

Supplementary Materials

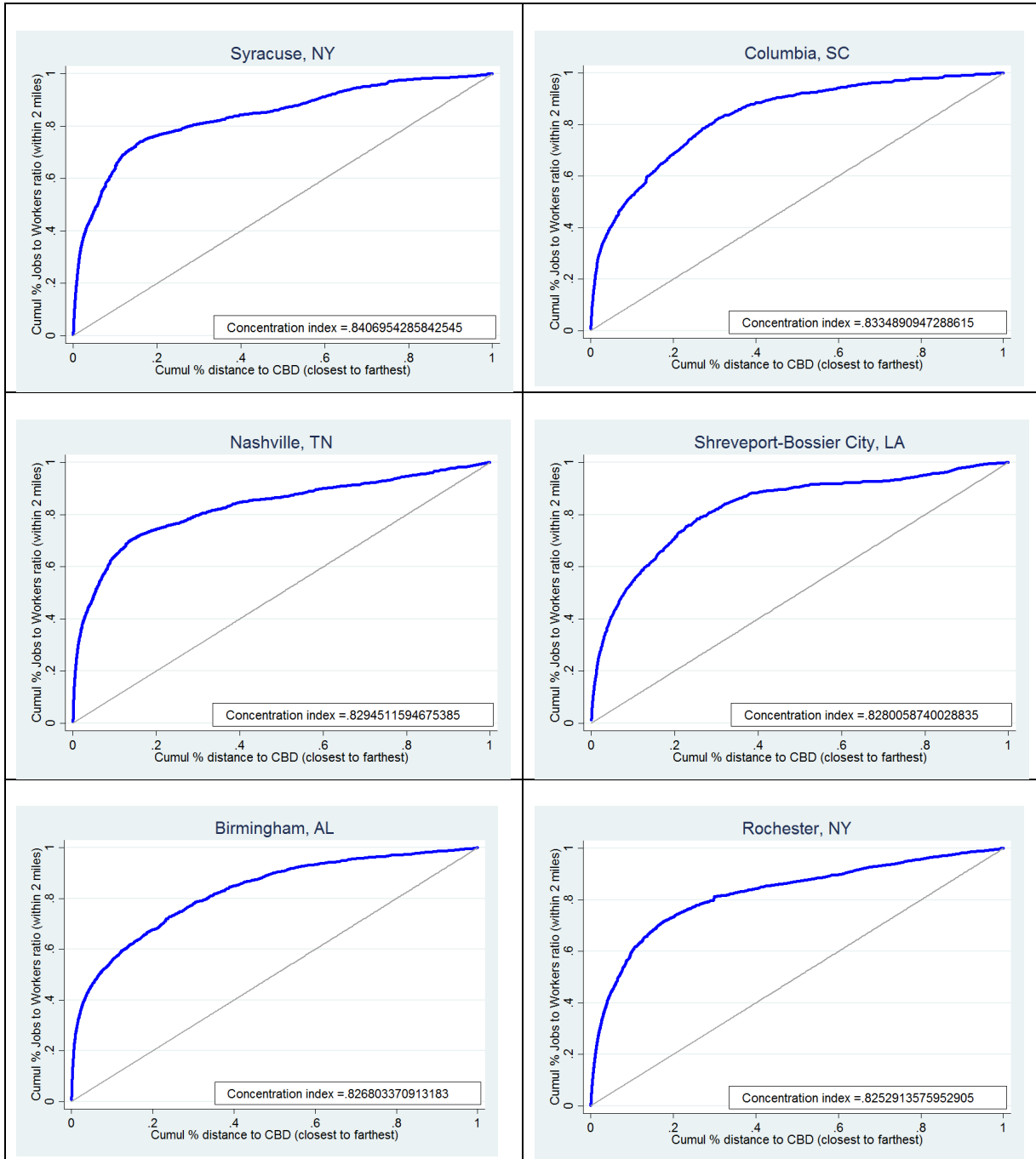
A.1. Centralization index for the 100 largest cities (ranked by the index)

MSA/ CMSA	Name	CJW	Pop. (2000)	commute time (min.)
8160	Syracuse, NY	0.8407	732,117	19.270
1760	Columbia, SC	0.8335	536,691	19.777
5360	Nashville, TN	0.8295	1,231,311	24.157
7680	Shreveport-Bossier City, LA	0.8280	392,302	19.816
1000	Birmingham, AL	0.8268	921,106	23.355
6840	Rochester, NY	0.8253	1,098,201	19.306
4400	Little Rock-North Little Rock, AR	0.8210	583,845	20.290
1560	Chattanooga, TN-GA	0.8206	465,161	19.984
8560	Tulsa, OK	0.8203	803,235	18.862
4040	Lansing-East Lansing, MI	0.8173	447,728	18.131
3240	Harrisburg-Lebanon-Carlisle, PA	0.8139	629,401	19.761
3720	Kalamazoo-Battle Creek, MI	0.8038	452,851	18.138
0640	Austin-San Marcos, TX	0.8018	1,249,763	22.653
9040	Wichita, KS	0.8011	545,220	18.200
3480	Indianapolis, IN	0.8009	1,607,486	22.781
5560	New Orleans, LA	0.8003	1,337,726	24.320
4720	Madison, WI	0.7981	426,526	17.967
4120	Las Vegas, NV-AZ	0.7967	1,563,282	23.355
5880	Oklahoma City, OK	0.7956	1,083,346	19.857
6080	Pensacola, FL	0.7955	412,153	19.023
1080	Boise City, ID	0.7938	432,345	19.807
7480	Santa Barbara-Santa Maria-Lompoc, CA	0.7936	399,347	18.371
7160	Salt Lake City-Ogden, UT	0.7932	1,333,914	20.464
0200	Albuquerque, NM	0.7910	712,738	21.757
4280	Lexington, KY	0.7903	479,198	15.918
2120	Des Moines, IA	0.7896	456,022	16.423
7840	Spokane, WA	0.7875	417,939	18.624
5120	Minneapolis-St. Paul, MN-WI	0.7867	2,968,806	23.385
0600	Augusta-Aiken, GA-SC	0.7863	477,441	20.507
6280	Pittsburgh, PA	0.7862	2,358,695	24.599
1440	Charleston-North Charleston, SC	0.7838	549,033	22.675
6442	Portland-Salem, OR-WA (C)	0.7785	2,265,223	22.923
3362	Houston-Galveston-Brazoria, TX (C)	0.7763	4,669,571	26.793
2020	Daytona Beach, FL	0.7757	493,175	19.413
3280	Hartford, CT	0.7744	1,183,110	18.727
1642	Cincinnati-Hamilton, OH-KY-IN (C)	0.7740	1,979,202	22.503
5960	Orlando, FL	0.7738	1,644,561	24.700
5160	Mobile, AL	0.7736	540,258	22.002
4880	McAllen-Edinburg-Mission, TX	0.7725	569,463	18.478
4520	Louisville, KY-IN	0.7722	1,025,598	21.831
1320	Canton-Massillon, OH	0.7715	406,934	17.262
2760	Fort Wayne, IN	0.7713	502,141	18.547
4000	Lancaster, PA	0.7707	470,658	17.167
3560	Jackson, MS	0.7698	440,801	21.107
8520	Tucson, AZ	0.7691	843,746	22.250
1520	Charlotte-Gastonia-Rock Hill, NC-SC	0.7670	1,499,293	23.360
3600	Jacksonville, FL	0.7643	1,100,491	23.210
1840	Columbus, OH	0.7642	1,540,157	20.795
6760	Richmond-Petersburg, VA	0.7623	996,512	21.455
3000	Grand Rapids-Muskegon-Holland, MI	0.7615	1,088,514	19.081

