# District Data Brief

Did the COVID-19 Pandemic Cause an Urban Exodus? Fourth Quarter 2020 Update for Tables and Figures
By Stephan Whitaker, Federal Reserve Bank of Cleveland
March 1, 2021

This document contains tables and figures from "Did the COVID-19 Pandemic Cause an Urban Exodus?" that have been updated with data through December 31, 2020. In general, the elevated gross outflows from urban neighborhoods and the diminished gross inflows into urban neighborhoods continued in the fourth quarter of 2020. The calculations of all migration estimates remain the same as those in the original data brief. Where changes in outflow, inflows, and net flows are presented, they are calculated using the estimates for the second, third, and fourth quarters of 2020 relative to the average of the second, third, and fourth quarters of 2017, 2018, and 2019.

Figure 1. Estimated Net Out-Migration from Urban Neighborhoods
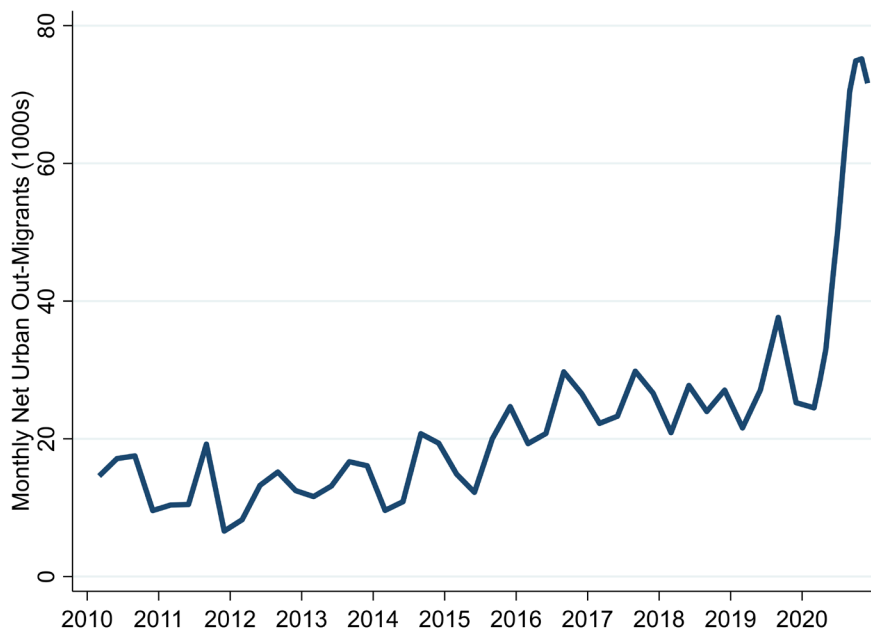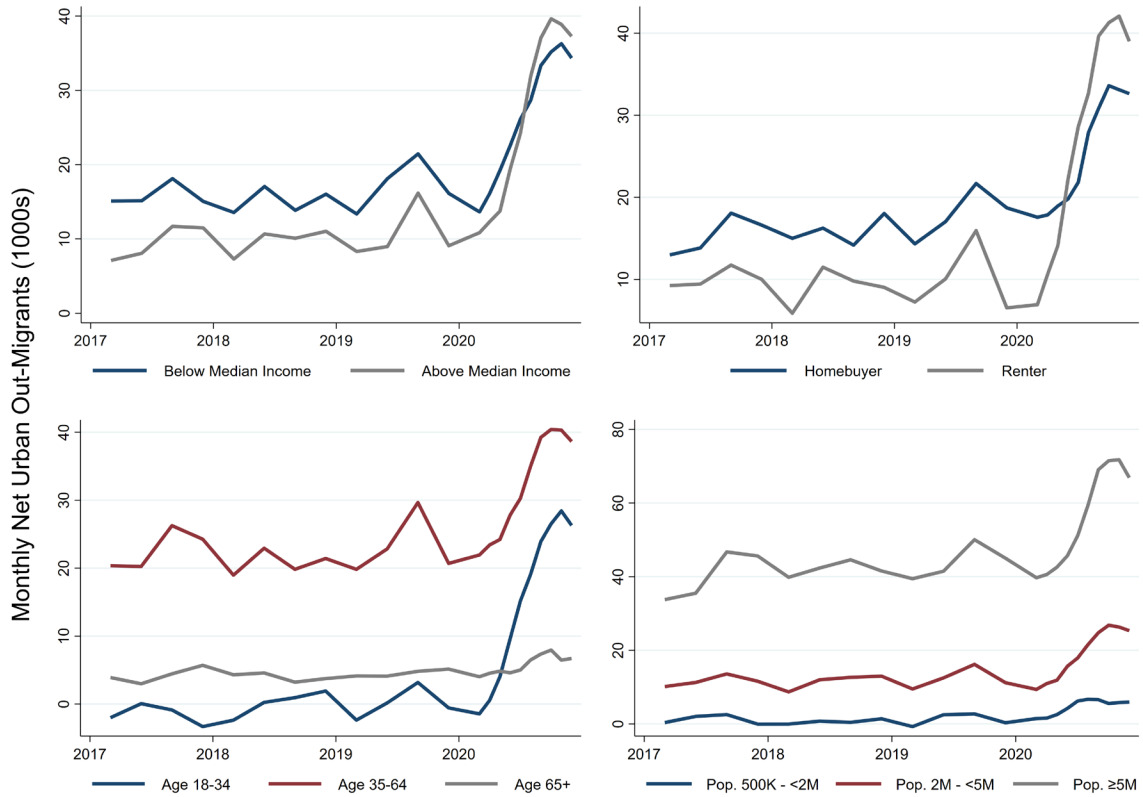

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

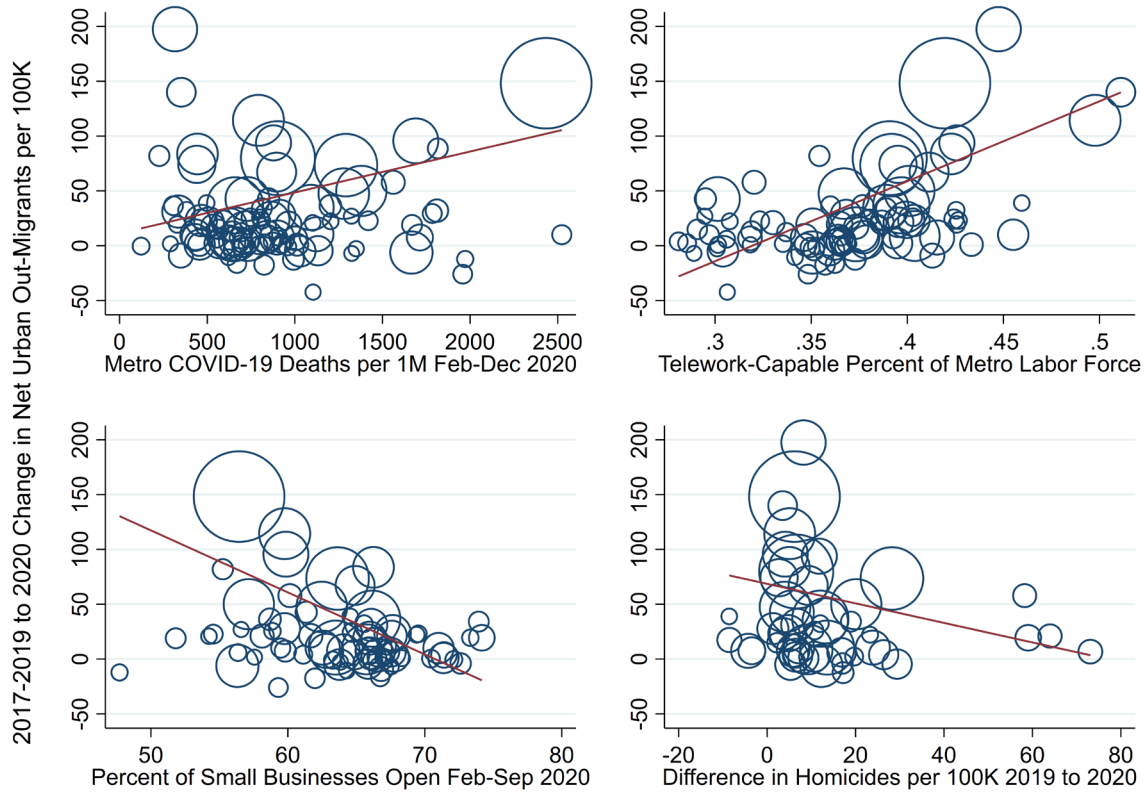**Figure 2. Estimated Gross Migration into and from Urban Neighborhoods**
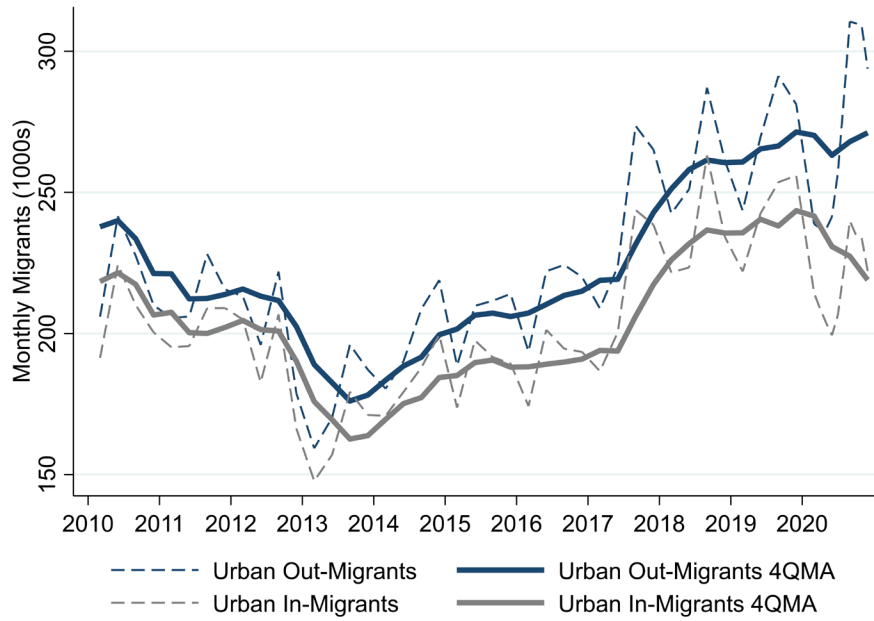
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure 3. Estimated Net Migration from Urban Neighborhoods by Neighborhood Income, Migrant Characteristics, and Metro Area Population

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure 4. Change in the Estimated Net Migration from Urban Neighborhoods for Four Measures That Influence Out-Migration

Note: Trend lines are calculated using metro populations as weights. The change is calculated as the difference between the flow in April to December 2020 and the average from the same months in 2017, 2018, and 2019. Marker sizes represent metro populations.

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, Center for Systems Science and Engineering, Dingel and Neiman (2020), Homebase, *New York Times*, and author's calculations.
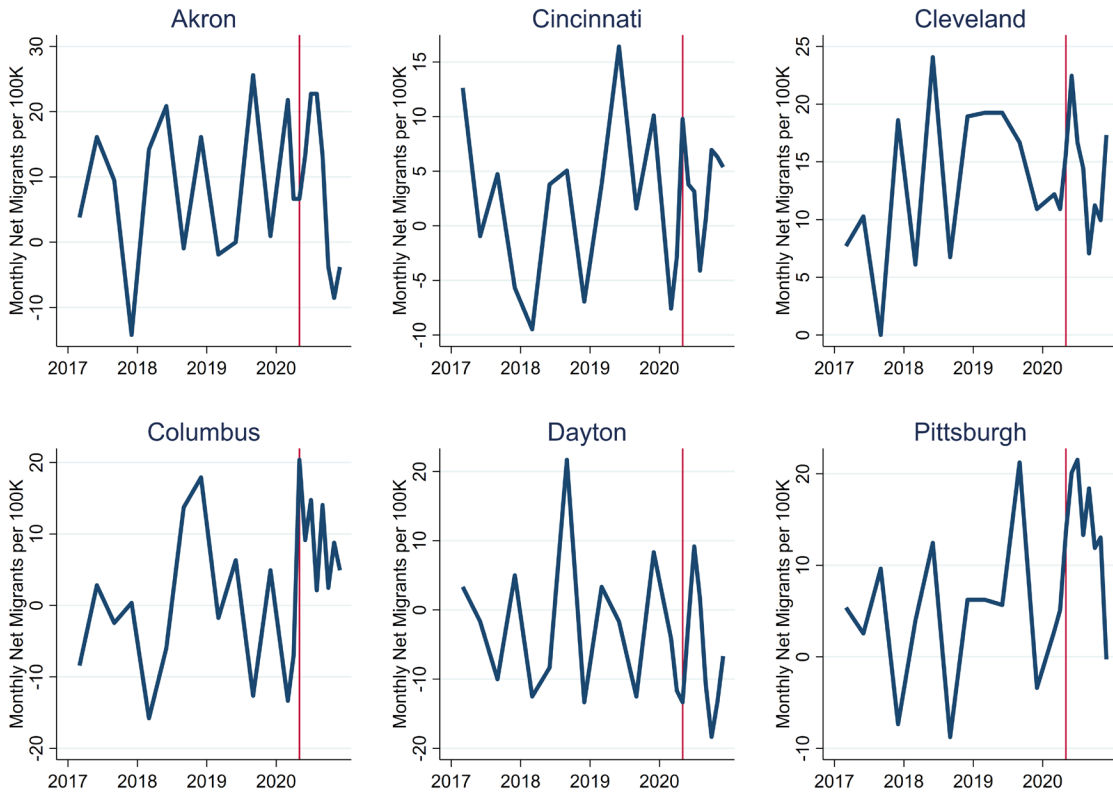
Figure 5. Estimated Net Migration from Urban Neighborhoods for Six Metro Areas, by Central City
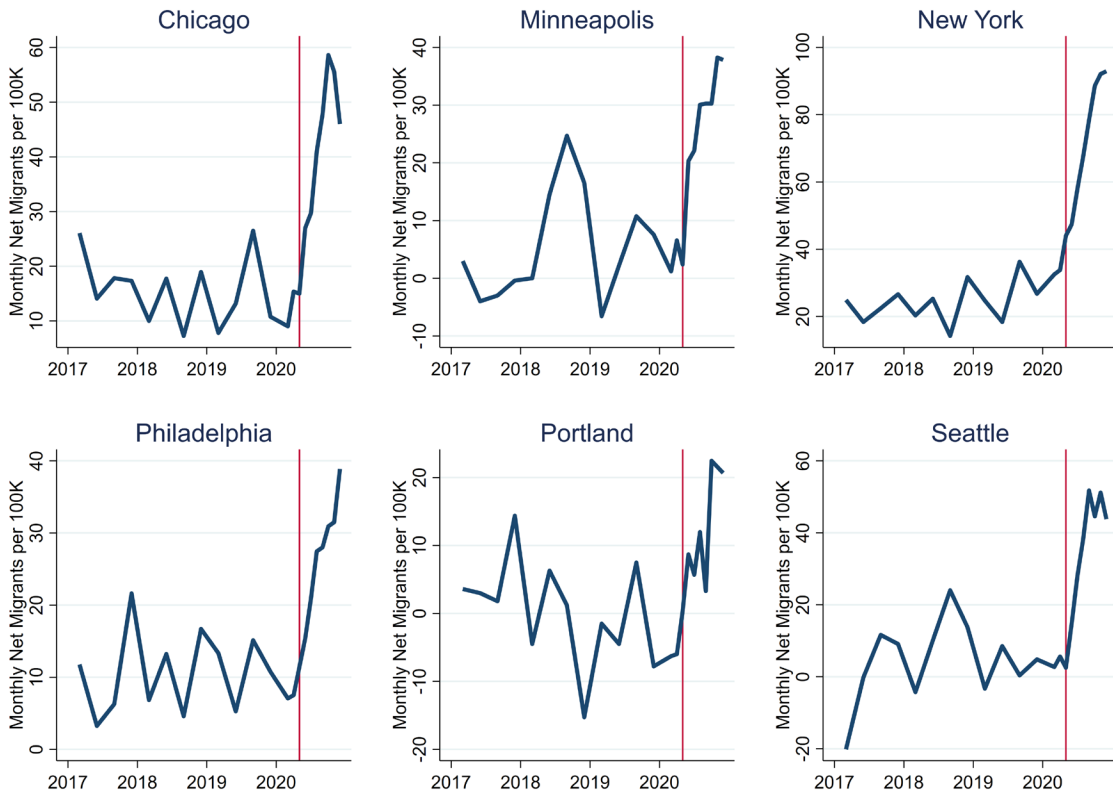
Note: The red vertical line is placed at the end of May, when nationwide protests began.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure 6. Estimated Net Migration from Urban Neighborhoods for Fourth District Metro Areas, by Central City

