894.1-896.1-898.1-900.1-902.1-904.1-906.1-908.1-910.1-912.1-914.1-916.1-918.1-920.1-922.1-924.1-926.1-928.1-930.1-932.1-934.1-936.1-938.1-940.1-942.1-944.1-946.1-948.1-950.1-952.1-954.1-956.1-958.1-960.1-962.1-964.1-966.1-968.1-970.1-972.1-974.1-976.1-978.1-980.1-982.1-984.1-986.1-988.1-990.1-992.1-994.1-996.1-998.1-1000.1-1002.1-1004.1-1006.1-1008.1-1010.1-1012.1-1014.1-1016.1-1018.1-1020.1-1022.1-1024.1-1026.1-1028.1-1030.1-1032.1-1034.1-1036.1-1038.1-1040.1-1042.1-1044.1-1046.1-1048.1-1050.1-1052.1-1054.1-1056.1-1058.1-1060.1-1062.1-1064.1-1066.1-1068.1-1070.1-1072.1-1074.1-1076.1-1078.1-1080.1-1082.1-1084.1-1086.1-1088.1-1090.1-1092.1-1094.1-1096.1-1098.1-1100.1-1102.1-1104.1-1106.1-1108.1-1110.1-1112.1-1114.1-1116.1-1118.1-1120.1-1122.1-1124.1-1126.1-1128.1-1130.1-1132.1-1134.1-1136.1-1138.1-1140.1-1142.1-1144.1-1146.1-1148.1-1150.1-1152.1-1154.1-1156.1-1158.1-1160.1-1162.1-1164.1-1166.1-1168.1-1170.1-1172.1-1174.1-1176.1-1178.1-1180.1-1182.1-1184.1-1186.1-1188.1-1190.1-1192.1-1194.1-1196.1-1198.1-1200.1-1202.1-1204.1-1206.1-1208.1-1210.1-1212.1-1214.1-1216.1-1218.1-1220.1-1222.1-1224.1-1226.1-1228.1-1230.1-1232.1-1234.1-1236.1-1238.1-1240.1-1242.1-1244.1-1246.1-1248.1-1250.1-1252.1-1254.1-1256.1-1258.1-1260.1-1262.1-1264.1-1266.1-1268.1-1270.1-1272.1-1274.1-1276.1-1278.1-1280.1-1282.1-1284.1-1286.1-1288.1-1290.1-1292.1-1294.1-1296.1-1298.1-1300.1-1302.1-1304.1-1306.1-1308.1-1310.1-1312.1-1314.1-1316.1-1318.1-1320.1-1322.1-1324.1-1326.1-1328.1-1330.1-1332.1-1334.1-1336.1-1338.1-1340.1-1342.1-1344.1-1346.1-1348.1-1350.1-1352.1-1354.1-1356.1-1358.1-1360.1-1362.1-1364.1-1366.1-1368.1-1370.1-1372.1-1374.1-1376.1-1378.1-1380.1-1382.1-1384.1-1386.1-1388.1-1390.1-1392.1-1394.1-1396.1-1398.1-1400.1-1402.1-1404.1-1406.1-1408.1-1410.1-1412.1-1414.1-1416.1-1418.1-1420.1-1422.1-1424.1-1426.1-1428.1-1430.1-1432.1-1434.1-1436.1-1438.1-1440.1-1442.1-1444.1-1446.1-1448.1-1450.1-1452.1-1454.1-1456.1-1458.1-1460.1-1462.1-1464.1-1466.1-1468.1-1470.1-1472.1-1474.1-1476.1-1478.1-1480.1-1482.1-1484.1-1486.1-1488.1-1490.1-1492.1-1494.1-1496.1-1498.1-1500.1-1502.1-1504.1-1506.1-1508.1-1510.1-1512.1-1514.1-1516.1-1518.1-1520.1-1522.1-1524.1-1526.1-1528.1-1530.1-1532.1-1534.1-1536.1-1538.1-1540.1-1542.1-1544.1-1546.1-1548.1-1550.1-1552.1-1554.1-1556.1-1558.1-1560.1-1562.1-1564.1-1566.1-1568.1-1570.1-1572.1-1574.1-1576.1-1578.1-1580.1-1582.1-1584.1-1586.1-1588.1-1590.1-1592.1-1594.1-1596.1-1598.1-1600.1-1602.1-1604.1-1606.1-1608.1-1610.1-1612.1-1614.1-1616.1-1618.1-1620.1-1622.1-1624.1-1626.1-1628.1-1630.1-1632.1-1634.1-1636.1-1638.1-1640.1-1642.1-1644.1-1646.1-1648.1-1650.1-1652.1-1654.1-1656.1-1658.1-1660.1-1662.1-1664.1-1666.1-1668.1-1670.1-1672.1-1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2.1-3104.1-3106.1-3108.1-3110.1-3112.1-3114.1-3116.1-3118.1-3120.1-3122.1-3124.1-3126.1-3128.1-3130.1-3132.1-3134.1-3136.1-3138.1-3140.1-3142.1-3144.1-3146.1-3148.1-3150.1-3152.1-3154.1-3156.1-3158.1-3160.1-3162.1-3164.1-3166.1-3168.1-3170.1-3172.1-3174.1-3176.1-3178.1-3180.1-3182.1-3184.1-3186.1-3188.1-3190.1-3192.1-3194.1-3196.1-3198.1-3200.1-3202.1-3204.1-3206.1-3208.1-3210.1-3212.1-3214.1-3216.1-3218.1-3220.1-3222.1-3224.1-3226.1-3228.1-3230.1-3232.1-3234.1-3236.1-3238.1-3240.1-3242.1-3244.1-3246.1-3248.1-3250.1-3252.1-3254.1-3256.1-3258.1-3260.1-3262.1-3264.1-3266.1-3268.1-3270.1-3272.1-3274.1-3276.1-3278.1-3280.1-3282.1-3284.1-3286.1-3288.1-3290.1-3292.1-3294.1-3296.1-3298.1-3300.1-3302.1-3304.1-3306.1-3308.1-3310.1-3312.1-3314.1-3316.1-3318.1-3320.1-3322.1-3324.1-3326.1-3328.1-3330.1-3332.1-3334.1-3336.1-3338.1-3340.1-3342.1-3344.1-3346.1-3348.1-3350.1-3352.1-3354.1-3356.1-3358.1-3360.1-3362.1-3364.1-3366.1-3368.1-3370.1-3372.1-3374.1-3376.1-3378.1-3380.1-3382.1-3384.1-3386.1-3388.1-3390.1-3392