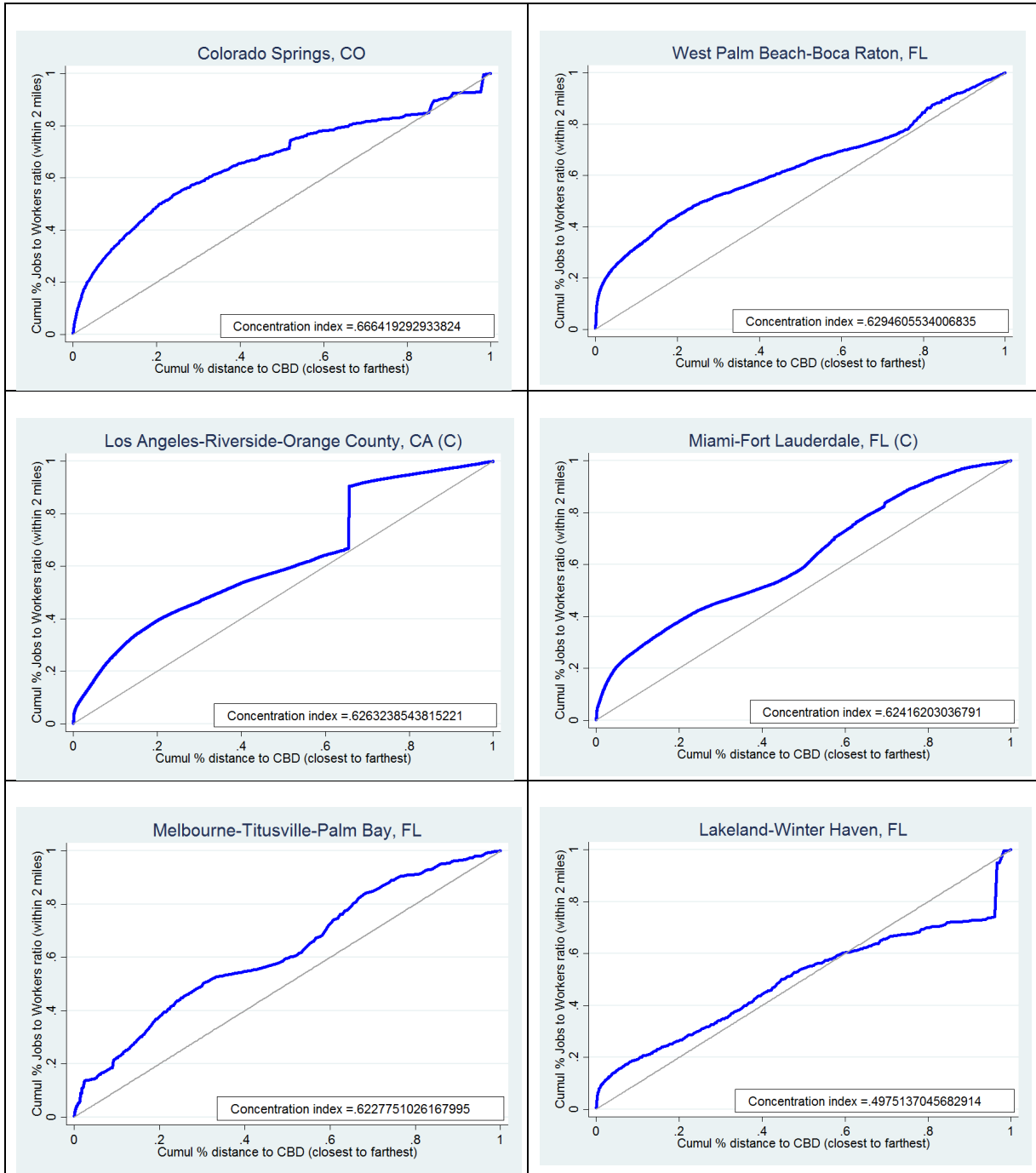
A.1. Continued. Centralization index for the 100 largest cities (ranked by the index)

MSA/ CMSA	Name	CJW	Pop. (2000)	commute time (min.)
9320	Youngstown-Warren, OH	0.7614	594,746	17.515
2320	El Paso, TX	0.7553	679,622	20.771
7240	San Antonio, TX	0.7548	1,592,383	22.653
0760	Baton Rouge, LA	0.7547	602,894	22.486
0520	Atlanta, GA	0.7535	4,112,198	28.583
2840	Fresno, CA	0.7530	922,516	20.523
7602	Seattle-Tacoma-Bremerton, WA (C)	0.7519	3,554,760	26.080
8400	Toledo, OH	0.7498	618,203	17.942
5082	Milwaukee-Racine, WI (C)	0.7455	1,689,572	20.748
7040	St. Louis, MO-IL	0.7430	2,603,607	23.701
0240	Allentown-Bethlehem-Easton, PA	0.7419	637,958	18.697
7560	Scranton--Wilkes-Barre--Hazleton, PA	0.7377	624,776	17.888
5602	New York, Northern New Jersey, Long Island,	0.7364	21,199,865	33.563
4920	Memphis, TN-AR-MS	0.7359	1,135,614	21.574
5170	Modesto, CA	0.7355	446,997	17.752
7120	Salinas, CA	0.7331	401,762	16.550
8120	Stockton-Lodi, CA	0.7328	563,598	17.695
0680	Bakersfield, CA	0.7315	661,645	20.913
0160	Albany-Schenectady-Troy, NY	0.7309	875,583	20.524
2000	Dayton-Springfield, OH	0.7307	950,558	18.399
1280	Buffalo-Niagara Falls, NY	0.7296	1,170,111	20.013
3840	Knoxville, TN	0.7287	687,249	20.878
3660	Johnson City-Kingsport-Bristol, TN-VA	0.7245	480,091	18.699
6162	Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD (C)	0.7240	6,188,463	26.516
5920	Omaha, NE-IA	0.7236	716,998	18.101
1922	Dallas-Fort Worth, TX (C)	0.7223	5,221,801	25.486
1692	Cleveland-Akron, OH (C)	0.7221	2,945,831	22.993
6640	Raleigh-Durham-Chapel Hill, NC	0.7182	1,187,941	22.080
3160	Greenville-Spartanburg-Anderson, SC	0.7166	962,441	20.532
2162	Detroit-Ann Arbor-Flint, MI (C)	0.7153	5,456,428	24.989
8872	Washington-Baltimore, DC-MD-VA-WV (C)	0.7141	7,608,070	31.595
6960	Saginaw-Bay City-Midland, MI	0.7126	403,070	19.102
7320	San Diego, CA	0.7100	2,813,833	22.330
5720	Norfolk-Virginia Beach-Newport News, VA-	0.7096	1,569,541	22.273
3760	Kansas City, MO-KS	0.7087	1,776,062	21.324
2082	Denver-Boulder-Greeley, CO (C)	0.7077	2,581,506	19.137
7362	San Francisco-Oakland-San Jose, CA (C)	0.7046	7,039,362	26.069
3120	Greensboro--Winston Salem--High Point, NC	0.7006	1,251,509	19.987
7510	Sarasota-Bradenton, FL	0.6992	589,959	19.965
1602	Chicago-Gary-Kenosha, IL-IN-WI (C)	0.6975	9,157,540	29.837
6200	Phoenix-Mesa, AZ	0.6919	3,251,876	23.963
2700	Fort Myers-Cape Coral, FL	0.6860	440,888	22.486
6922	Sacramento-Yolo, CA (C)	0.6808	1,796,857	23.008
8280	Tampa-St. Petersburg-Clearwater, FL	0.6781	2,395,997	23.716
1720	Colorado Springs, CO	0.6664	516,929	18.528
8960	West Palm Beach-Boca Raton, FL	0.6295	1,131,184	20.841
4472	Los Angeles-Riverside-Orange County, CA (C)	0.6263	16,373,645	27.429
4992	Miami-Fort Lauderdale, FL (C)	0.6242	3,876,380	23.363
4900	Melbourne-Titusville-Palm Bay, FL	0.6228	476,230	20.487
3980	Lakeland-Winter Haven, FL	0.4975	483,924	20.807