Note: The red vertical line is placed at the end of May, when the nationwide protests began.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Appendix

Table A1. Change in Net and Gross Flows into and out of Urban Neighborhoods

|	Change in Net Flow	Change in Gross Outflow	Change in Gross Inflow
National	33.8	14.8	-19.0
Below median income	13.3	5.7	-7.6
Above median income	20.4	9.0	-11.4
Homebuyers	10.6	9.8	-0.8
Renters	23.2	5.0	-18.2
18–34 years old	19.8	7.7	-12.1
35–64 years old	12.1	7.0	-5.1
65+ years old	1.9	0.1	-1.8
500K to <2M metro population	4.2	-0.1	-4.3
2M to <5M metro population	9.3	3.8	-5.4
≥5M metro population	16.9	11.0	-5.9

Note: The units are thousands of migrants per month. The change is calculated as the difference between the average monthly flow in April to December 2020 and the average monthly flow from the same months in 2017, 2018, and 2019.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A1a. Gross Flows into and out of Urban Neighborhoods That Contribute to Net Flows Presented in Figure 3, by Neighborhood Income
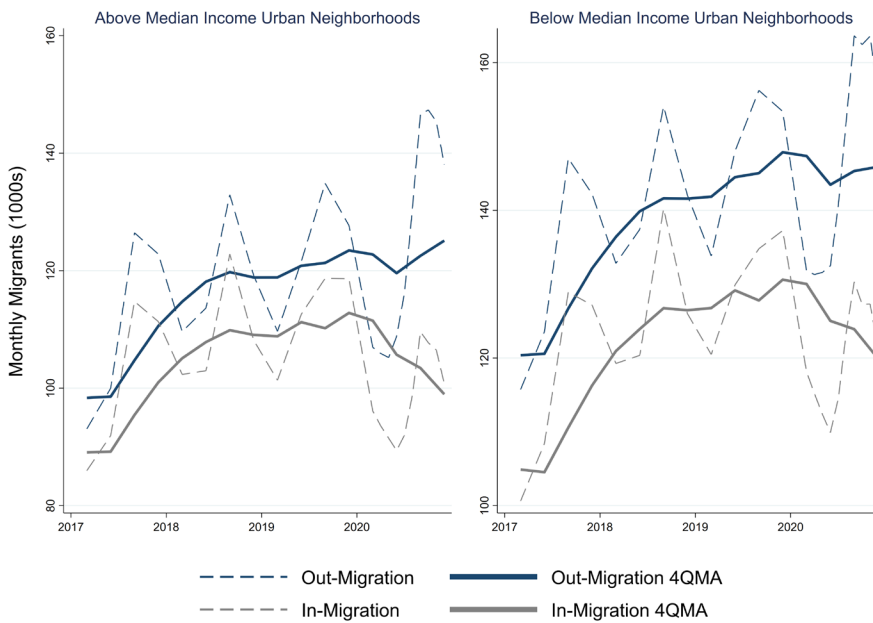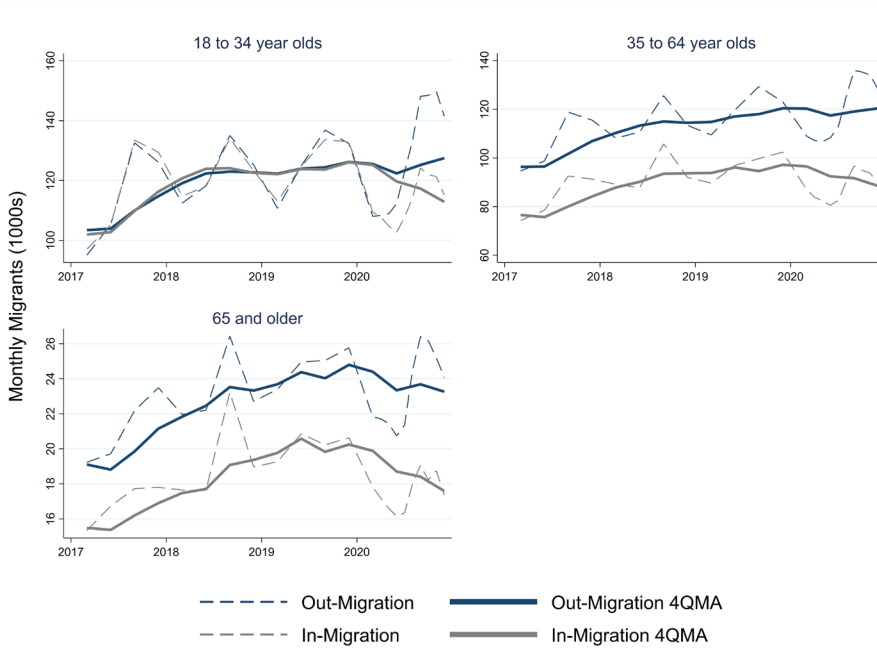

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A1b. Gross Flows into and out of Urban Neighborhoods That Contribute to Net Flows Presented in Figure 3, by Migrant Homeowner Status
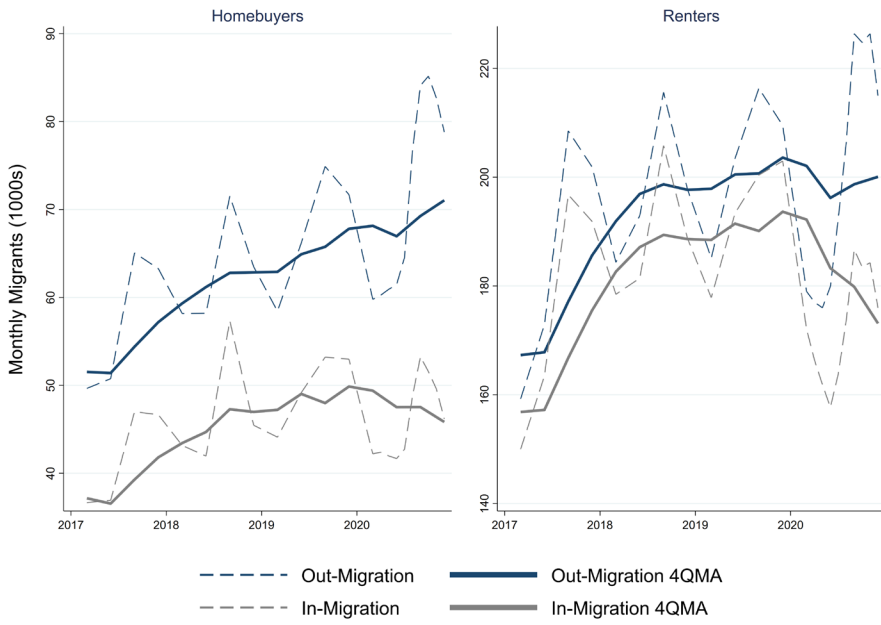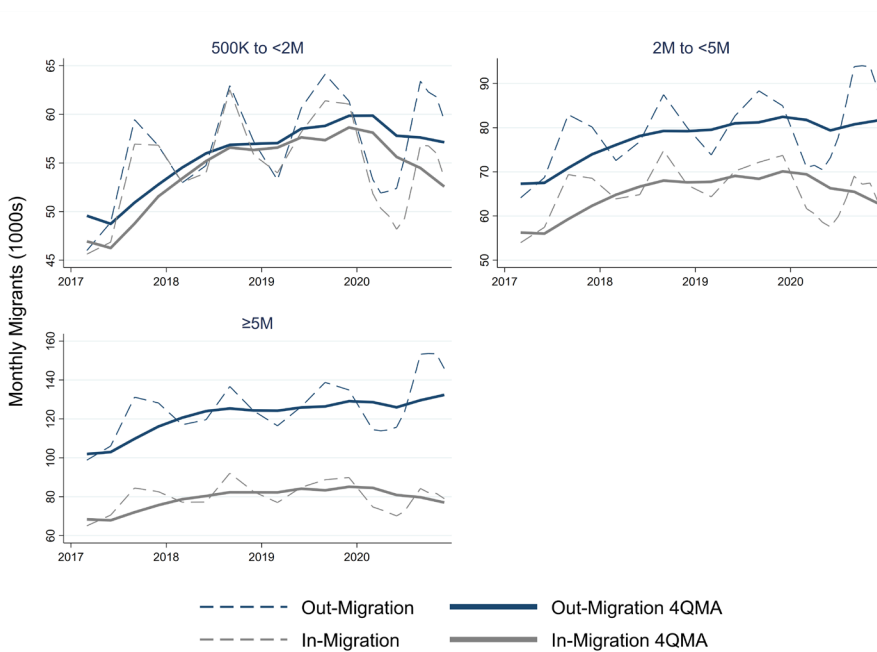

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A1c. Gross Flows into and out of Urban Neighborhoods That Contribute to Net Flows Presented in Figure 3, by Migrant Age
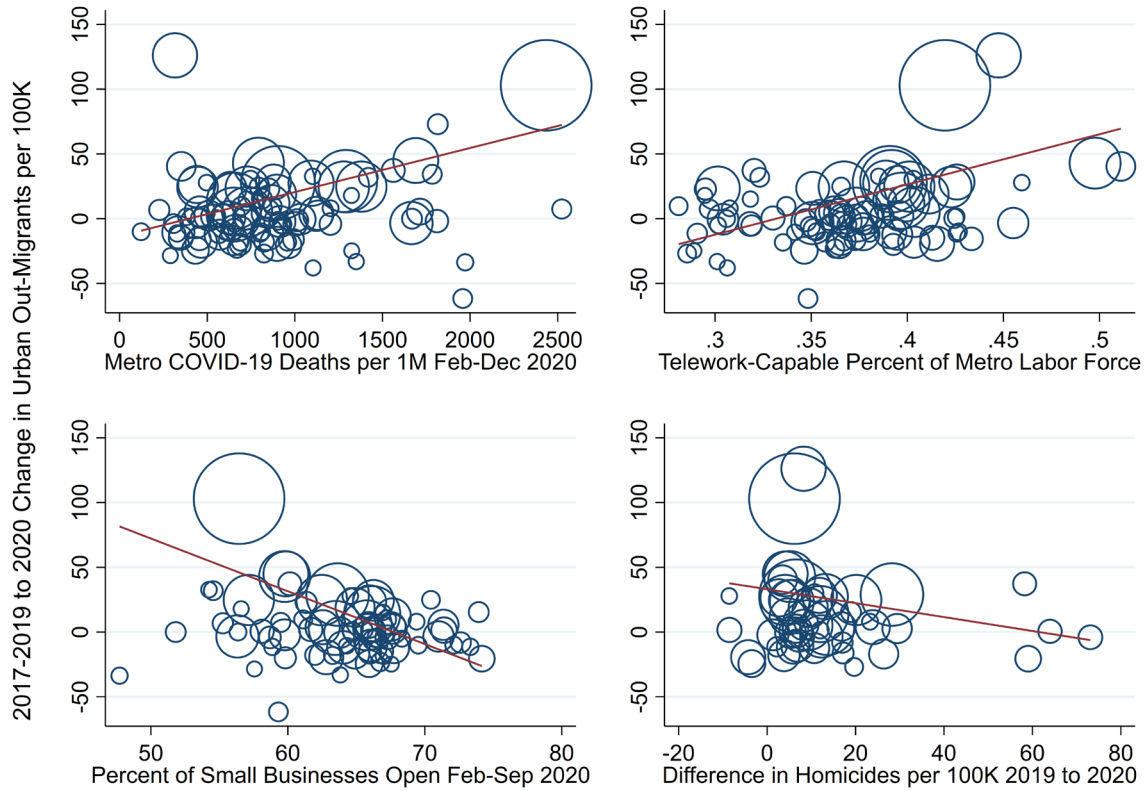

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A1d. Gross Flows into and out of Urban Neighborhoods That Contribute to Net Flows Presented in Figure 3, by Metro Area Population

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.
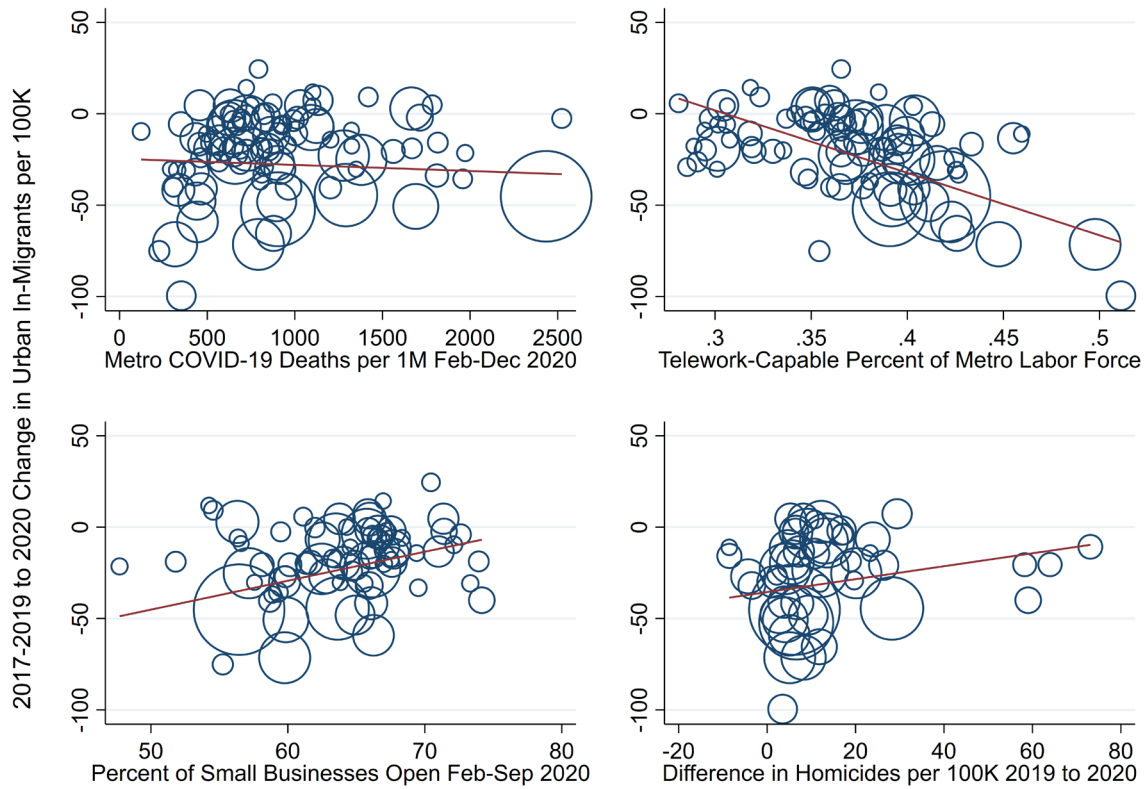
Figure A2. Change in Gross Outflows from Urban Neighborhoods That Contribute to Net Flows Presented in Figure 4

Note: Trend lines are calculated using metro populations as weights. The change is calculated as the difference between the flow in April to December 2020 and the average from the same months in 2017, 2018, and 2019. Marker sizes represent metro populations.

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, Center for Systems Science and Engineering, Dingel and Neiman (2020), Homebase, New York Times, and author's calculations.

Figure A3. Change in Gross Inflows to Urban Neighborhoods That Contribute to Net Flows Presented in Figure 4

Note: The trend lines are calculated using metro populations as weights. The change is calculated as the difference between the flow in April to December 2020 and the average from the same months in 2017, 2018, and 2019. Marker sizes represent metro populations.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, Center for Systems Science and Engineering, Dingel and Neiman (2020), Homebase, *New York Times*, and author's calculations.

Table A2. Change in Gross and Net Outflows from Urban Neighborhoods for Metro Areas with Populations Greater Than 500,000

| Metro Area	Change in Net Flow	Change in Outflow	Change in Inflow
San Francisco–Oakland–Hayward, CA	197	126	-71
New York–Newark–Jersey City, NY–NJ–PA	148	103	-45
San Jose–Sunnyvale–Santa Clara, CA	140	40	-100
Washington–Arlington–Alexandria, DC–VA–MD–WV	114	43	-71
Boston–Cambridge–Newton, MA–NH	96	45	-51
Denver–Aurora–Lakewood, CO	94	28	-65
Bridgeport–Stamford–Norwalk, CT	89	73	-16
Seattle–Tacoma–Bellevue, WA	84	24	-59
Urban Honolulu, HI	82	7	-75
Los Angeles–Long Beach–Anaheim, CA	80	28	-52
San Diego–Carlsbad, CA	74	26	-48
Chicago–Naperville–Elgin, IL–IN–WI	73	29	-45
Minneapolis–St. Paul–Bloomington, MN–WI	67	19	-48
New Orleans–Metairie, LA	58	37	-21
Philadelphia–Camden–Wilmington, PA–NJ–DE–MD	50	25	-25
Miami–Fort Lauderdale–West Palm Beach, FL	48	25	-23
Grand Rapids–Wyoming, MI	43	23	-20
Riverside–San Bernardino–Ontario, CA	43	23	-19
Durham–Chapel Hill, NC	39	28	-11
Dallas–Fort Worth–Arlington, TX	37	14	-23
Oxnard–Thousand Oaks–Ventura, CA	36	-4	-40
Buffalo–Cheektowaga–Niagara Falls, NY	36	-4	-40
Phoenix–Mesa–Scottsdale, AZ	35	27	-8
Omaha–Council Bluffs, NE–IA	34	15	-19
Madison, WI	32	1	-31
Hartford–West Hartford–East Hartford, CT	32	-2	-34
Portland–Vancouver–Hillsboro, OR–WA	31	-10	-42
New Haven–Milford, CT	29	34	5
Pittsburgh, PA	28	-2	-30
Lancaster, PA	27	18	-9
Colorado Springs, CO	26	30	4
Syracuse, NY	25	-11	-37
Albany–Schenectady–Troy, NY	24	0	-24
Tampa–St. Petersburg–Clearwater, FL	24	12	-12
Des Moines–West Des Moines, IA	23	-10	-33
Sacramento–Roseville–Arden–Arcade, CA	23	-18	-41
Allentown–Bethlehem–Easton, PA–NJ	23	32	9

Table A2. Change in Gross and Net Outflows from Urban Neighborhoods for Metro Areas with Populations Greater Than 500,000

Metro Area	Change in Net Flow	Change in Outflow	Change in Inflow
Toledo, OH	22	8	-14
Columbus, OH	21	2	-19
Richmond, VA	21	2	-19
Louisville/Jefferson County, KY–IN	21	1	-21
Harrisburg–Carlisle, PA	21	33	12
Milwaukee–Waukesha–West Allis, WI	19	-21	-40
Provo–Orem, UT	19	-11	-31
Orlando–Kissimmee–Sanford, FL	19	23	4
Worcester, MA–CT	19	0	-19
Oklahoma City, OK	17	2	-16
Bakersfield, CA	15	-11	-26
Fresno, CA	13	-5	-18
Charleston–North Charleston, SC	12	10	-3
Houston–The Woodlands–Sugar Land, TX	10	3	-7
St. Louis, MO–IL	10	4	-7
McAllen–Edinburg–Mission, TX	10	7	-3
Austin–Round Rock, TX	10	-3	-13
Atlanta–Sandy Springs–Roswell, GA	9	5	-4
Little Rock–North Little Rock–Conway, AR	8	-2	-10
San Antonio–New Braunfels, TX	8	-12	-20
Virginia Beach–Norfolk–Newport News, VA–NC	8	-24	-32
Providence–Warwick, RI–MA	7	5	-2
Baltimore–Columbia–Towson, MD	7	-19	-27
Rochester, NY	7	-20	-27
Memphis, TN–MS–AR	7	-4	-11
Nashville–Davidson–Murfreesboro–Franklin, TN	6	4	-2
Winston–Salem, NC	6	0	-6
Cleveland–Elyria, OH	4	-17	-21
Cape Coral–Fort Myers, FL	4	10	6
Jacksonville, FL	4	1	-2
Charlotte–Concord–Gastonia, NC–SC	4	1	-3
Stockton–Lodi, CA	2	-27	-29
Kansas City, MO–KS	2	-12	-14
Wichita, KS	2	-18	-20
Columbia, SC	2	-4	-6
Portland–South Portland, ME	2	-29	-30
Salt Lake City, UT	1	-16	-17
Birmingham–Hoover, AL	1	-1	-2

Table A2. Change in Gross and Net Outflows from Urban Neighborhoods for Metro Areas with Populations Greater Than 500,000

Metro Area	Change in Net Flow	Change in Outflow	Change in Inflow
Cincinnati, OH–KY–IN	1	6	5
Chattanooga, TN–GA	1	15	14
Augusta–Richmond County, GA–SC	1	-5	-6
Boise City, ID	0	25	25
Ogden–Clearfield, UT	0	-10	-10
Akron, OH	-1	-18	-17
Knoxville, TN	-2	-6	-5
Scranton–Wilkes-Barre–Hazleton, PA	-3	-33	-30
Tulsa, OK	-4	-8	-4
Indianapolis–Carmel–Anderson, IN	-5	3	7
Las Vegas–Henderson–Paradise, NV	-5	0	5
Detroit–Warren–Dearborn, MI	-6	-3	3
Youngstown–Warren–Boardman, OH–PA	-7	-25	-18
Raleigh, NC	-9	-15	-6
Spokane–Spokane Valley, WA	-11	-11	0
Springfield, MA	-12	-34	-21
Tucson, AZ	-12	-16	-4
Dayton, OH	-16	-23	-7
Albuquerque, NM	-18	-18	0
El Paso, TX	-26	-62	-36
Modesto, CA	-42	-38	4

Note: Units are migrants per 100,000 metro area residents. Change is calculated as the difference between the flow in April to December 2020 from the average from the same months in 2017, 2018, and 2019. Changes in the outflow and inflow may not sum to the change in the net flow because of rounding.
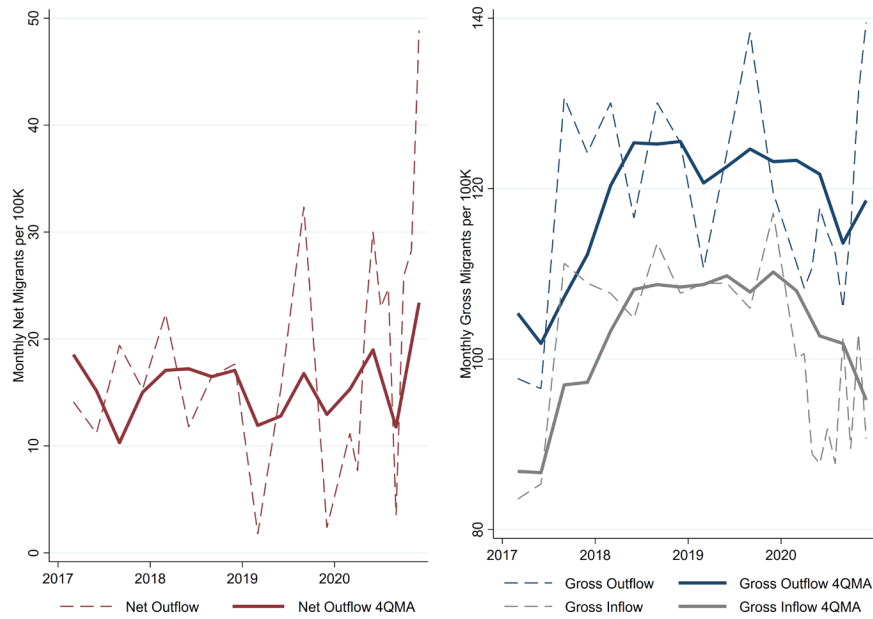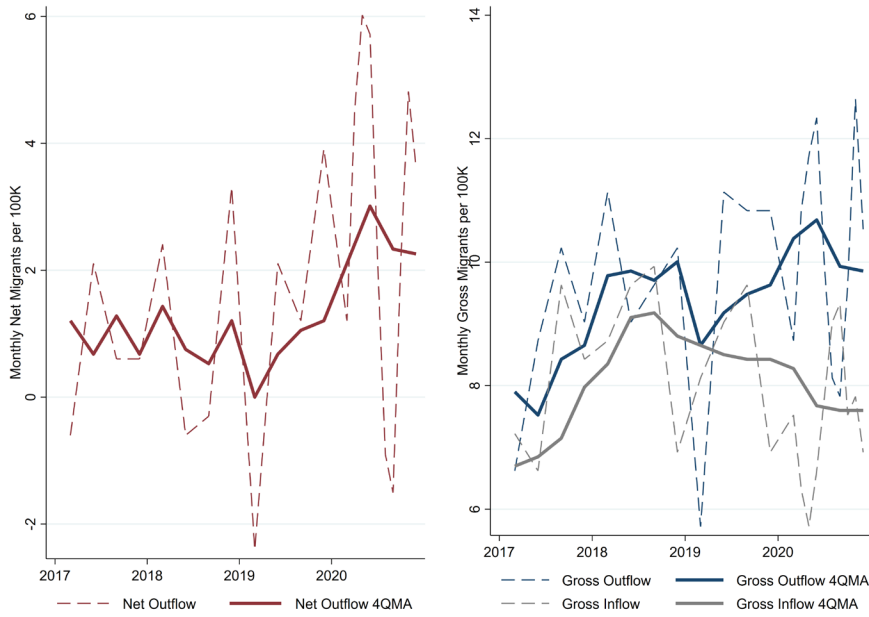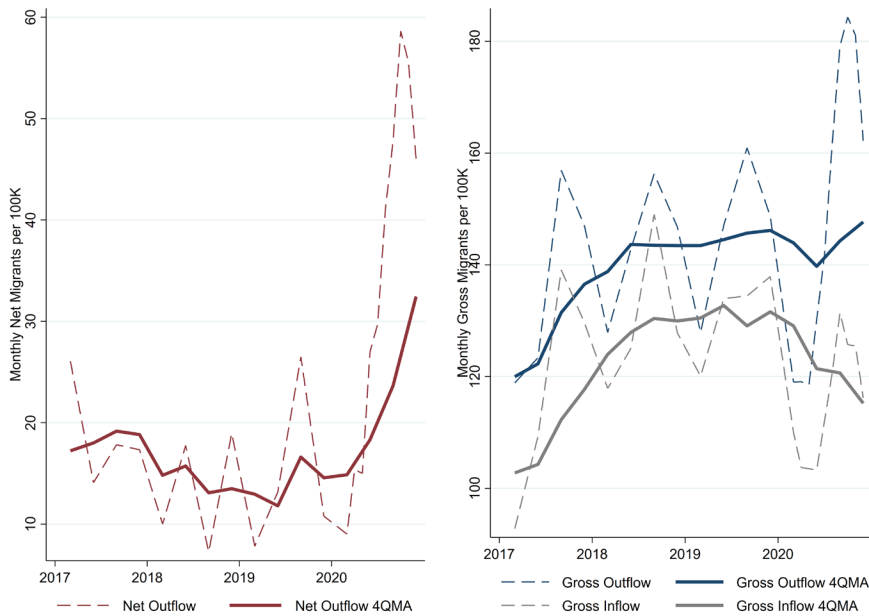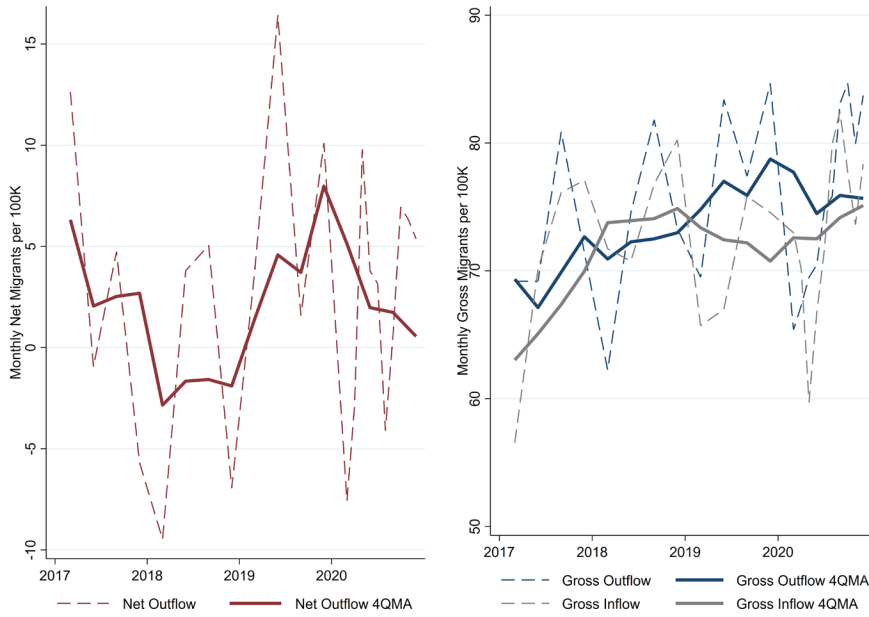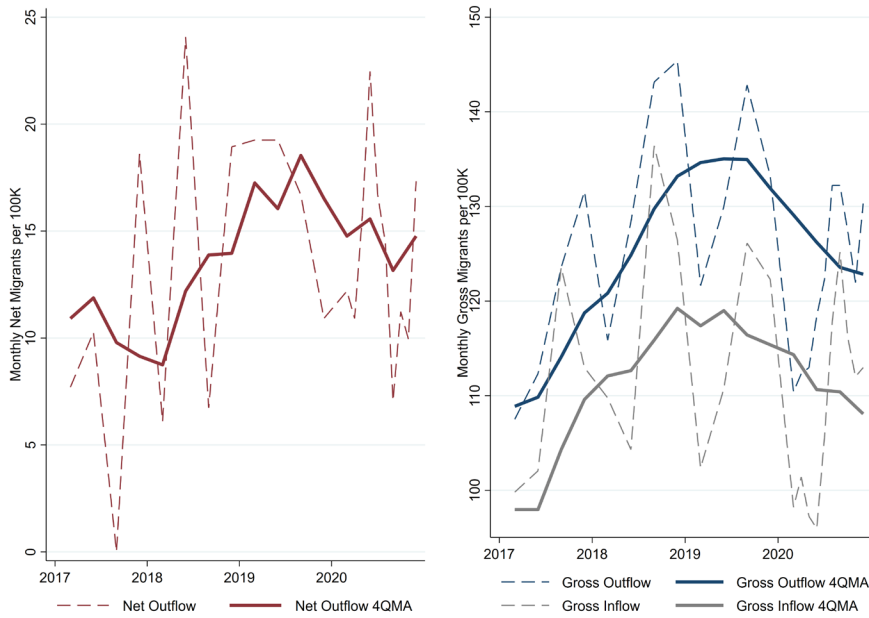
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A4. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Atlanta–Sandy Springs–Roswell, GA
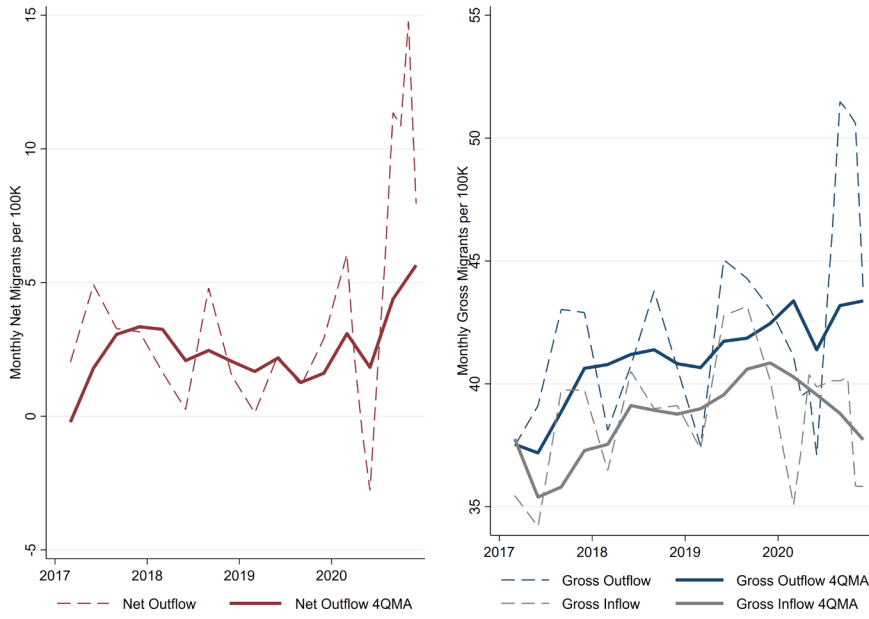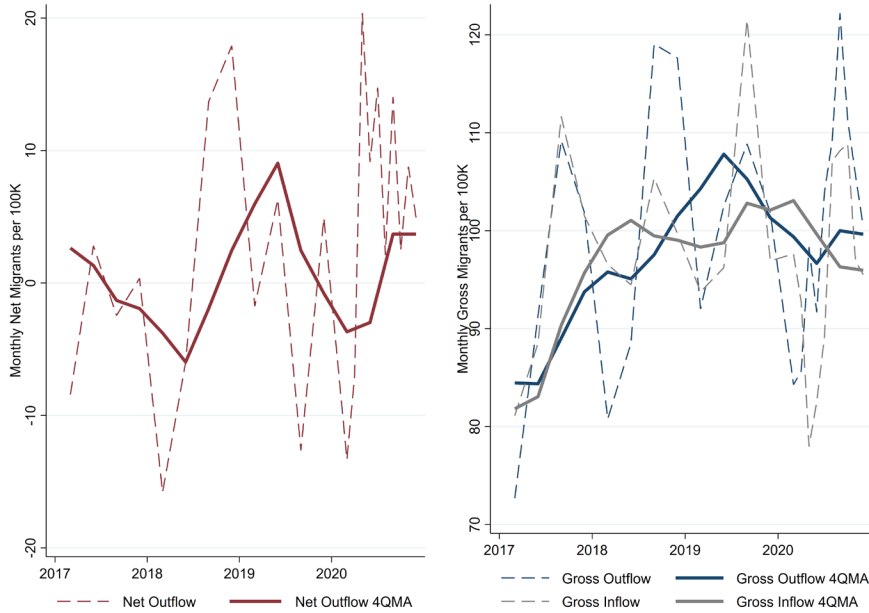