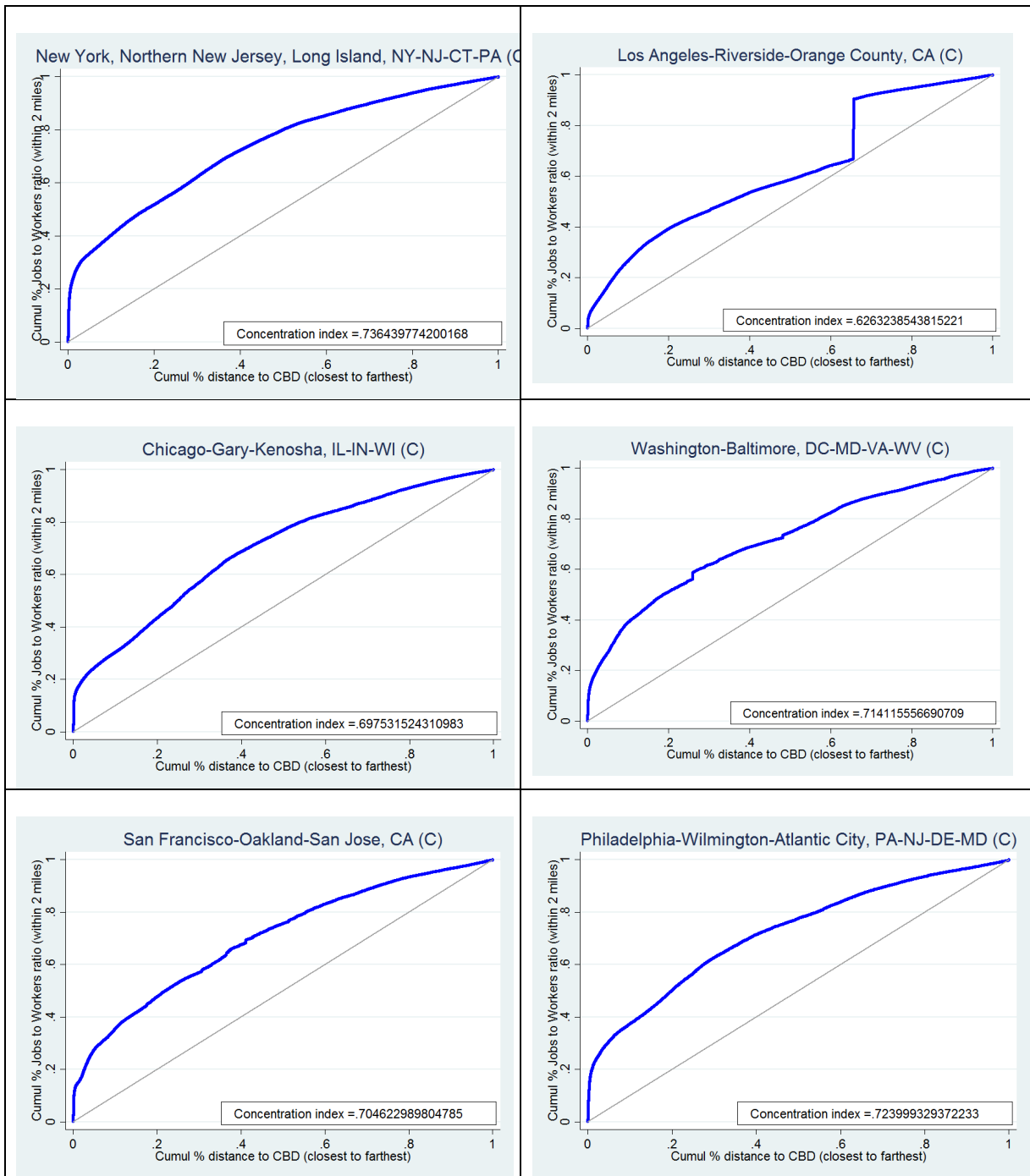
A.2. Most centralized cities



A.3. Most decentralized cities



A.4. Centralization index for the largest cities



A.5. Proximity index for the 100 largest cities (ranked by the index)

MSA/CMSA	NAME	Pop. (2000)	PJW	commute time (min.)
1720	Colorado Springs, CO	516,929	0.920	18.528
7840	Spokane, WA	417,939	0.917	18.624
4040	Lansing-East Lansing, MI	447,728	0.917	18.131
4000	Lancaster, PA	470,658	0.915	17.167
7680	Shreveport-Bossier City, LA	392,302	0.912	19.816
2120	Des Moines, IA	456,022	0.909	16.423
9040	Wichita, KS	545,220	0.908	18.200
6080	Pensacola, FL	412,153	0.907	19.023
8400	Toledo, OH	618,203	0.906	17.942
5170	Modesto, CA	446,997	0.905	17.752
0760	Baton Rouge, LA	602,894	0.904	22.486
0200	Albuquerque, NM	712,738	0.903	21.757
4720	Madison, WI	426,526	0.903	17.967
8520	Tucson, AZ	843,746	0.903	22.250
4280	Lexington, KY	479,198	0.903	15.918
5160	Mobile, AL	540,258	0.903	22.002
6840	Rochester, NY	1,098,201	0.902	19.306
1560	Chattanooga, TN-GA	465,161	0.899	19.984
5560	New Orleans, LA	1,337,726	0.899	24.320
1280	Buffalo-Niagara Falls, NY	1,170,111	0.897	20.013
1760	Columbia, SC	536,691	0.897	19.777
1320	Canton-Massillon, OH	406,934	0.897	17.262
3560	Jackson, MS	440,801	0.896	21.107
8560	Tulsa, OK	803,235	0.896	18.862
5920	Omaha, NE-IA	716,998	0.894	18.101
4880	McAllen-Edinburg-Mission, TX	569,463	0.893	18.478
0240	Allentown-Bethlehem-Easton, PA	637,958	0.892	18.697
2840	Fresno, CA	922,516	0.890	20.523
2320	El Paso, TX	679,622	0.886	20.771
2760	Fort Wayne, IN	502,141	0.886	18.547
2700	Fort Myers-Cape Coral, FL	440,888	0.884	22.486
4520	Louisville, KY-IN	1,025,598	0.883	21.831
0600	Augusta-Aiken, GA-SC	477,441	0.882	20.507
0680	Bakersfield, CA	661,645	0.882	20.913
8160	Syracuse, NY	732,117	0.880	19.270
8120	Stockton-Lodi, CA	563,598	0.878	17.695
1000	Birmingham, AL	921,106	0.875	23.355
4120	Las Vegas, NV-AZ	1,563,282	0.873	23.355
7240	San Antonio, TX	1,592,383	0.871	22.653
4920	Memphis, TN-AR-MS	1,135,614	0.870	21.574
6760	Richmond-Petersburg, VA	996,512	0.869	21.455
5082	Milwaukee-Racine, WI (C)	1,689,572	0.868	20.748
3280	Hartford, CT	1,183,110	0.868	18.727
0640	Austin-San Marcos, TX	1,249,763	0.865	22.653
1440	Charleston-North Charleston, SC	549,033	0.863	22.675
7510	Sarasota-Bradenton, FL	589,959	0.862	19.965
1080	Boise City, ID	432,345	0.861	19.807
3980	Lakeland-Winter Haven, FL	483,924	0.861	20.807
4400	Little Rock-North Little Rock, AR	583,845	0.858	20.290
9320	Youngstown-Warren, OH	594,746	0.858	17.515

A.5. Continued. Proximity index for the 100 largest cities (ranked by the index)(Cont.)

MSA/CMSA	Name	Pop. (2000)	PJW	commute time (min.)
6280	Pittsburgh, PA	2,358,695	0.857	24.599
7120	Salinas, CA	401,762	0.854	16.550
1840	Columbus, OH	1,540,157	0.854	20.795
5880	Oklahoma City, OK	1,083,346	0.853	19.857
6960	Saginaw-Bay City-Midland, MI	403,070	0.853	19.102
3600	Jacksonville, FL	1,100,491	0.852	23.210
0160	Albany-Schenectady-Troy, NY	875,583	0.850	20.524
5960	Orlando, FL	1,644,561	0.850	24.700
3840	Knoxville, TN	687,249	0.847	20.878
5360	Nashville, TN	1,231,311	0.847	24.157
1642	Cincinnati-Hamilton, OH-KY-IN (C)	1,979,202	0.844	22.503
5120	Minneapolis-St. Paul, MN-WI	2,968,806	0.842	23.385
3480	Indianapolis, IN	1,607,486	0.840	22.781
3720	Kalamazoo-Battle Creek, MI	452,851	0.839	18.138
6922	Sacramento-Yolo, CA (C)	1,796,857	0.839	23.008
5602	New York, Northern New Jersey, Long Island, NY-NJ-CT-PA (C)	21,199,865	0.838	33.563
3760	Kansas City, MO-KS	1,776,062	0.836	21.324
2000	Dayton-Springfield, OH	950,558	0.835	18.399
3240	Harrisburg-Lebanon-Carlisle, PA	629,401	0.832	19.761
7040	St. Louis, MO-IL	2,603,607	0.831	23.701
2082	Denver-Boulder-Greeley, CO (C)	2,581,506	0.830	19.137
6162	Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD (C)	6,188,463	0.826	26.516
8960	West Palm Beach-Boca Raton, FL	1,131,184	0.826	20.841
7160	Salt Lake City-Ogden, UT	1,333,914	0.825	20.464
5720	Norfolk-Virginia Beach-Newport News, VA-	1,569,541	0.822	22.273
1520	Charlotte-Gastonia-Rock Hill, NC-SC	1,499,293	0.819	23.360
7320	San Diego, CA	2,813,833	0.815	22.330
6442	Portland-Salem, OR-WA (C)	2,265,223	0.814	22.923
7560	Scranton--Wilkes-Barre--Hazleton, PA	624,776	0.812	17.888
4900	Melbourne-Titusville-Palm Bay, FL	476,230	0.812	20.487
6640	Raleigh-Durham-Chapel Hill, NC	1,187,941	0.812	22.080
3000	Grand Rapids-Muskegon-Holland, MI	1,088,514	0.806	19.081
2020	Daytona Beach, FL	493,175	0.806	19.413
3362	Houston-Galveston-Brazoria, TX (C)	4,669,571	0.802	26.793
6200	Phoenix-Mesa, AZ	3,251,876	0.798	23.963
4992	Miami-Fort Lauderdale, FL (C)	3,876,380	0.795	23.363
1602	Chicago-Gary-Kenosha, IL-IN-WI (C)	9,157,540	0.793	29.837
8280	Tampa-St. Petersburg-Clearwater, FL	2,395,997	0.788	23.716
0520	Atlanta, GA	4,112,198	0.784	28.583
3660	Johnson City-Kingsport-Bristol, TN-VA	480,091	0.779	18.699
7602	Seattle-Tacoma-Bremerton, WA (C)	3,554,760	0.778	26.080
1692	Cleveland-Akron, OH (C)	2,945,831	0.768	22.993
3160	Greenville-Spartanburg-Anderson, SC	962,441	0.762	20.532
1922	Dallas-Fort Worth, TX (C)	5,221,801	0.744	25.486
2162	Detroit-Ann Arbor-Flint, MI (C)	5,456,428	0.743	24.989
3120	Greensboro--Winston Salem--High Point, NC	1,251,509	0.739	19.987
7362	San Francisco-Oakland-San Jose, CA (C)	7,039,362	0.709	26.069
4472	Los Angeles-Riverside-Orange County, CA (C)	16,373,645	0.705	27.429
8872	Washington-Baltimore, DC-MD-VA-WV (C)	7,608,070	0.704	31.595
7480	Santa Barbara-Santa Maria-Lompoc, CA	399,347	0.703	18.371