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A5. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Austin–Round Rock, TX
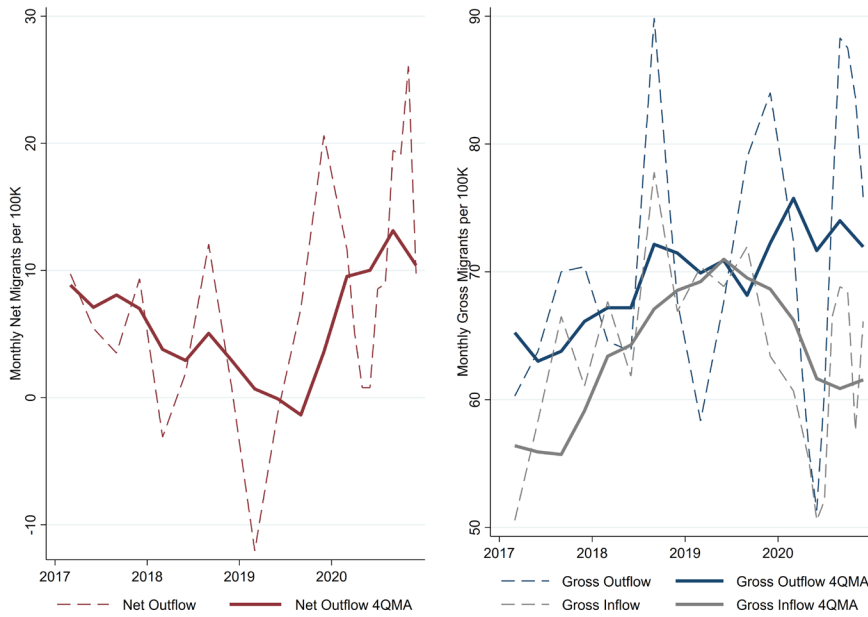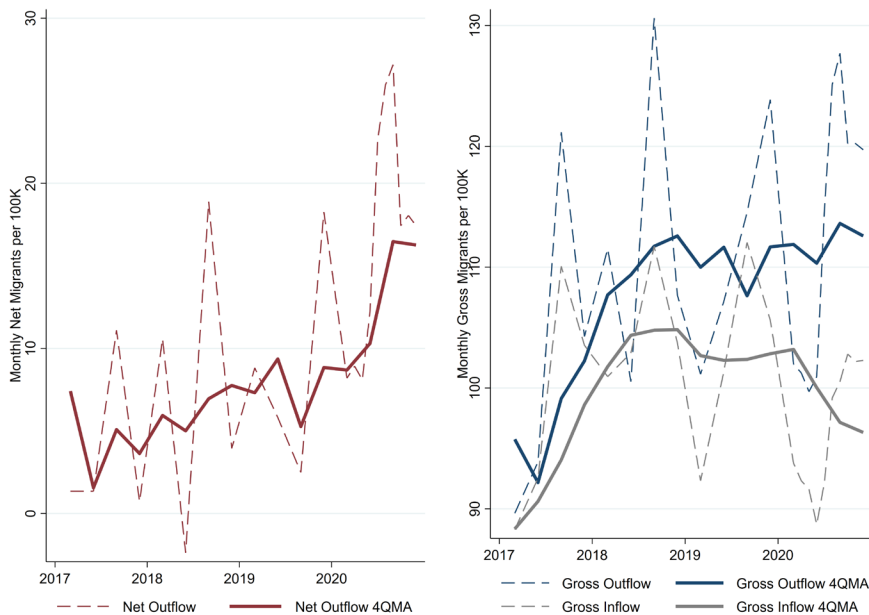

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A6. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Baltimore–Columbia–Towson, MD
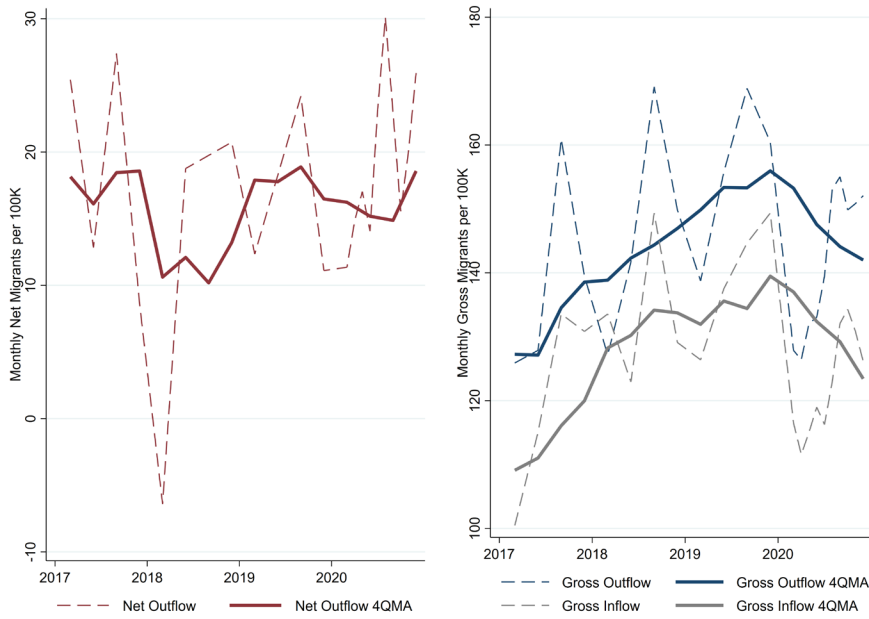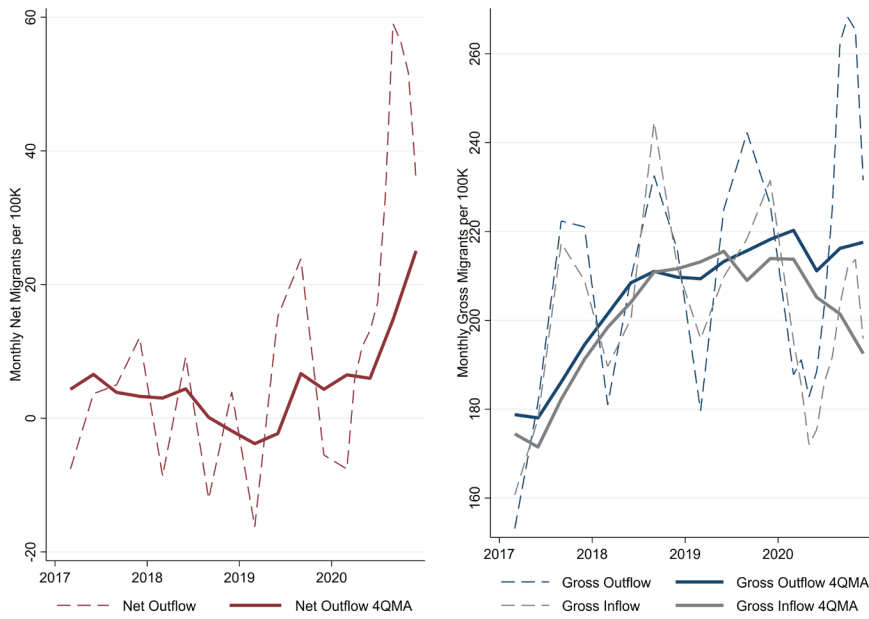

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A7. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Birmingham–Hoover, AL
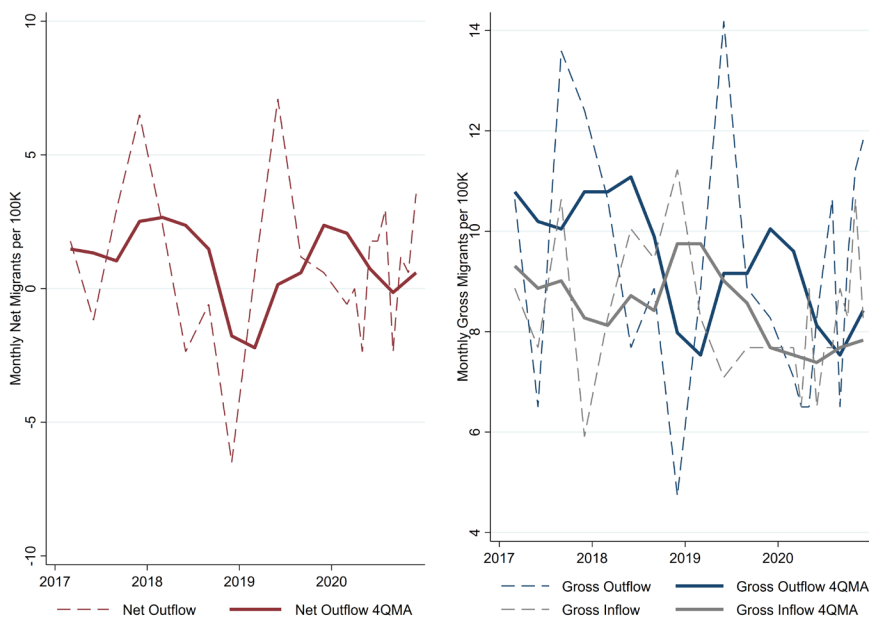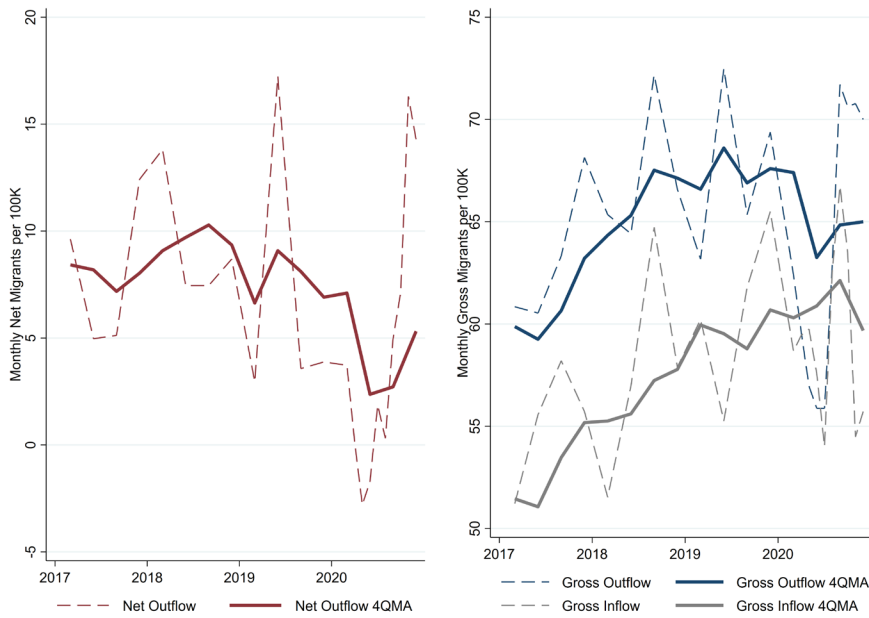

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A8. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Boston–Cambridge–Newton, MA–NH
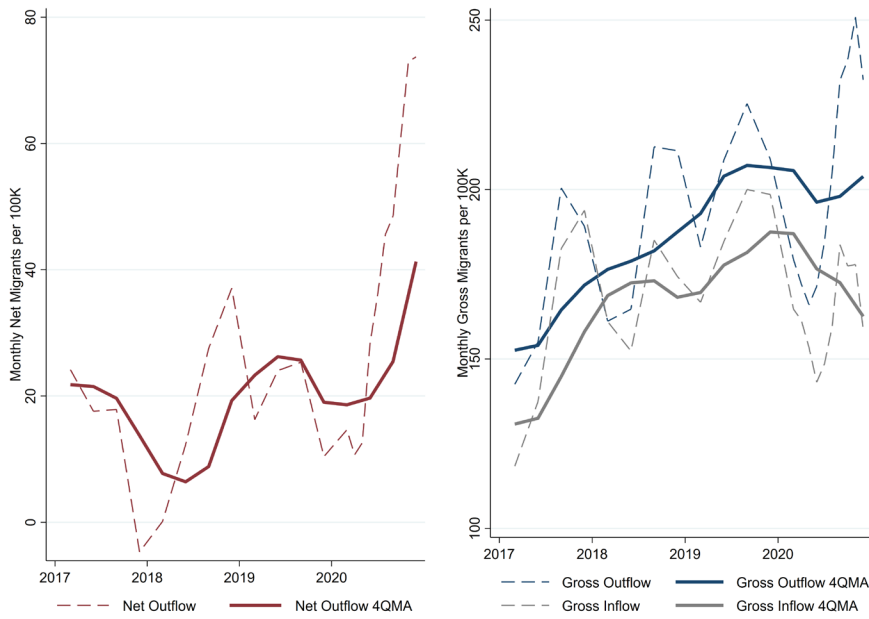
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A9. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Buffalo–Cheektowaga–Niagara Falls, NY
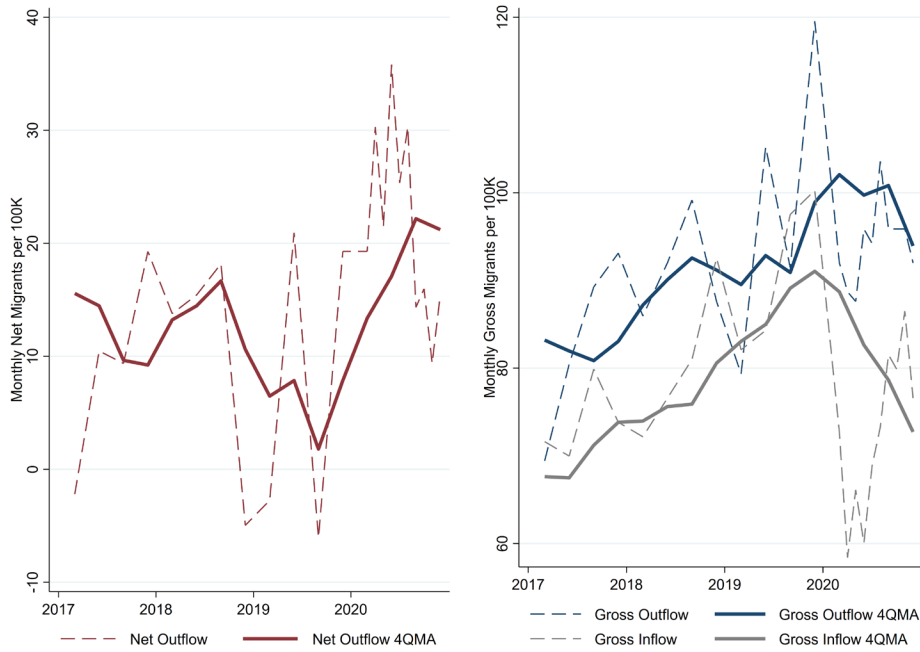

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A10. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Charlotte–Concord–Gastonia, NC–SC
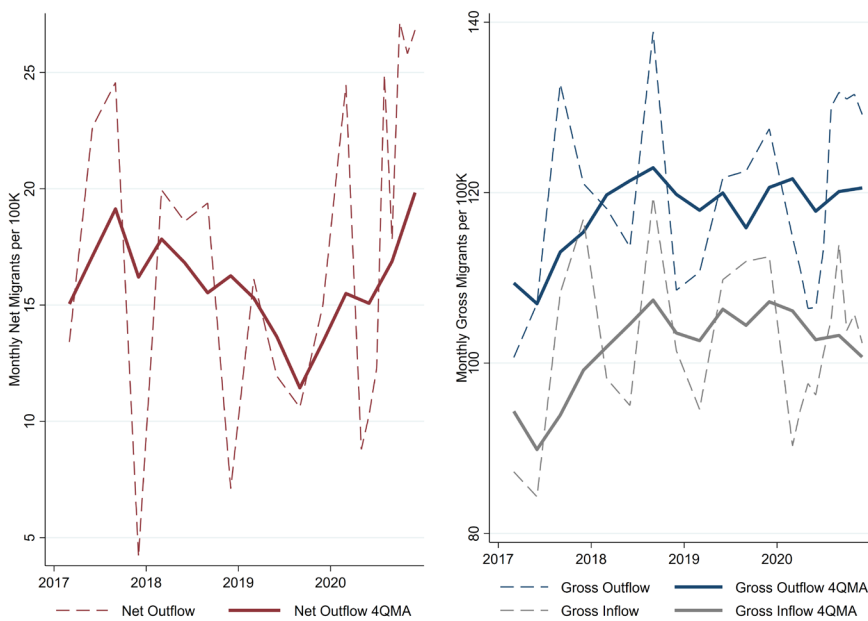

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A11. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Chicago–Naperville–Elgin, IL–IN–WI
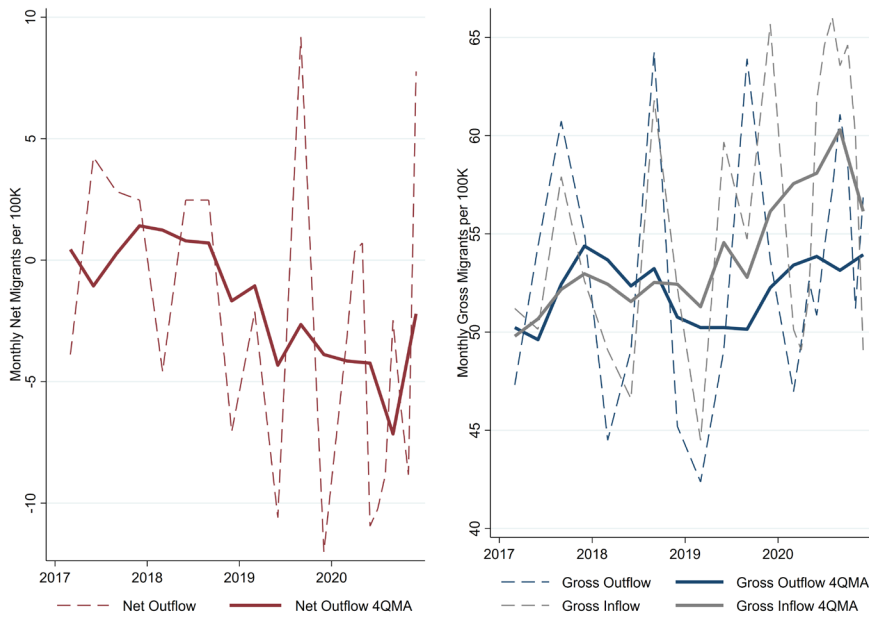

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A12. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Cincinnati, OH–KY–IN
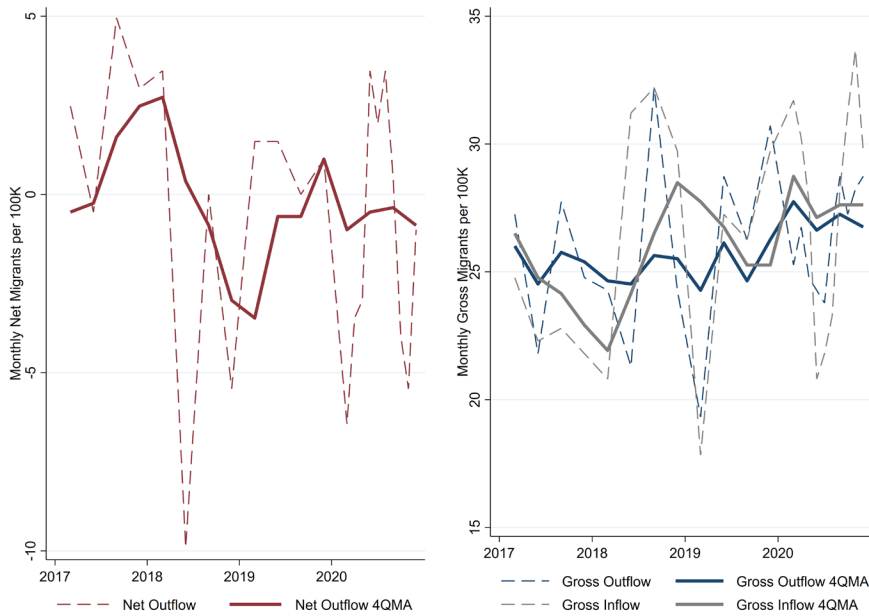

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A13. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Cleveland–Elyria, OH

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A14. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Columbus, OH
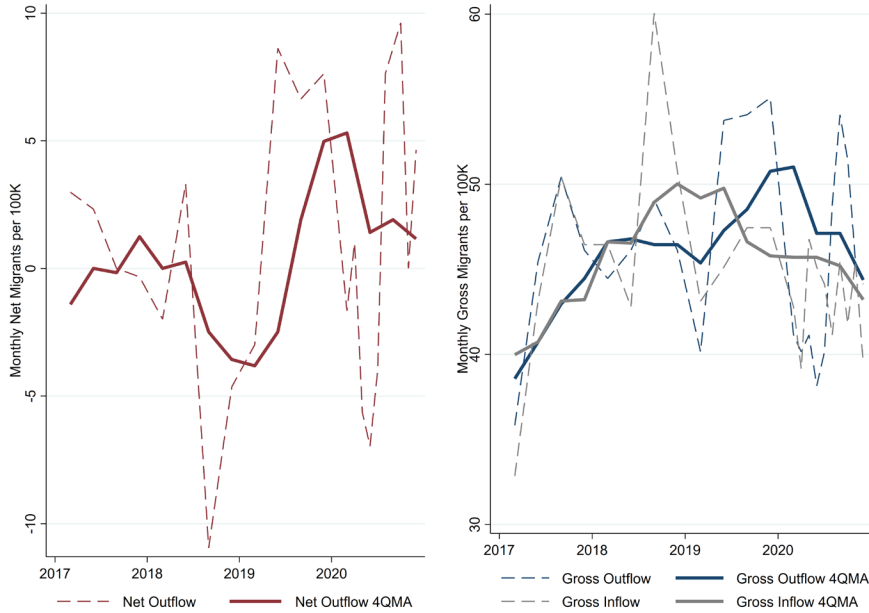

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A15. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Dallas–Fort Worth–Arlington, TX
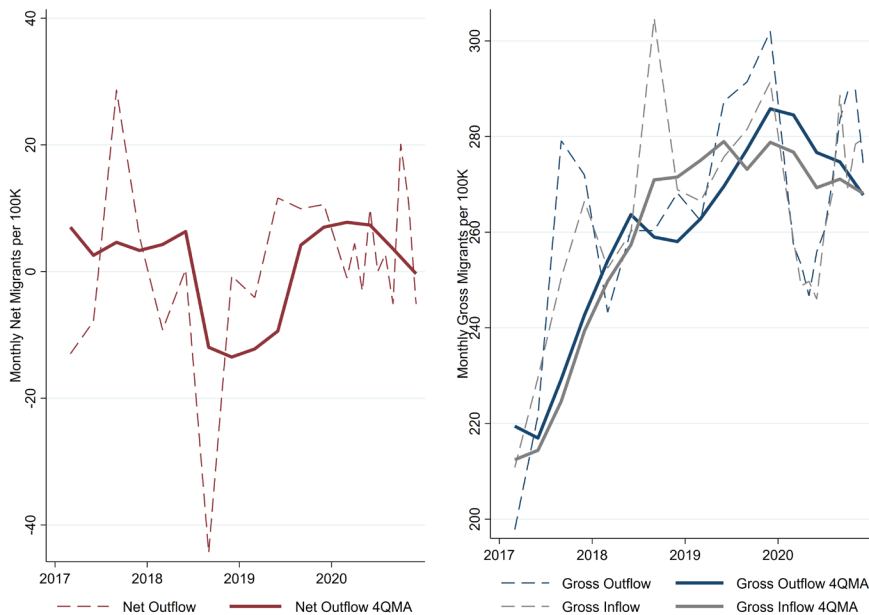

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A16. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Denver–Aurora–Lakewood, CO
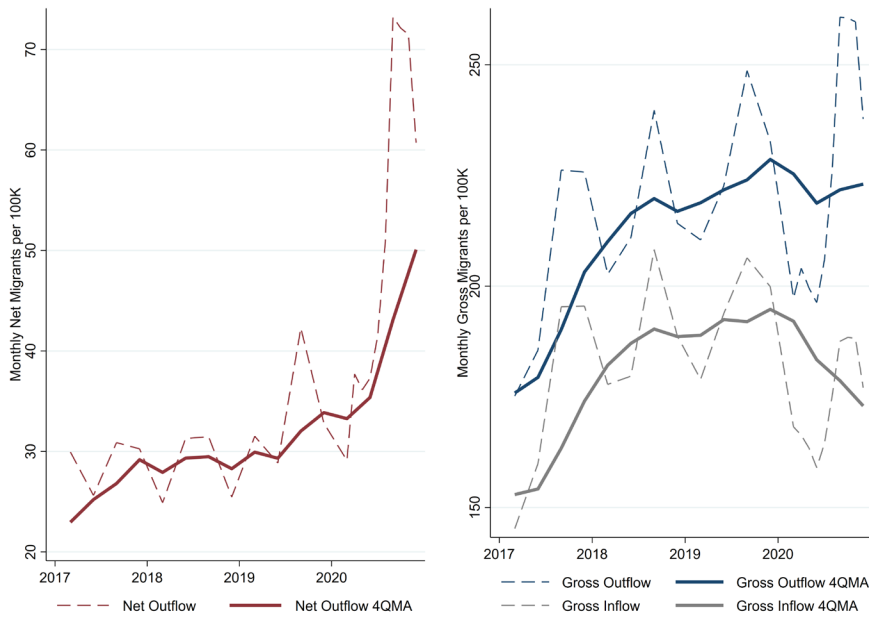

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A17. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Detroit–Warren–Dearborn, MI
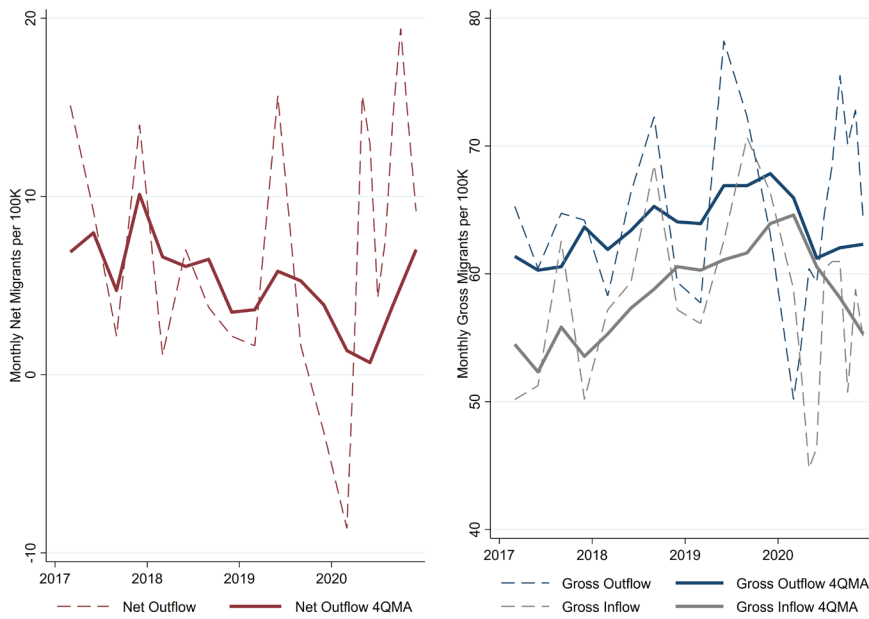

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A18. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Hartford–West Hartford–East Hartford, CT
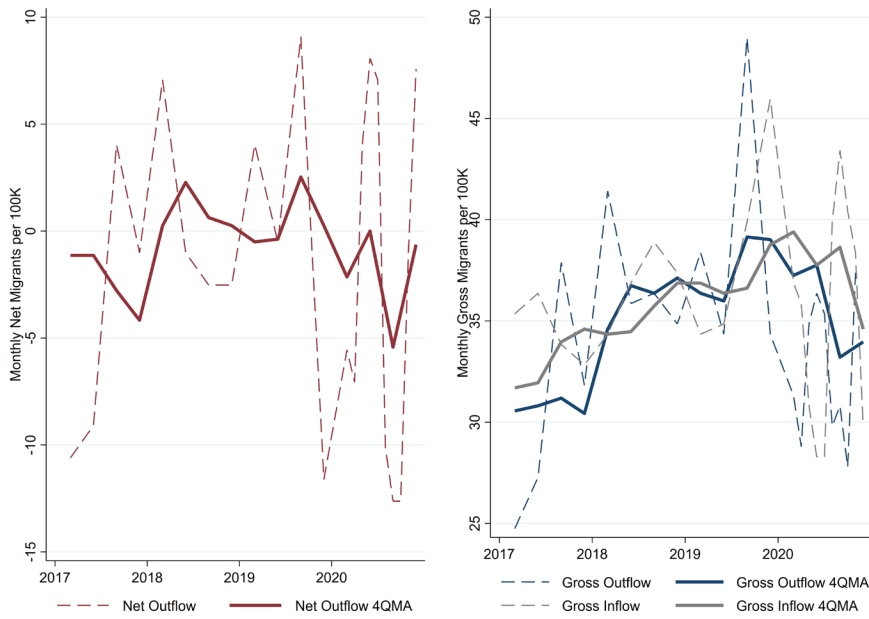

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A19. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Houston–The Woodlands–Sugar Land, TX