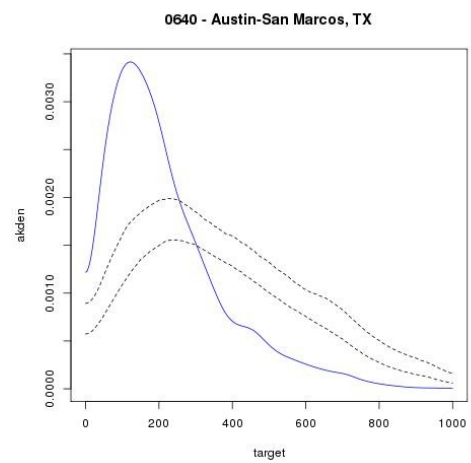
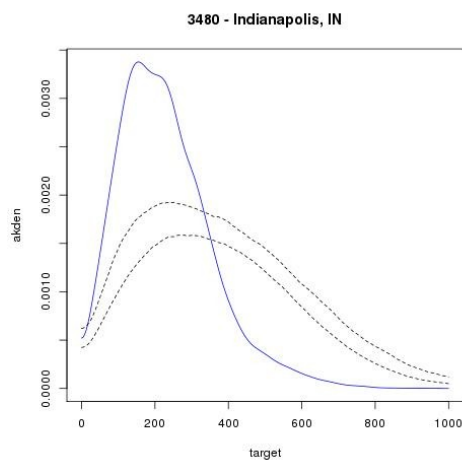
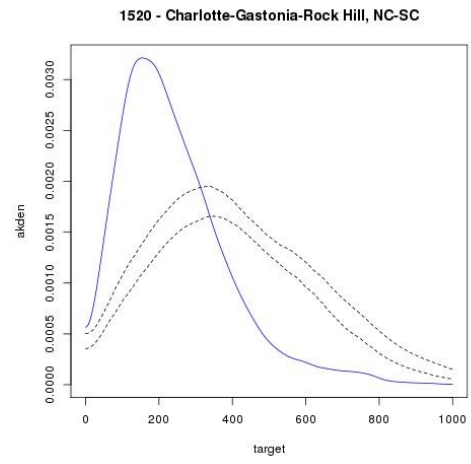
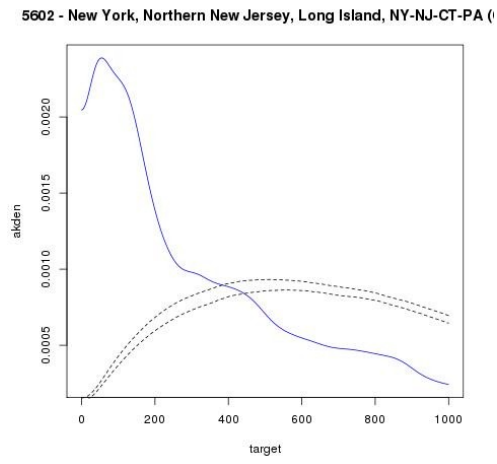
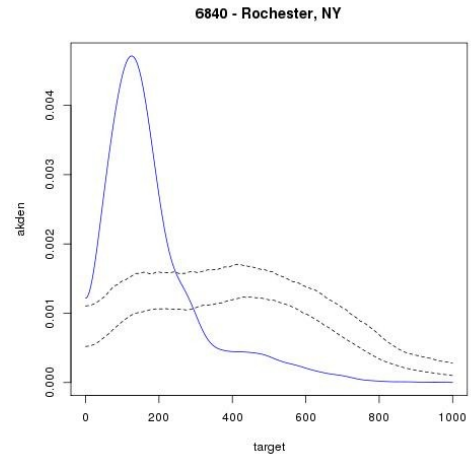
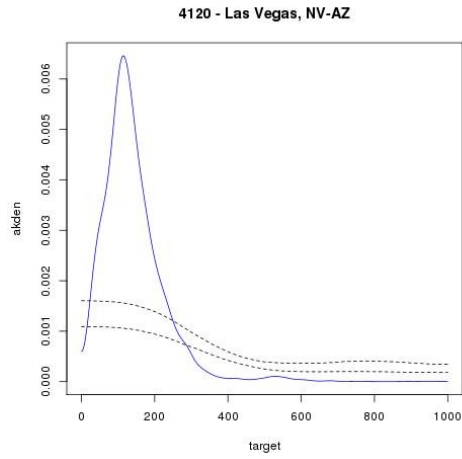
A.6. Between estimator for the 100 largest cities (ranked by the index)

MSA/CMSA	Name	Pop. 2010	BJW
4120	Las Vegas, NV-AZ	2,197,212	0.509
6840	Rochester, NY	1,116,842	0.425
5602	New York, Northern New Jersey, Long Island, NY-NJ-CT-PA (C)	21,941,828	0.375
8560	Tulsa, OK	884,407	0.353
8160	Syracuse, NY	746,393	0.347
2760	Fort Wayne, IN	535,044	0.340
4040	Lansing-East Lansing, MI	469,671	0.328
1520	Charlotte-Gastonia-Rock Hill, NC-SC	1,965,239	0.324
9040	Wichita, KS	599,865	0.320
3480	Indianapolis, IN	1,838,244	0.298
7680	Shreveport-Bossier City, LA	415,853	0.297
0160	Albany-Schenectady-Troy, NY	924,815	0.293
0680	Bakersfield, CA	840,063	0.287
0640	Austin-San Marcos, TX	1,722,854	0.276
5920	Omaha, NE-IA	816,088	0.274
3840	Knoxville, TN	794,897	0.268
1560	Chattanooga, TN-GA	519,619	0.264
1922	Dallas-Fort Worth, TX (C)	6,446,387	0.263
5120	Minneapolis-St. Paul, MN-WI	3,290,285	0.262
5880	Oklahoma City, OK	1,242,580	0.258
6640	Raleigh-Durham-Chapel Hill, NC	1,610,806	0.254
3760	Kansas City, MO-KS	1,977,044	0.252
5360	Nashville, TN	1,213,169	0.249
1840	Columbus, OH	1,756,463	0.240
8872	Washington-Baltimore, DC-MD-VA-WV (C)	8,633,399	0.237
2120	Des Moines, IA	545,566	0.236
1642	Cincinnati-Hamilton, OH-KY-IN (C)	2,108,017	0.234
8400	Toledo, OH	614,871	0.232
3720	Kalamazoo-Battle Creek, MI	468,454	0.231
3160	Greenville-Spartanburg-Anderson, SC	1,103,780	0.227
1692	Cleveland-Akron, OH (C)	2,889,979	0.213
0520	Atlanta, GA	5,128,300	0.210
6280	Pittsburgh, PA	2,295,718	0.210
2840	Fresno, CA	1,083,742	0.206
6442	Portland-Salem, OR-WA (C)	2,606,951	0.206
6760	Richmond-Petersburg, VA	1,145,815	0.194
6200	Phoenix-Mesa, AZ	4,194,274	0.192
0200	Albuquerque, NM	871,322	0.188
1440	Charleston-North Charleston, SC	666,365	0.186
7040	St. Louis, MO-IL	2,723,802	0.185
3280	Hartford, CT	1,265,469	0.178
1280	Buffalo-Niagara Falls, NY	1,137,638	0.177
3000	Grand Rapids-Muskegon-Holland, MI	1,159,874	0.177
3600	Jacksonville, FL	1,322,391	0.177
0600	Augusta-Aiken, GA-SC	535,800	0.176
7160	Salt Lake City-Ogden, UT	1,570,252	0.176
1080	Boise City, ID	581,560	0.173
7240	San Antonio, TX	2,006,224	0.171
4720	Madison, WI	489,656	0.171
3560	Jackson, MS	483,341	0.168