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations

Figure A20. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Indianapolis–Carmel–Anderson, IN
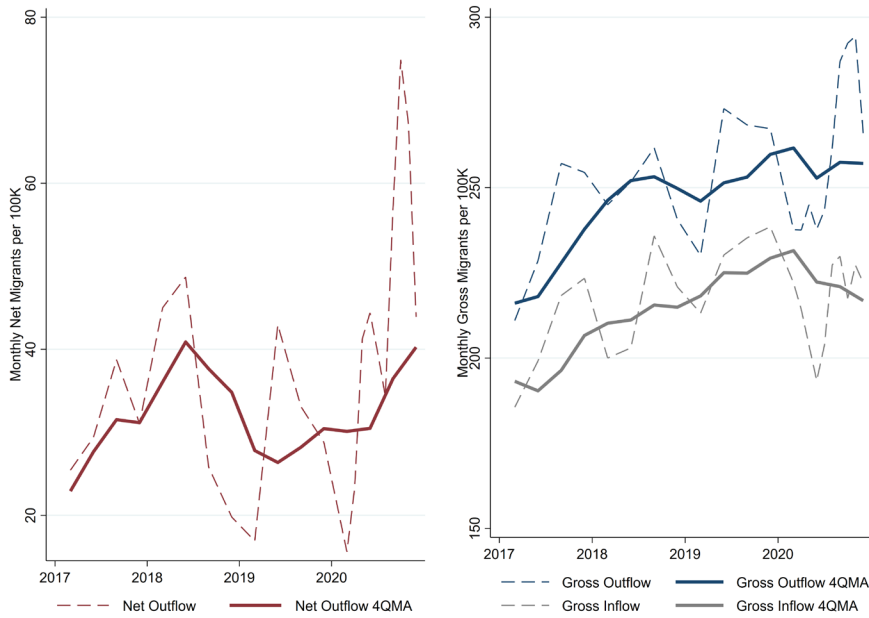

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A21. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Jacksonville, FL
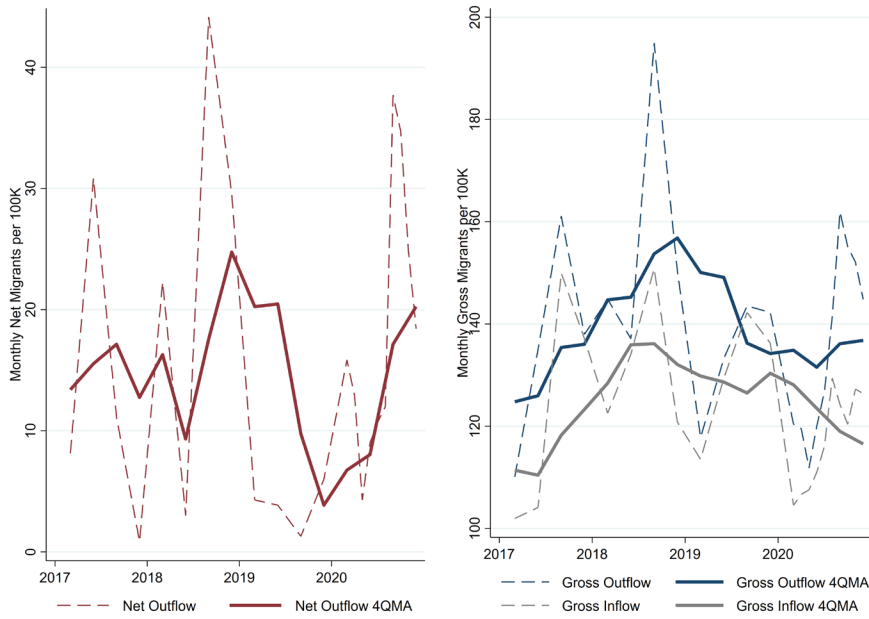

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

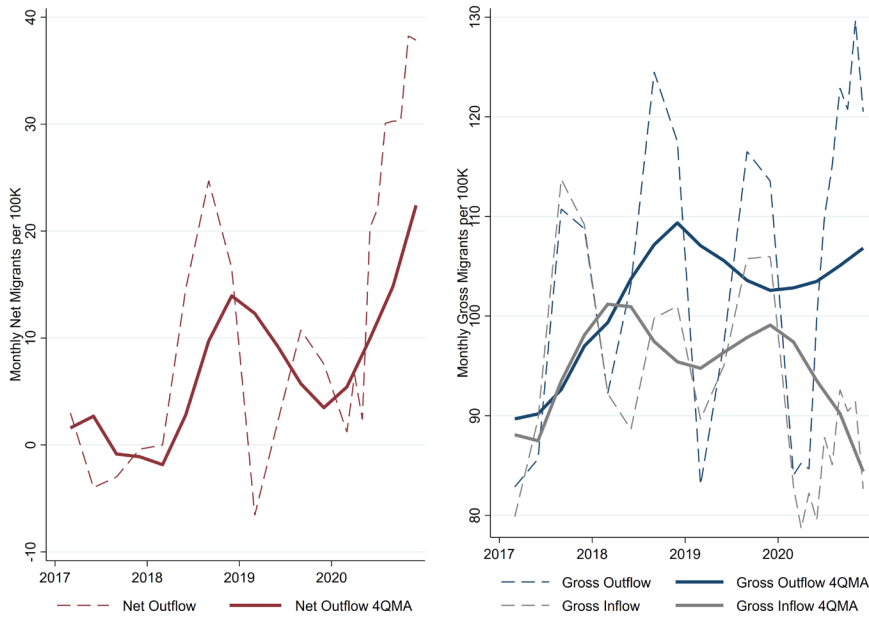**Figure A22. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Kansas City, MO–KS**

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A23. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Las Vegas–Henderson–Paradise, NV
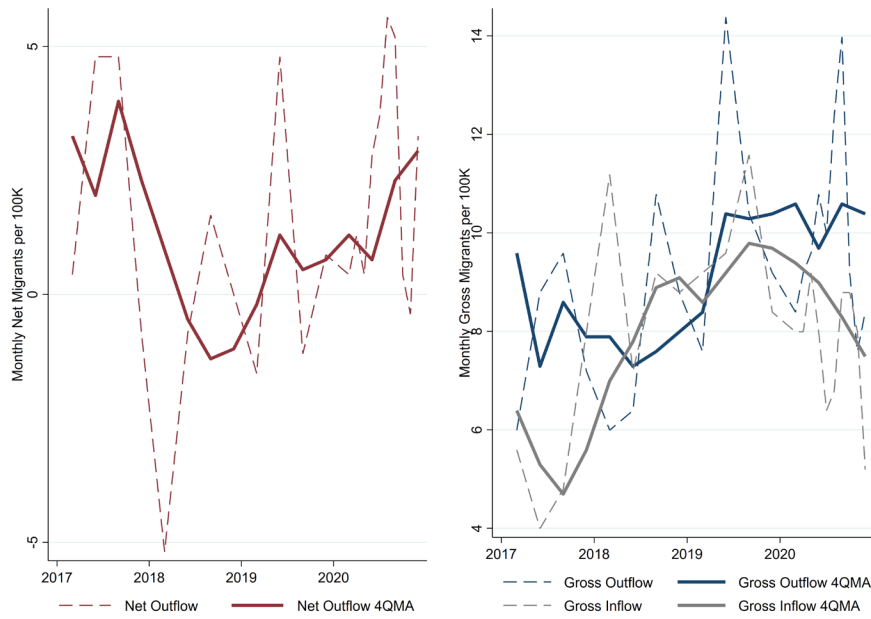

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A24. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Los Angeles–Long Beach–Anaheim, CA

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A25. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Louisville/Jefferson County, KY–IN
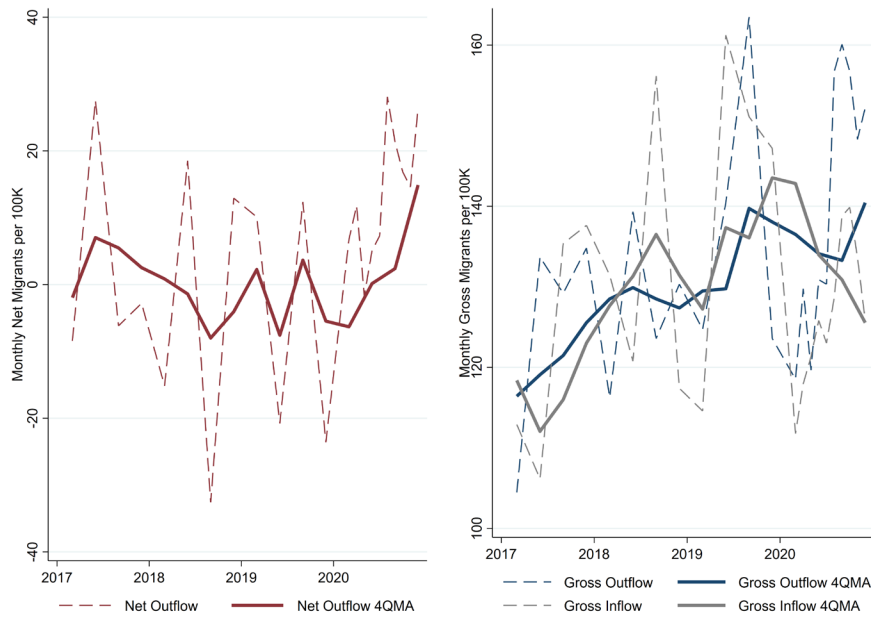

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

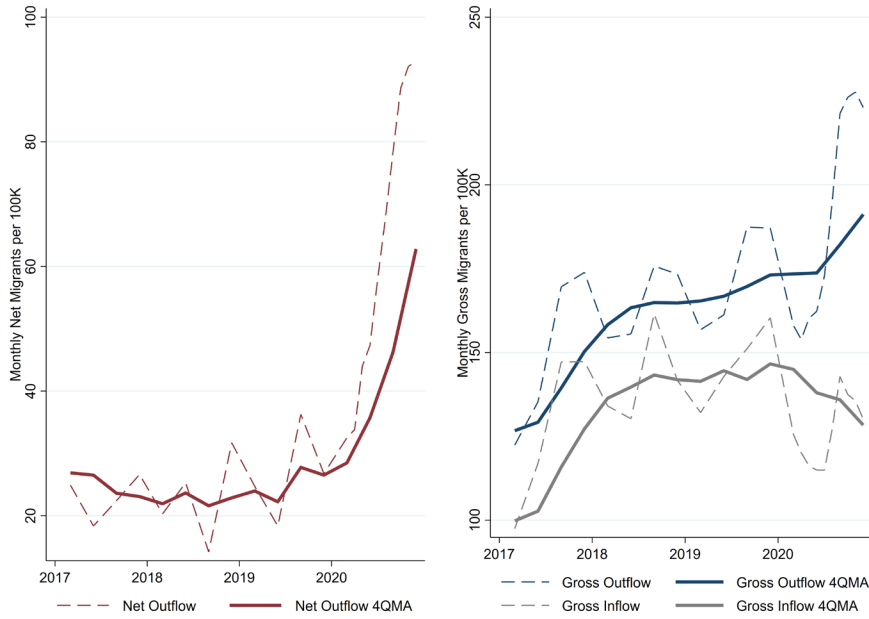**Figure A26. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Memphis, TN–MS–AR**

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A27. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Miami–Fort Lauderdale–West Palm Beach, FL
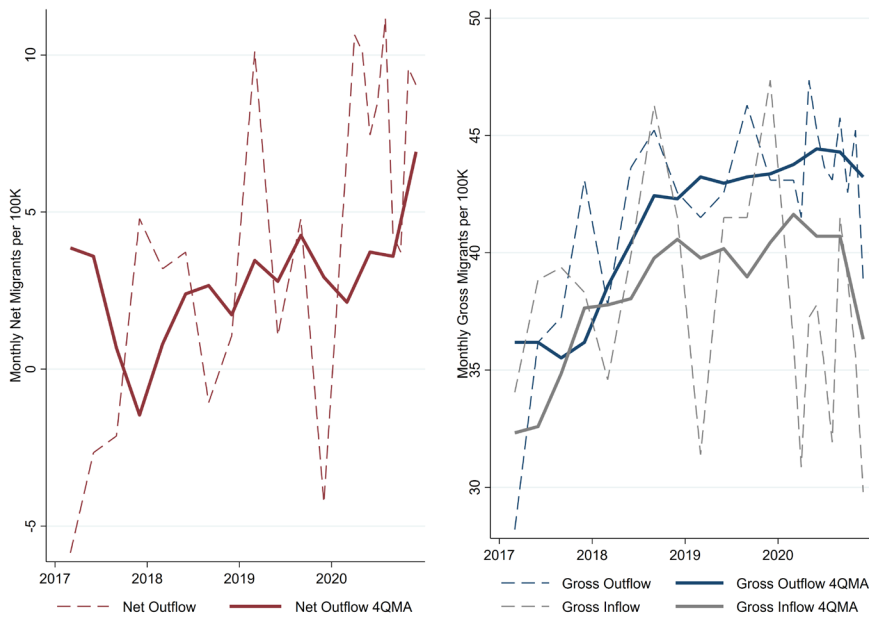

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A28. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Milwaukee–Waukesha–West Allis, WI
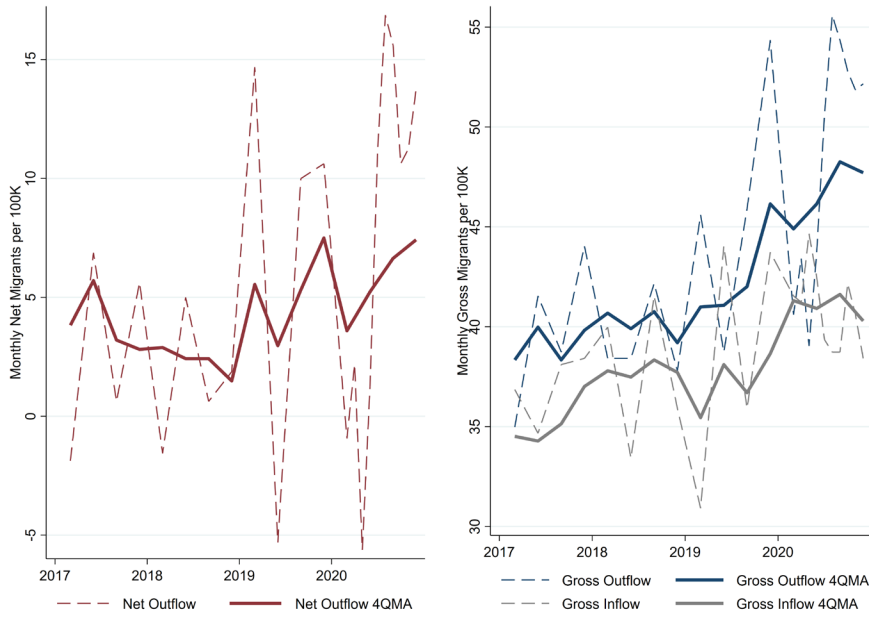

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A29. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Minneapolis–St. Paul–Bloomington, MN–WI
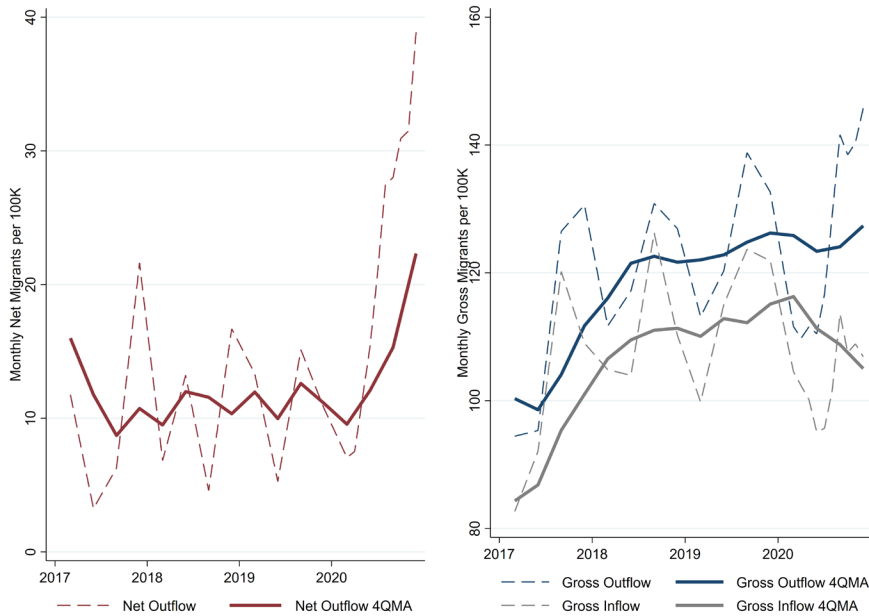

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A30. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Nashville–Davidson–Murfreesboro–Franklin, TN

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A31. Estimated Gross and Net Migration into and out of Urban Neighborhoods: New Orleans–Metairie, LA
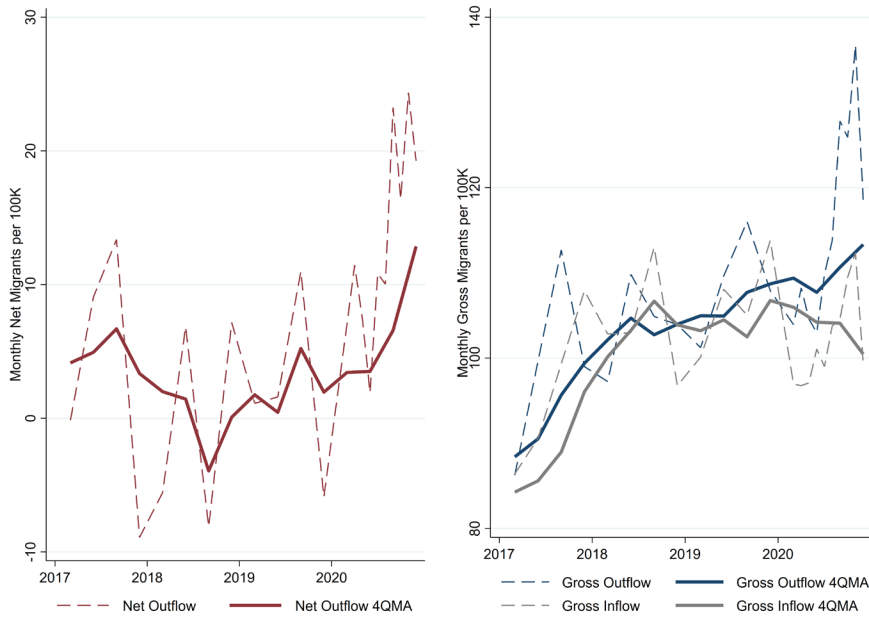

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A32. Estimated Gross and Net Migration into and out of Urban Neighborhoods: New York–Newark–Jersey City, NY–NJ–PA

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A33. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Oklahoma City, OK

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A34. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Orlando–Kissimmee–Sanford, FL

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A35. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Philadelphia–Camden–Wilmington, PA–NJ–DE–MD
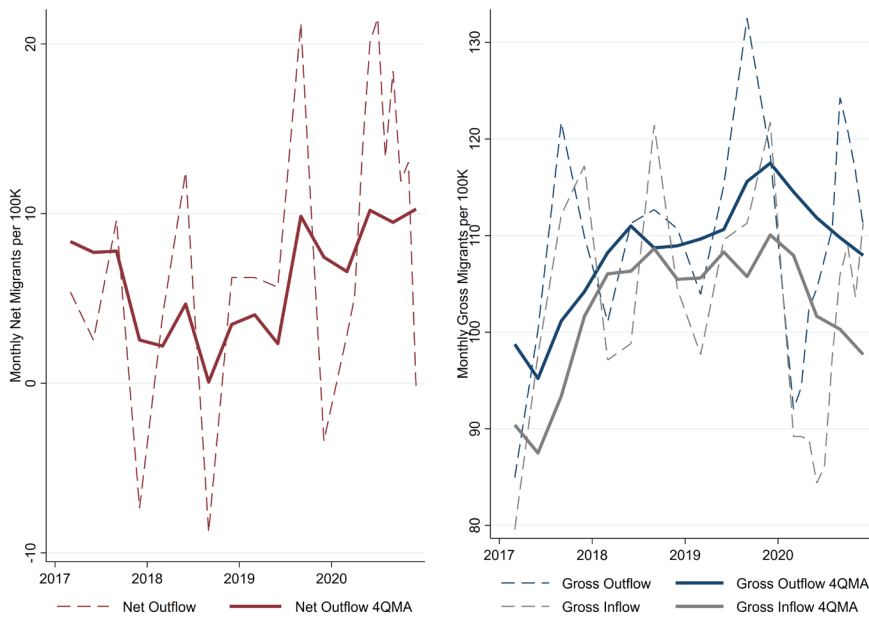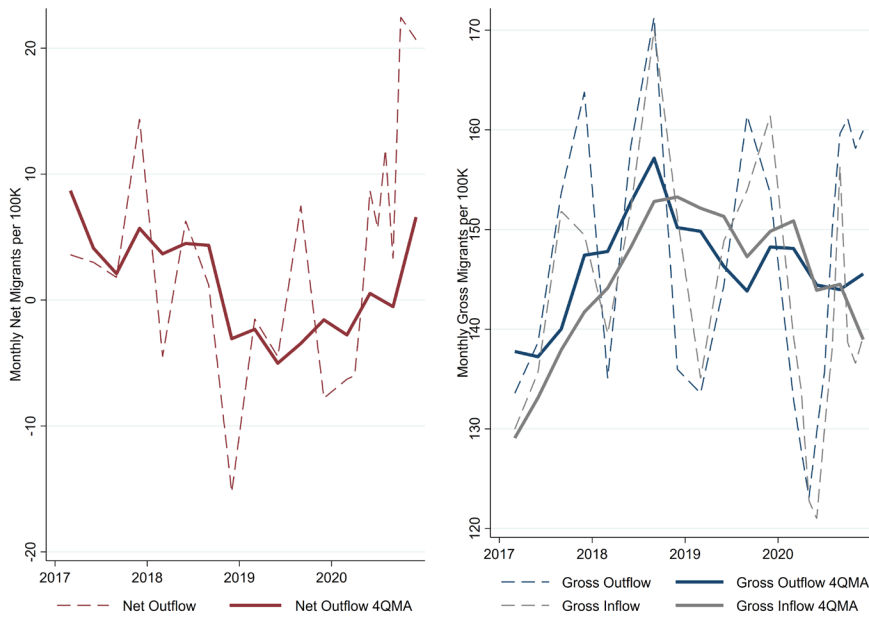

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A36. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Phoenix–Mesa–Scottsdale, AZ

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

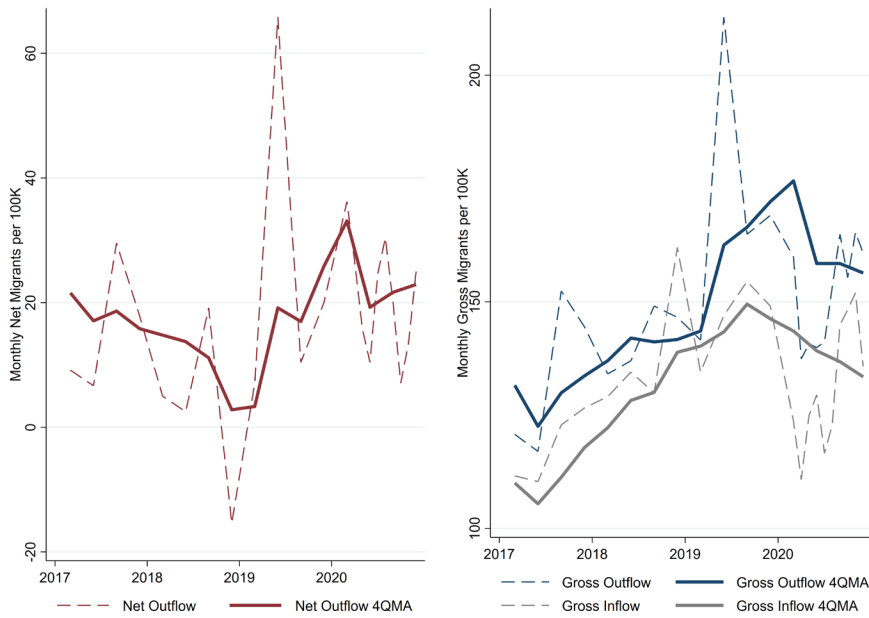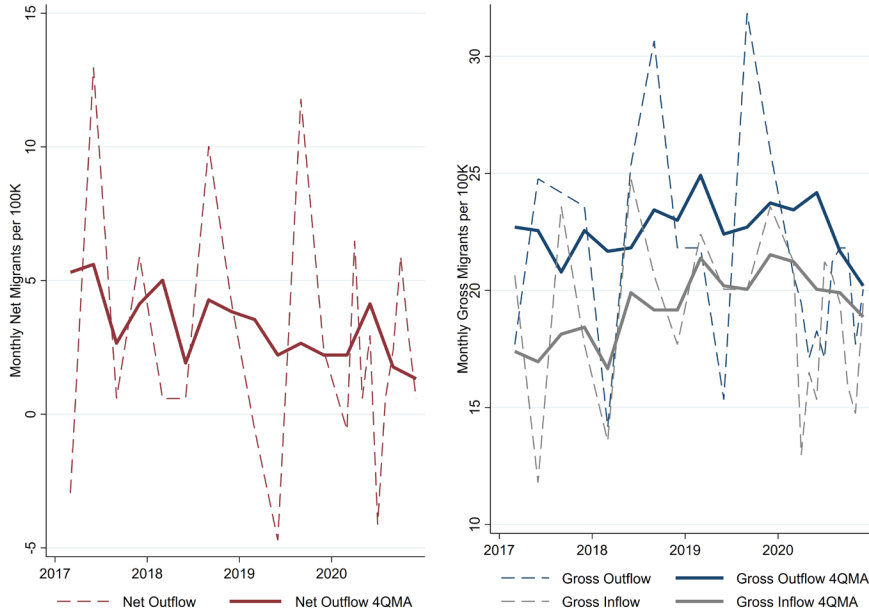**Figure A37. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Pittsburgh, PA**

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A38. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Portland–Vancouver–Hillsboro, OR–WA

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A39. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Providence–Warwick, RI–MA
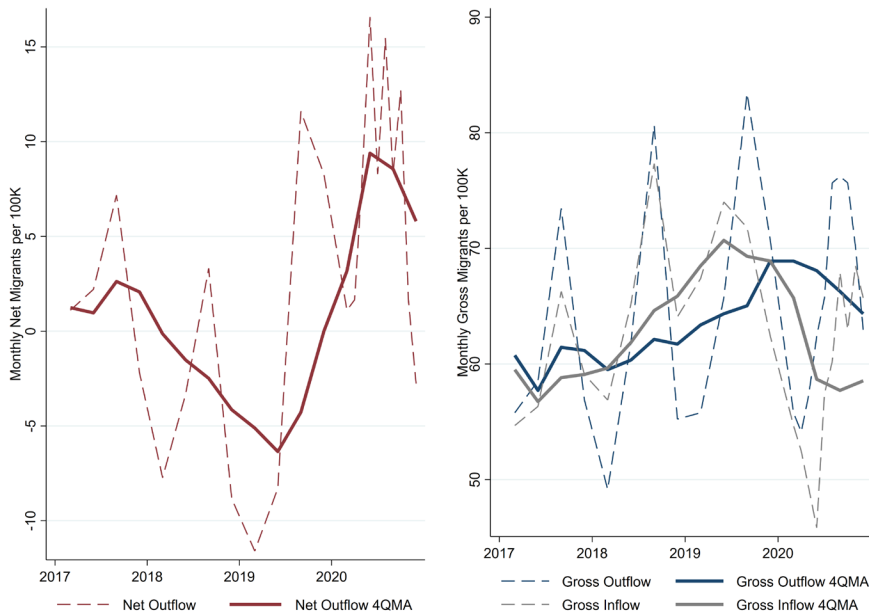

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A40. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Raleigh, NC
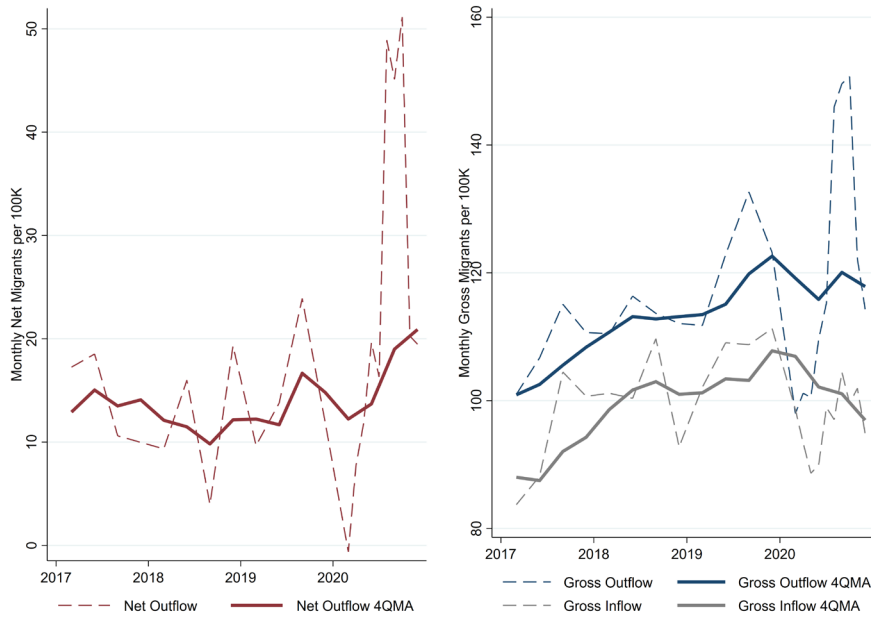

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

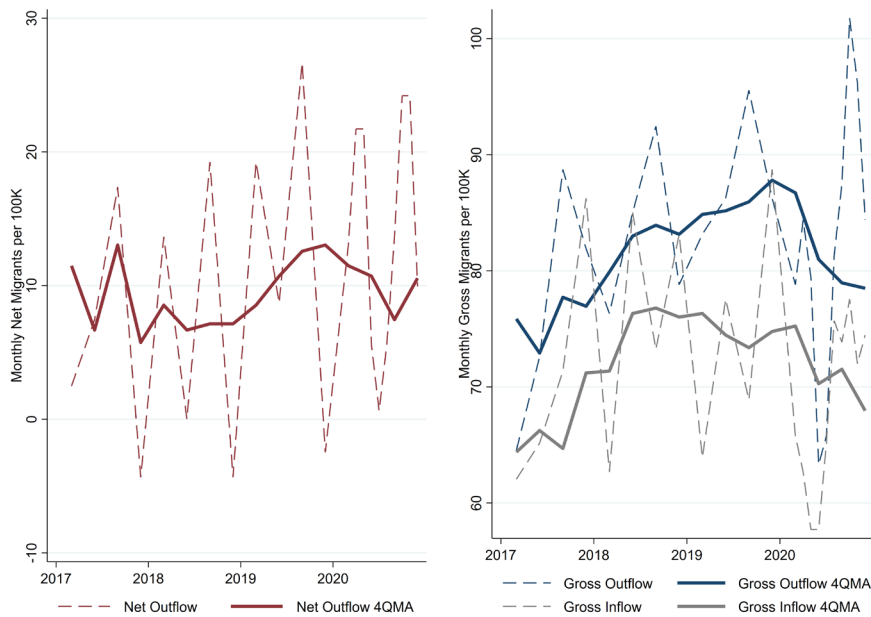**Figure A41. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Richmond, VA**