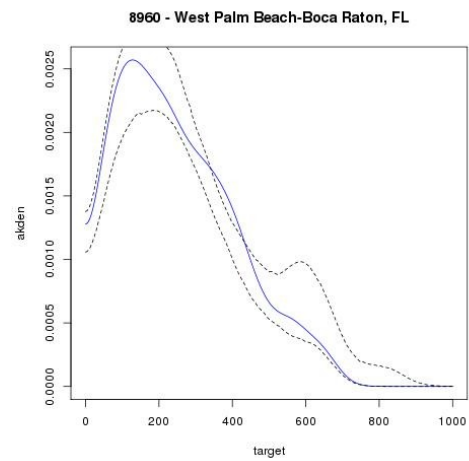
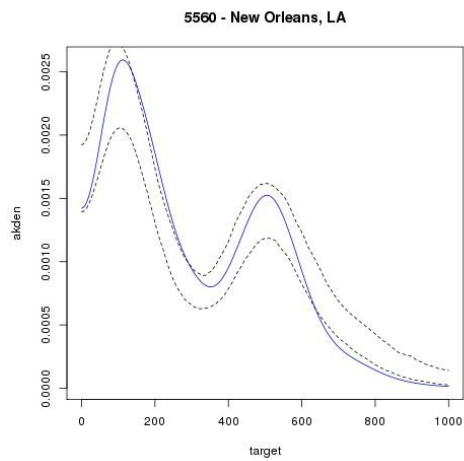
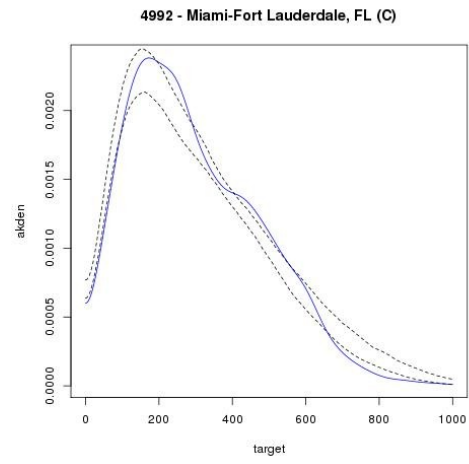
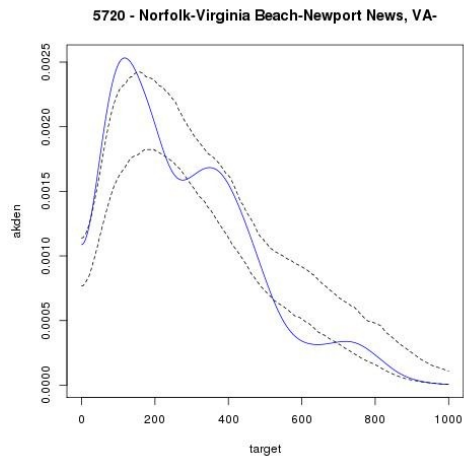
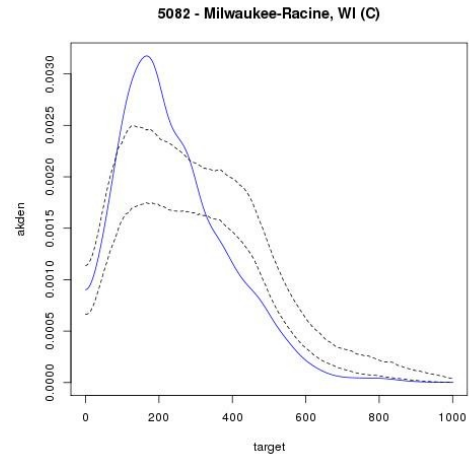
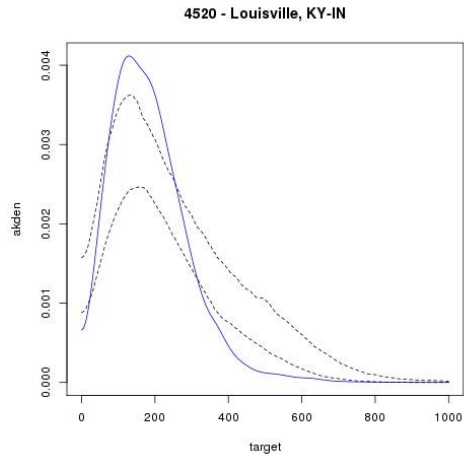
A.6. Continued. Between estimator for the 100 largest cities (ranked by the index)(Cont.)

MSA/CMSA	Name	Pop. 2010	BJW
5960	Orlando, FL	2,154,331	0.1648
6922	Sacramento-Yolo, CA (C)	2,154,852	0.1637
3240	Harrisburg-Lebanon-Carlisle, PA	691,907	0.1622
4472	Los Angeles-Riverside-Orange County, CA (C)	17,881,337	0.1582
4280	Lexington, KY	561,670	0.1562
6080	Pensacola, FL	451,104	0.1507
8280	Tampa-St. Petersburg-Clearwater, FL	2,789,727	0.1468
7510	Sarasota-Bradenton, FL	704,930	0.1460
4000	Lancaster, PA	524,779	0.1347
2082	Denver-Boulder-Greeley, CO (C)	3,046,565	0.1342
4920	Memphis, TN-AR-MS	1,241,014	0.1277
3362	Houston-Galveston-Brazoria, TX (C)	5,899,852	0.1244
9320	Youngstown-Warren, OH	563,919	0.1242
3120	Greensboro--Winston Salem--High Point, NC	1,430,836	0.1228
1760	Columbia, SC	650,240	0.1124
2162	Detroit-Ann Arbor-Flint, MI (C)	5,330,576	0.1102
7320	San Diego, CA	3,098,678	0.1059
7362	San Francisco-Oakland-San Jose, CA (C)	7,419,398	0.1058
1602	Chicago-Gary-Kenosha, IL-IN-WI (C)	9,535,533	0.0999
7602	Seattle-Tacoma-Bremerton, WA (C)	4,024,016	0.0992
4400	Little Rock-North Little Rock, AR	674,988	0.0931
0760	Baton Rouge, LA	704,572	0.0929
1000	Birmingham, AL	1,001,298	0.0927
3660	Johnson City-Kingsport-Bristol, TN-VA	472,086	0.0913
4880	McAllen-Edinburg-Mission, TX	774,972	0.0908
2020	Daytona Beach, FL	592,324	0.0887
7840	Spokane, WA	472,406	0.0873
1720	Colorado Springs, CO	624,307	0.0817
0240	Allentown-Bethlehem-Easton, PA	718,578	0.0817
6162	Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD (C)	6,505,597	0.0768
2000	Dayton-Springfield, OH	942,082	0.0765
4520	Louisville, KY-IN	1,132,366	0.0747
5082	Milwaukee-Racine, WI (C)	1,755,990	0.0733
8520	Tucson, AZ	982,366	0.0692
1320	Canton-Massillon, OH	411,724	0.0672
6960	Saginaw-Bay City-Midland, MI	394,966	0.0498
8120	Stockton-Lodi, CA	686,862	0.0485
7560	Scranton--Wilkes-Barre--Hazleton, PA	635,199	0.0482
2700	Fort Myers-Cape Coral, FL	621,158	0.0440
7480	Santa Barbara-Santa Maria-Lompoc, CA	424,193	0.0437
2320	El Paso, TX	803,293	0.0431
7120	Salinas, CA	417,733	0.0348
5160	Mobile, AL	598,624	0.0337
5170	Modesto, CA	516,568	0.0183
5720	Norfolk-Virginia Beach-Newport News, VA-	1,643,122	0.0178
4992	Miami-Fort Lauderdale, FL (C)	4,251,645	0.0127
5560	New Orleans, LA	1,193,505	0.0101
8960	West Palm Beach-Boca Raton, FL	1,328,234	0.0074
4900	Melbourne-Titusville-Palm Bay, FL	543,952	0.0036

A.7. Densities for most co-located metropolitan areas.



A.8. Densities for least co-located metropolitan areas.



A.9. Jobs and workers in employment subcenters

MSA/CMSA	# of clusters	# of jobs in clusters	# of workers in clusters	Jobs-to-workers ratio in clusters	Total metro jobs	Jobs in clusters divided by metro jobs
Los Angeles-Riverside-Orange County, CA (C)	41	2,293,878	427,259	5.369	6,056,281	0.379
New York, Northern New Jersey, Long Island	25	2,397,978	690,862	3.471	8,023,833	0.299
Washington-Baltimore, DC-MD-VA-WV (C)	22	1,166,596	219,641	5.311	3,367,369	0.346
Chicago-Gary-Kenosha, IL-IN-WI (C)	17	1,113,599	237,774	4.683	3,658,534	0.304
San Francisco-Oakland-San Jose, CA (C)	17	893,512	187,881	4.756	2,807,793	0.318
Detroit-Ann Arbor-Flint, MI (C)	13	535,259	82,140	6.516	1,748,089	0.306
Philadelphia-Wilmington-Atlantic City	12	507,428	91,525	5.544	2,457,089	0.207
Dallas-Fort Worth, TX (C)	12	1,110,875	156,293	7.108	2,506,983	0.443
Atlanta, GA	12	745,200	139,341	5.348	1,872,511	0.398
Minneapolis-St. Paul, MN-WI	11	547,863	92,599	5.917	1,463,010	0.374
Miami-Fort Lauderdale, FL (C)	10	399,088	68,252	5.847	1,413,023	0.282
Seattle-Tacoma-Bremerton, WA (C)	10	656,556	108,946	6.026	1,487,998	0.441
Phoenix-Mesa, AZ	10	623,069	88,844	7.013	1,441,102	0.432
Cleveland-Akron, OH (C)	10	311,462	33,229	9.373	1,111,698	0.280
Houston-Galveston-Brazoria, TX (C)	9	749,245	131,194	5.711	2,140,714	0.350
San Diego, CA	9	449,885	73,412	6.128	1,032,128	0.436
Denver-Boulder-Greeley, CO (C)	7	372,675	72,307	5.154	1,212,447	0.307
Tampa-St. Petersburg-Clearwater, FL	7	302,868	60,612	4.997	930,127	0.326
Portland-Salem, OR-WA (C)	7	316,836	62,216	5.093	934,821	0.339
Milwaukee-Racine, WI (C)	7	212,252	24,767	8.570	772,514	0.275
Orlando, FL	7	306,644	58,255	5.264	877,771	0.349
Indianapolis, IN	7	255,135	37,155	6.867	763,394	0.334
Norfolk-Virginia Beach-Newport News	7	209,384	34,069	6.146	546,320	0.383
Columbus, OH	7	232,649	40,571	5.734	704,468	0.330
Raleigh-Durham-Chapel Hill, NC	7	196,834	34,281	5.742	620,988	0.317
Jacksonville, FL	6	209,751	41,403	5.066	585,679	0.358
Buffalo-Niagara Falls, NY	5	111,205	21,410	5.194	443,522	0.251
Memphis, TN-AR-MS	5	207,713	27,643	7.514	472,374	0.440
St. Louis, MO-IL	4	355,154	58,270	6.095	1,087,047	0.327
Pittsburgh, PA	4	256,965	35,973	7.143	966,732	0.266
Cincinnati-Hamilton, OH-KY-IN (C)	4	232,702	37,333	6.233	829,509	0.281
Sacramento-Yolo, CA (C)	4	177,185	44,023	4.025	608,377	0.291
Greensboro--Winston Salem--High Point	4	183,443	30,914	5.934	534,375	0.343
Nashville, TN	4	244,436	36,028	6.785	498,615	0.490
West Palm Beach-Boca Raton, FL	4	103,795	22,097	4.697	424,569	0.244
Oklahoma City, OK	4	119,657	19,173	6.241	439,706	0.272
Albany-Schenectady-Troy, NY	4	95,808	25,896	3.700	330,523	0.290
Tulsa, OK	4	126,963	27,243	4.660	346,203	0.367
El Paso, TX	4	89,622	18,547	4.832	254,179	0.353
Kansas City, MO-KS	3	253,476	50,011	5.068	779,330	0.325
San Antonio, TX	3	253,296	55,312	4.579	647,910	0.391
Charlotte-Gastonia-Rock Hill, NC-SC	3	260,391	48,788	5.337	730,654	0.356
New Orleans, LA	3	133,731	19,011	7.034	431,415	0.310
Louisville, KY-IN	3	184,090	26,032	7.072	477,534	0.386
Dayton-Springfield, OH	3	84,668	14,236	5.947	318,584	0.266
Albuquerque, NM	3	123,515	22,637	5.456	282,623	0.437
Knoxville, TN	3	88,157	17,382	5.072	308,656	0.286
Harrisburg-Lebanon-Carlisle, PA	3	56,217	12,934	4.346	300,833	0.187
Toledo, OH	3	55,179	10,512	5.249	229,974	0.240
Youngstown-Warren, OH	3	38,195	13,380	2.855	167,548	0.228
Charleston-North Charleston, SC	3	55,352	11,360	4.873	219,854	0.252
Columbia, SC	3	72,966	12,150	6.005	241,481	0.302
Lexington, KY	3	47,403	14,490	3.271	217,385	0.218
Boise City, ID	3	70,592	13,332	5.295	208,129	0.339

A.10. Testing for the rank-size rule for the distribution of subcenters

MSA/CMSA	N	Intercept	ln(emp)	Adj.R ²	p>F
Los Angeles-Riverside-Orange County, CA (C)	41	12.987 (52.06)	-0.976 (-41.05)	0.9768	0.3231
New York, Northern New Jersey, Long Island, NY-NJ-CT-PA (C)	25	9.969 (16.35)	-0.748 (-12.6)	0.8735	0.0003
Washington-Baltimore, DC-MD-VA-WV (C)	22	11.745 (28.91)	-0.916 (-23.57)	0.9635	0.0436
San Francisco-Oakland-San Jose, CA (C)	17	10.274 (23.42)	-0.812 (-19.01)	0.9575	0.0005
Chicago-Gary-Kenosha, IL-IN-WI (C)	17	9.212 (20.84)	-0.712 (-16.47)	0.9441	0.0000
Detroit-Ann Arbor-Flint, MI (C)	13	11.610 (11.8)	-0.954 (-10.06)	0.8931	0.6340
Dallas-Fort Worth, TX (C)	12	9.144 (14.95)	-0.689 (-12.28)	0.9316	0.0002
Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD (C)	12	10.092 (8.32)	-0.831 (-6.96)	0.8120	0.1872
Atlanta, GA	12	9.698 (13.49)	-0.765 (-11.21)	0.9190	0.0063
Minneapolis-St. Paul, MN-WI	11	10.087 (33.33)	-0.821 (-28.17)	0.9875	0.0002
Cleveland-Akron, OH (C)	10	10.841 (13.84)	-0.934 (-11.94)	0.9402	0.4242
Phoenix-Mesa, AZ	10	8.779 (10.74)	-0.699 (-8.93)	0.8974	0.0049
Seattle-Tacoma-Bremerton, WA (C)	10	8.351 (34.35)	-0.655 (-28.28)	0.9889	0.0000
Miami-Fort Lauderdale, FL (C)	10	11.816 (11.3)	-0.994 (-9.88)	0.9147	0.9534
San Diego, CA	9	8.219 (13.44)	-0.660 (-11.17)	0.9393	0.0007
Houston-Galveston-Brazoria, TX (C)	9	7.810 (10.55)	-0.610 (-8.67)	0.9026	0.0009

Note: *t*-statistics in parentheses. The *p*>F column shows the *p*-value for the hypothesis test that the coefficient on the natural logarithm of the subcenter employment equals -1.

A.11. Polycentric density function

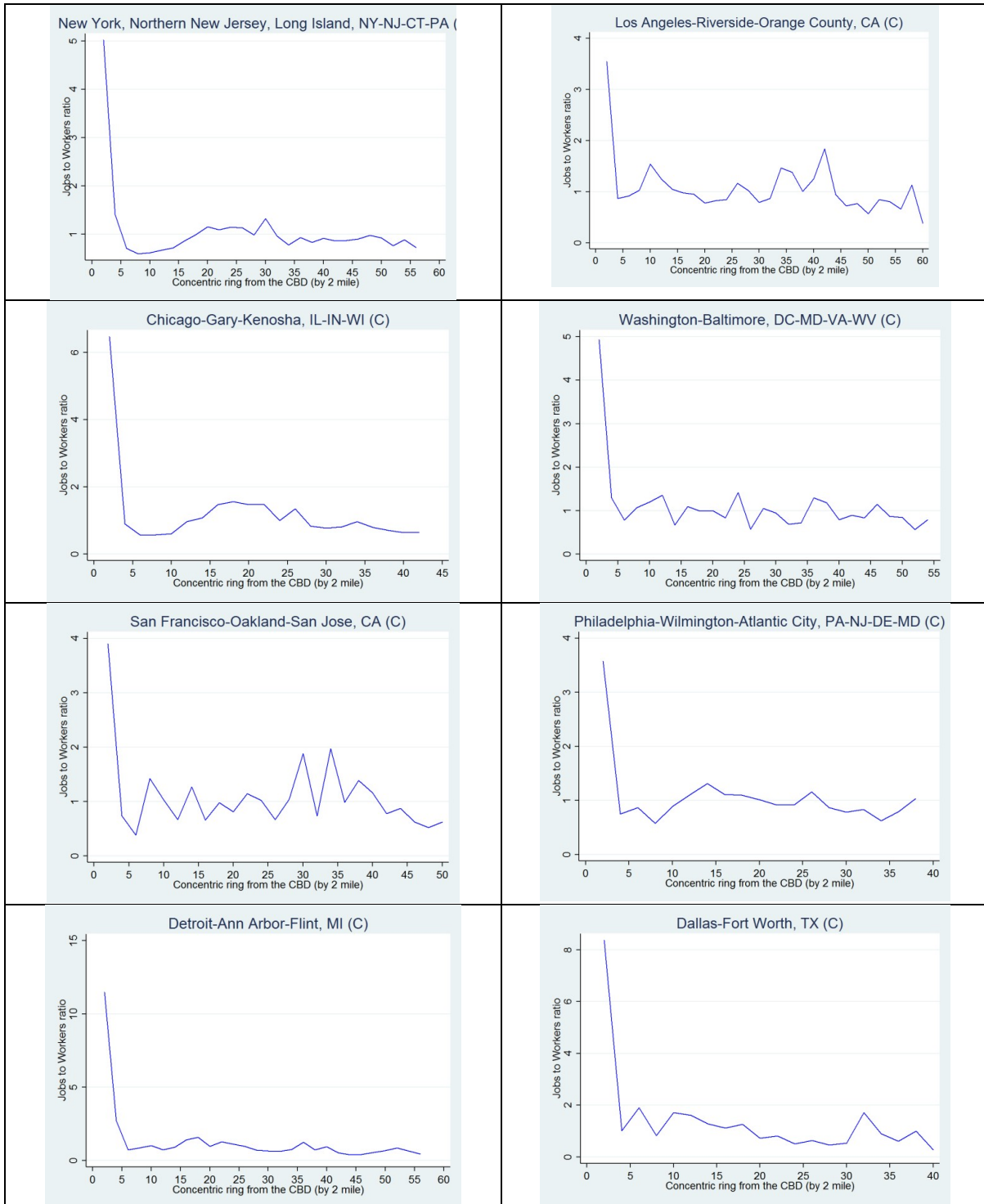
	Los Angeles		New York		Washington		San Francisco		Chicago		Detroit		Dallas		Philadelphia	
	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise
4CBD	-0.0143***	-0.0150***	-0.0262***	-0.0270***	-0.0184***	-0.0193***	-0.0256***	-0.0259***	-0.0522***	-0.0538***	-0.0217***	-0.0217***	-0.0452***	-0.0474***	-0.0293***	-0.0307***
SBD1	1.304***	1.317***	0.761***	0.759***	1.198***	1.213***	1.317***	1.310***	1.463***	1.442***	1.560***	1.560***	3.550***	3.418***	1.189***	1.182***
SBD2	0.925***	0.907**	0.380***	0.413***	1.671***	1.741***	2.842***	2.890***	1.944***	2.065***	1.052***	1.052***	0.495***	0.488***	0.934***	0.922***
SBD3	0.942***	0.962***	1.702***	1.773***	2.671***	2.663***	1.103***	1.098***	1.380***	1.553***	1.217**	1.217**	2.061***	2.005***	1.609***	1.583***
SBD4	1.563***	1.651***	1.769***	1.634***	0.483***	0.493***	0.831**	0.813**	0.340		1.902***	1.902***	1.470***	1.531***	0.360***	0.362***
SBD5	1.597***	1.693***	0.573***	0.524***	1.188***	1.197***	1.307***	1.447***	1.921***	1.935***	1.346**	1.346**	2.989***	2.961***	2.656***	2.541***
SBD6	1.336***	1.321***	0.718***	0.721***	1.245***	1.296***	0.000202		0.866***	0.896***	0.831**	0.831**	2.591***	2.496***	0.517***	0.502***
SBD7	1.415***	1.713***	0.526***	0.524***	0.835***	0.829***	0.669*	0.651*	0.431***	0.429***	2.437***	2.437***	0.899***	0.928***	1.129**	1.102**
SBD8	0.335***	0.332***	0.262**	0.249**	0.614***	0.625***	-0.0764		0.0853		0.686*	0.686*	0.341		0.705	
SBD9	0.250***	0.247***	0.150		3.088***	3.080***	1.813***	1.810***	0.394		0.996***	0.996***	0.479***	0.468***	0.142	0.165*
SBD10	0.291		0.216**	0.212**	1.342***	1.336***	0.542	0.701**	0.147		2.470***	2.470***	0.735*	0.853**	1.405***	1.493***
SBD11	0.178		1.279***	1.283***	0.686	0.826*	0.540		0.000410**	0.000407**	1.625***	1.625***	0.105***	0.105***	0.880***	0.927***
SBD12	0.676**	0.660**	0.436		0.383***	0.383***	1.252***	1.245***	0.463*	0.589***	1.201***	1.201***	0.489		0.000262	
SBD13	0.0907		0.794***	0.792***	1.238***	1.221***	0.000574*	0.000573*	0.000831***	0.000826***	0.820**	0.820**				
SBD14	3.265***	3.204***	0.357**	0.405***	0.893***	0.904***	1.180**	1.148**	0.0959***	0.0956***						
SBD15	1.431***	1.415***	0.0568*	0.0576*	2.130***	2.104***	0.000188		-0.424**	-0.431**						
SBD16	0.932***	0.890**	0.515***	0.515***	1.077***	1.072***		0.322*	0.000165							
SBD17	2.032***	1.984***	0.278***	0.277***	1.003***	0.995***	0.000459**	0.000458**	0.000456**	0.000452*						
SBD18	-0.143		0.0570		1.238***	1.383***										
SBD19	0.783*	0.871**	-0.170		0.514											
SBD20	0.000525*	0.000523*	0.414***	0.413***	0.611**	0.620**										
SBD21	1.045**	1.164***	0.000493**	0.000505**	0.496	0.677**										
SBD22	0.762**	0.730**	0.501***	0.495***	0.510											
SBD23	1.031***	1.055***	0.143***	0.141***												
SBD24	1.493***	1.475***	0.179**	0.206***												
SBD25	0.179		0.216**	0.210**												
SBD26	0.0288															
SBD27	0.200															
SBD28	0.405*	0.435*														
SBD29	0.233															
SBD30	0.895***	0.986***														
SBD31	0.131**	0.131**														
SBD32	0.000291**	0.000291**														
SBD33	0.0125															
SBD34	0.242															
SBD35	0.960***	0.941***														
SBD36	0.423	0.518*														
SBD37	0.000376***	0.000375***														
SBD38	0.000300															
SBD39	0.269***	0.268***														
SBD40	0.160*	0.159*														
SBD41	0.459**	0.455**														
Intercept	-0.805***	-0.744***	0.364***	0.419***	-1.489***	-1.439***	-0.0570	-0.0339	0.605***	0.686***	-1.558***	-1.558***	-0.760***	-0.647***	-0.394***	-0.311**
N	3,914	3,914	5,169	5,169	2,080	2,080	1,631	1,631	2,223	2,223	1,585	1,585	1,328	1,328	1,601	1,601
R ²	0.338	0.335	0.448	0.447	0.384	0.383	0.325	0.322	0.403	0.402	0.290	0.290	0.369	0.368	0.335	0.334

A.11.Continued. Polycentric density function

s	Atlanta		Minneapolis-St. Paul		Cleveland-Akron		Phoenix-Mesa		Seattle-Tacoma-Bremerton		Miami-Fort Lauderdale		San Diego		Houston-Galveston-Brazoria	
	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise	Full	Stepwise
dCBD	-0.0614***	-0.0631***	-0.0967***	-0.0983***	-0.0406***	-0.0432***	-0.0804***	-0.0804***	-0.0530***	-0.0570***	-0.0337***	-0.0375***	-0.0477***	-0.0501***	-0.0620***	-0.0620***
SBD1	2.369***	2.577***	0.584***	0.586***	1.227***	1.191***	1.069***	1.066***	3.416***	3.367***	2.163***	2.090***	0.785***	0.790***	1.240***	1.240***
SBD2	1.980***	1.952***	1.697***	1.845***	2.569***	2.541***	0.929***	0.928***	0.258*	0.270*	0.155**	0.154**	1.745**	1.819***	0.864**	0.864**
SBD3	0.817***	0.791***	1.798**	1.798***	0.485		1.431***	1.429***	1.102		0.464**	0.462**	0.318		1.464***	1.464***
SBD4	4.047***	4.303***	1.264***	1.264***	0.850*	0.974**	2.135***	2.133***	3.505***	3.501***	1.325***	1.334***	1.224***	1.221***	1.157***	1.157***
SBD5	0.490		0.805*	0.791**	0.311		0.296***	0.295***	0.000569***	0.000562***	0.0837		0.503	0.562*	1.406***	1.406***
SBD6	1.013**	1.406***	0.417		0.575		1.204***	1.202***	0.472		0.575		0.604*	0.594*	0.168**	0.168**
SBD7	2.677***	2.650***	0.381*	0.372*	1.297***	1.261***	1.000**	0.996**	-0.216		2.716***	2.682***	0.243		2.261***	2.261***
SBD8	0.795**	0.827**	0.326**	0.324**	1.099**	1.179***	2.241***	2.261***	0.694***	0.640***	0.470***	0.468***	0.000610**	0.000609**	1.070***	1.070***
SBD9	2.111***	2.230***	0.977*	0.920*	1.207***	1.138**	0.000620**	0.000620**	0.000477		0.640***	0.606***	0.000436**	0.000435**	0.898***	0.898***
SBD10	0.910		0.0551		0.191**	0.190**	0.000112		0.137*	0.131*	0.360**	0.349**				
SBD11	0.164		0.105*	0.104*												
SBD12	0.573	0.780**														
Intercept	-0.915***	-0.879***	-0.0242	0.0397	-0.682***	-0.535***	-0.193	-0.191	-0.315	-0.117	0.146	0.294***	0.162	0.254	-0.0553	-0.0553
N	915	915	772	772	828	828	986	986	839	839	868	868	624	624	1,059	1,059
R ²	0.484	0.480	0.569	0.568	0.303	0.300	0.464	0.464	0.381	0.377	0.220	0.218	0.212	0.209	0.377	0.377

Note: The unit of analysis is a census tract. The dependent variable is the natural logarithm of the employment density (that is the number of employment per acre of land.). *** p<0.01, ** p<0.05, * p<0.1

A.12. Job-to-worker ratio by concentric circle for 8 large metropolitan areas



A.13. Job-worker ratio by concentric zone

MSA/CMSA	0-4 mile ring	4-25 mile ring
	City	Suburb
New York, Northern New Jersey, Long Island, NY-NJ-CT-PA (C)	2.685	0.785
Los Angeles-Riverside-Orange County, CA (C)	1.525	1.041
Chicago-Gary-Kenosha, IL-IN-WI (C)	2.982	1.021
Washington-Baltimore, DC-MD-VA-WV (C)	2.570	1.015
San Francisco-Oakland-San Jose, CA (C)	2.198	0.922
Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD (C)	1.903	0.982
Dallas-Fort Worth, TX (C)	2.903	1.110
Houston-Galveston-Brazoria, TX (C)	3.033	1.038
Detroit-Ann Arbor-Flint, MI (C)	5.208	1.098
Atlanta, GA	2.357	1.191
Miami-Fort Lauderdale, FL (C)	1.473	1.013
Phoenix-Mesa, AZ	4.150	0.985
Seattle-Tacoma-Bremerton, WA (C)	2.857	0.959
Minneapolis-St. Paul, MN-WI	2.340	1.013
San Diego, CA	1.601	0.940
Denver-Boulder-Greeley, CO (C)	1.994	0.984
Cleveland-Akron, OH (C)	3.199	1.038
Tampa-St. Petersburg-Clearwater, FL	1.105	1.122
St. Louis, MO-IL	3.055	1.037
Portland-Salem, OR-WA (C)	1.903	0.912
Pittsburgh, PA	2.416	0.901
Las Vegas, NV-AZ	1.702	0.919
Sacramento-Yolo, CA (C)	1.898	0.906
Orlando, FL	1.896	1.037
Cincinnati-Hamilton, OH-KY-IN (C)	2.125	0.986
San Antonio, TX	1.477	0.952
Kansas City, MO-KS	3.315	0.937
Charlotte-Gastonia-Rock Hill, NC-SC	2.621	0.981
Indianapolis, IN	3.213	0.984
Columbus, OH	2.127	1.007
Milwaukee-Racine, WI (C)	1.593	1.031
Austin-San Marcos, TX	1.995	0.877
Norfolk-Virginia Beach-Newport News, VA-	1.426	0.972
Raleigh-Durham-Chapel Hill, NC	1.946	1.089
Salt Lake City-Ogden, UT	2.174	1.006
Greensboro--Winston Salem--High Point, NC	1.877	0.975
West Palm Beach-Boca Raton, FL	2.039	0.958
Jacksonville, FL	2.301	1.058
Hartford, CT	1.951	0.913
Oklahoma City, OK	2.444	0.953

A.14. Spatial mismatch by concentric zone (%)

MSA/CMSA	0~4 mile ring	4~25 mile ring
	City	Suburb
New York, Northern New Jersey, Long Island, NY-NJ-CT-PA (C)	66.066	57.669
Los Angeles-Riverside-Orange County, CA (C)	66.353	58.618
Chicago-Gary-Kenosha, IL-IN-WI (C)	64.804	58.757
Washington-Baltimore, DC-MD-VA-WV (C)	64.930	61.395
San Francisco-Oakland-San Jose, CA (C)	62.544	60.630
Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD (C)	69.306	53.912
Dallas-Fort Worth, TX (C)	63.488	65.043
Houston-Galveston-Brazoria, TX (C)	63.241	58.935
Detroit-Ann Arbor-Flint, MI (C)	65.114	60.024
Atlanta, GA	60.763	59.968
Miami-Fort Lauderdale, FL (C)	52.136	57.265
Phoenix-Mesa, AZ	61.854	63.583
Seattle-Tacoma-Bremerton, WA (C)	62.932	62.604
Minneapolis-St. Paul, MN-WI	65.031	60.843
San Diego, CA	60.928	61.229
Denver-Boulder-Greeley, CO (C)	61.354	63.263
Cleveland-Akron, OH (C)	68.626	57.070
Tampa-St. Petersburg-Clearwater, FL	52.502	56.176
St. Louis, MO-IL	65.654	55.806
Portland-Salem, OR-WA (C)	60.047	54.380
Pittsburgh, PA	72.700	47.681
Las Vegas, NV-AZ	62.831	67.479
Sacramento-Yolo, CA (C)	60.212	57.217
Orlando, FL	61.985	55.129
Cincinnati-Hamilton, OH-KY-IN (C)	65.063	58.056
San Antonio, TX	62.196	59.923
Kansas City, MO-KS	66.618	56.263
Charlotte-Gastonia-Rock Hill, NC-SC	57.852	53.606
Indianapolis, IN	67.983	55.268
Columbus, OH	59.227	58.361
Milwaukee-Racine, WI (C)	73.101	62.847
Austin-San Marcos, TX	52.640	55.540
Norfolk-Virginia Beach-Newport News, VA- Raleigh-Durham-Chapel Hill, NC	63.138	57.232
Salt Lake City-Ogden, UT	53.673	56.988
Greensboro--Winston Salem--High Point, NC	65.255	58.443
West Palm Beach-Boca Raton, FL	55.512	53.258
Jacksonville, FL	56.683	53.003
Hartford, CT	59.456	54.089
Oklahoma City, OK	62.208	53.179
	61.734	54.690

A15. First stage regression (model (2) in Table 1-6)

Dep. Var: PJW	Coef.	Std. Err.	t	P>t	95% Conf. Interval	
NGPLG	-0.0000833	0.0000401	-2.08	0.041	-0.000163	-0.000004
RUGGEDNESS	-0.0000436	0.0000128	-3.42	0.001	-0.000069	-0.000018
<i>CJW</i>	0.461461	0.1090423	4.23	0.000	0.244762	0.678160
<i>MULTI</i>	0.0947329	0.1580944	0.60	0.551	-0.219447	0.408912
<i>INCOME</i>	-0.0019565	0.001005	-1.95	0.055	-0.003954	0.000041
<i>JWCR</i>	-0.1007912	0.0543479	-1.85	0.067	-0.208796	0.007214
<i>BPJW</i>	0.0064431	0.0494107	0.13	0.897	-0.091750	0.104636
<i>Cons.</i>	0.5819827	0.1004712	5.79	0.000	0.382317	0.781648

Note: F test of excluded instruments: $F(2,88)=6.84$, $p=0.0017$

A16. First stage regression (model (4) in Table 1-6)

Dep. Var: PJW	Coef.	Std. Err.	t	P>t	95% Conf. Interval	
NGPLG	-0.0001129	0.0000377	-3.00	0.004	-0.0001878	-0.0000381
RUGGEDNESS	-0.0000481	0.0000127	-3.77	0.000	-0.0000734	-0.0000227
<i>CJW</i>	0.5305671	0.1047065	5.07	0.000	0.3225175	0.7386168
<i>MULTI</i>	-0.0270693	0.1474462	-0.18	0.855	-0.3200417	0.2659031
<i>JWCR</i>	-0.1338889	0.0524233	-2.55	0.012	-0.2380529	-0.0297249
<i>BPJW</i>	-0.0034842	0.0499113	-0.07	0.945	-0.1026568	0.0956884
<i>_Cons</i>	0.5125295	0.095385	5.37	0.000	0.3230015	0.7020575

Note: F test of excluded instruments: $F(2,89)=10.14$, $p=0.0001$