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A42. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Riverside–San Bernardino–Ontario, CA
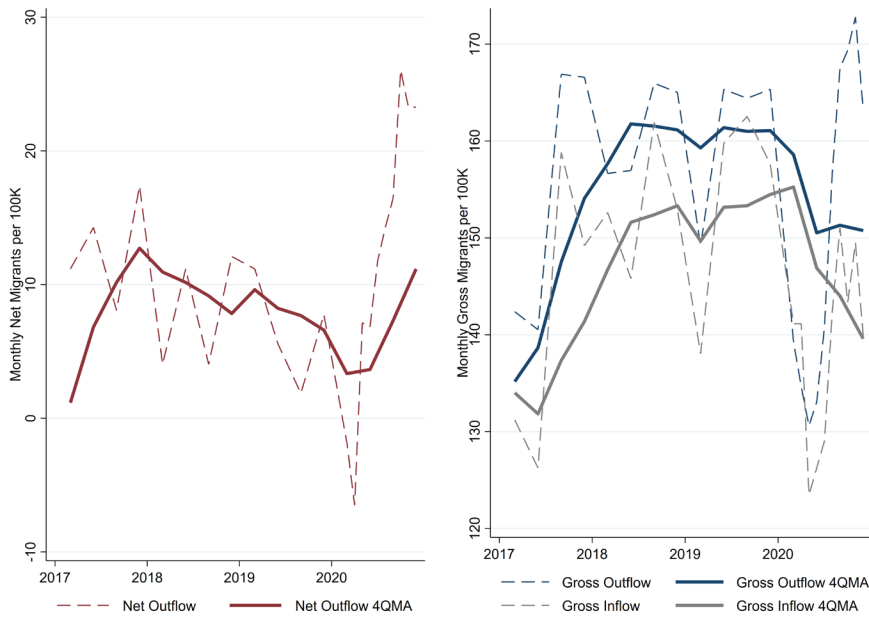

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A43. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Rochester, NY
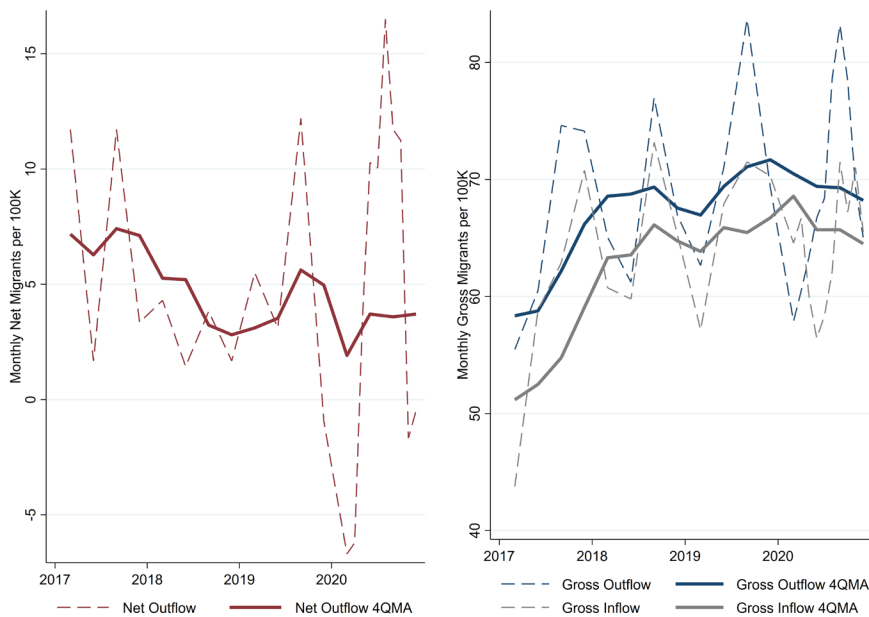

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A44. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Sacramento–Roseville–Arden–Arcade, CA
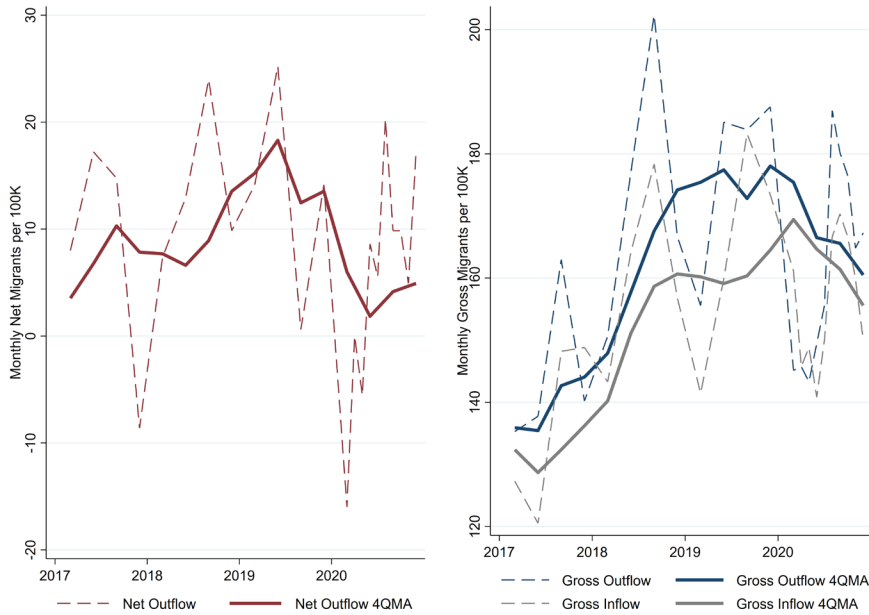

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A45. Estimated Gross and Net Migration into and out of Urban Neighborhoods: St. Louis, MO–IL
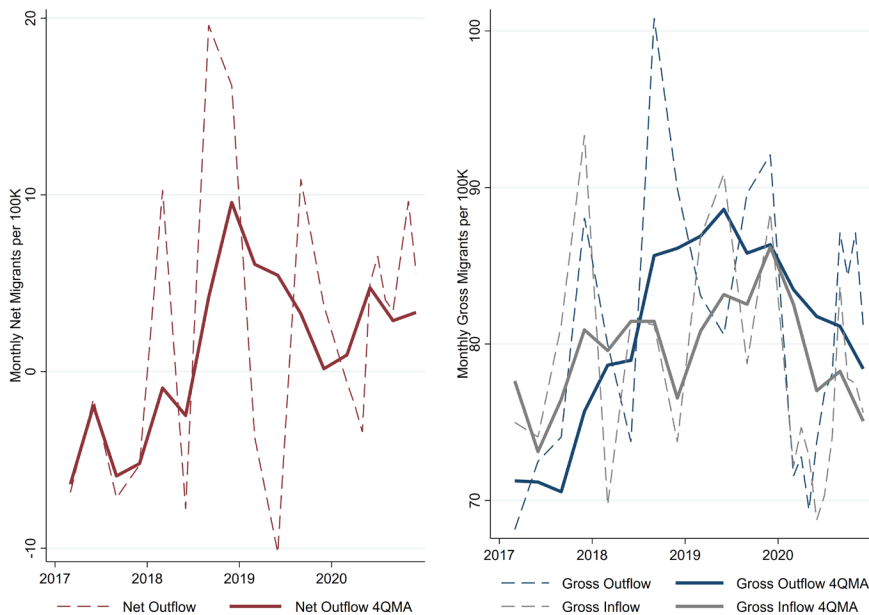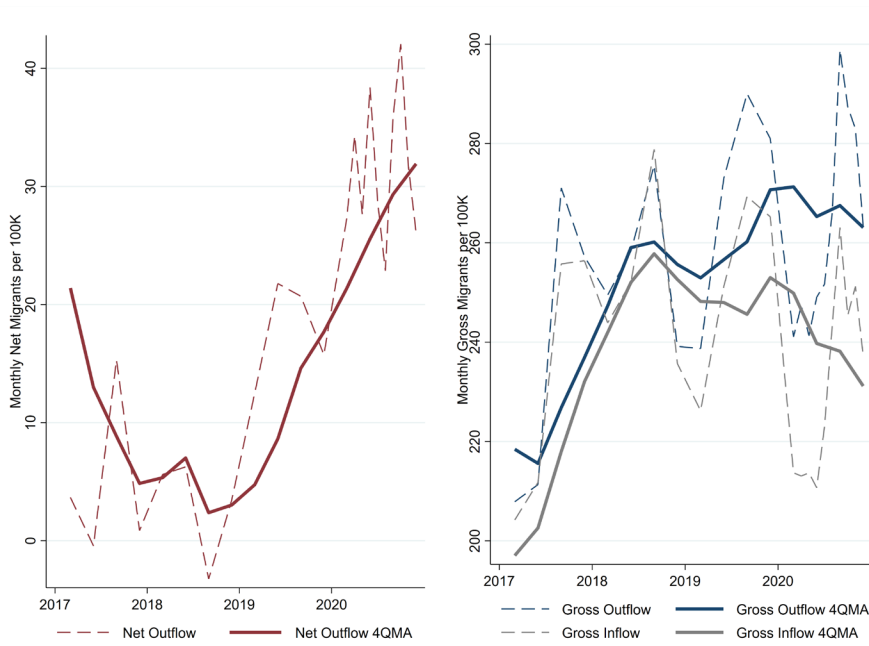

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A46. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Salt Lake City, UT

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

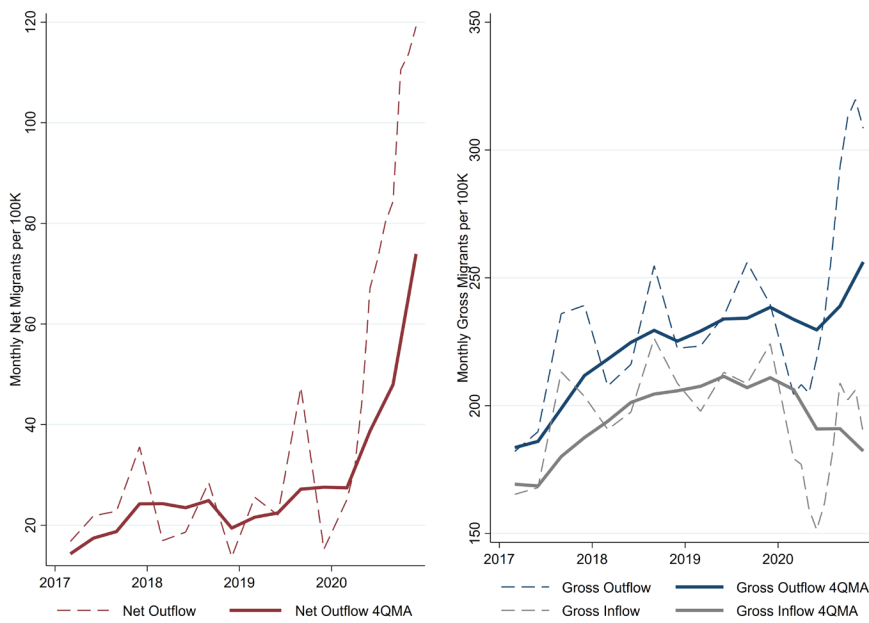**Figure A47. Estimated Gross and Net Migration into and out of Urban Neighborhoods: San Antonio–New Braunfels, TX**

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A48. Estimated Gross and Net Migration into and out of Urban Neighborhoods: San Diego–Carlsbad, CA
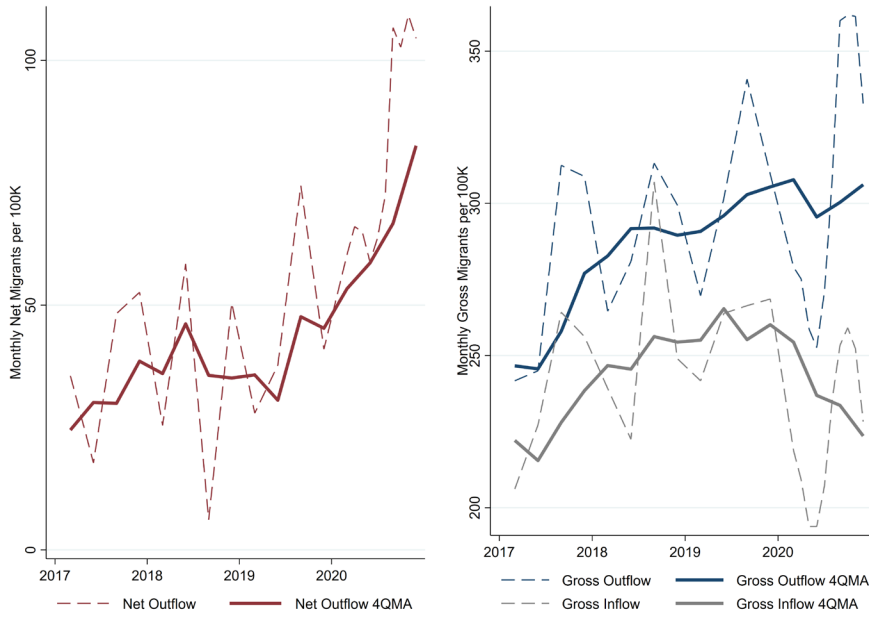

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A49. Estimated Gross and Net Migration into and out of Urban Neighborhoods: San Francisco–Oakland–Hayward, CA
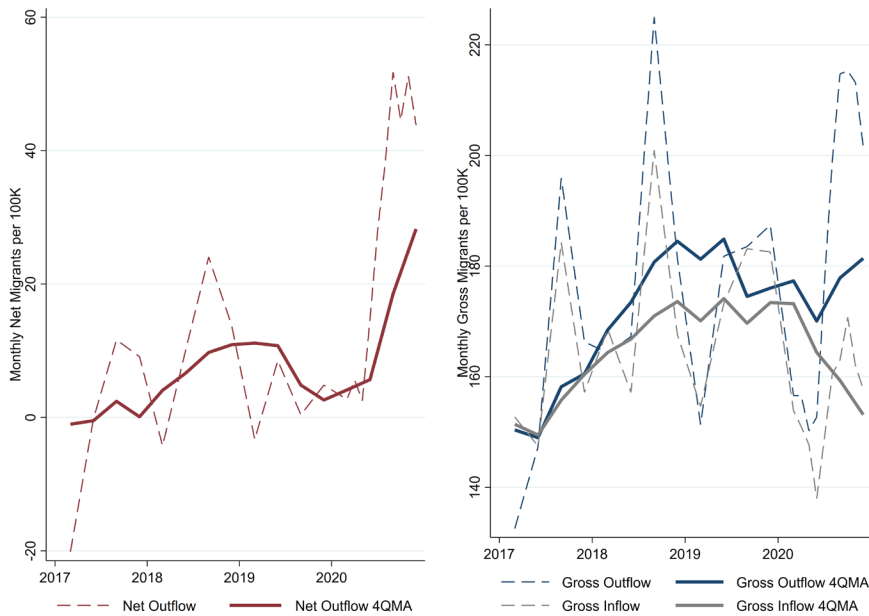

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A50. Estimated Gross and Net Migration into and out of Urban Neighborhoods: San Jose–Sunnyvale–Santa Clara, CA
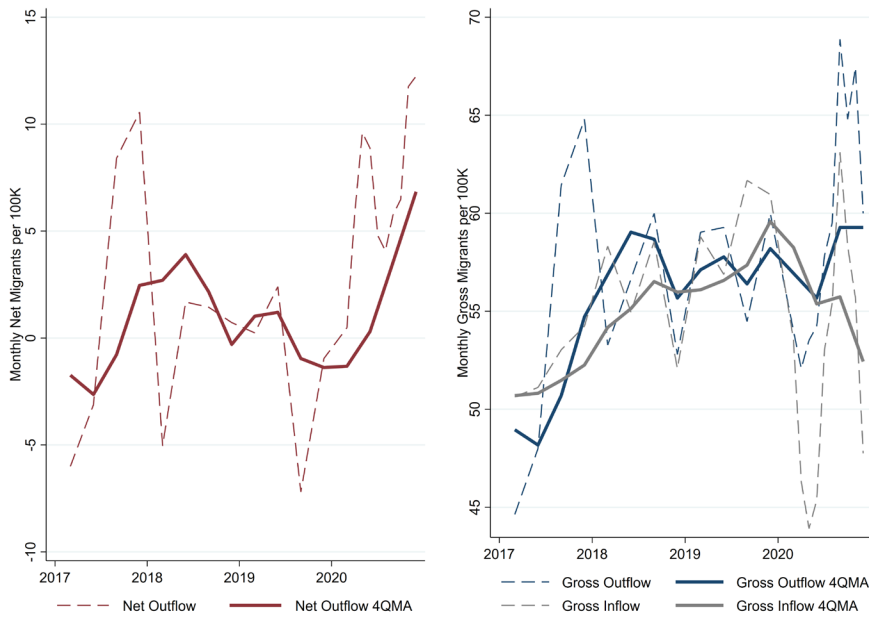

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A51. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Seattle–Tacoma–Bellevue, WA
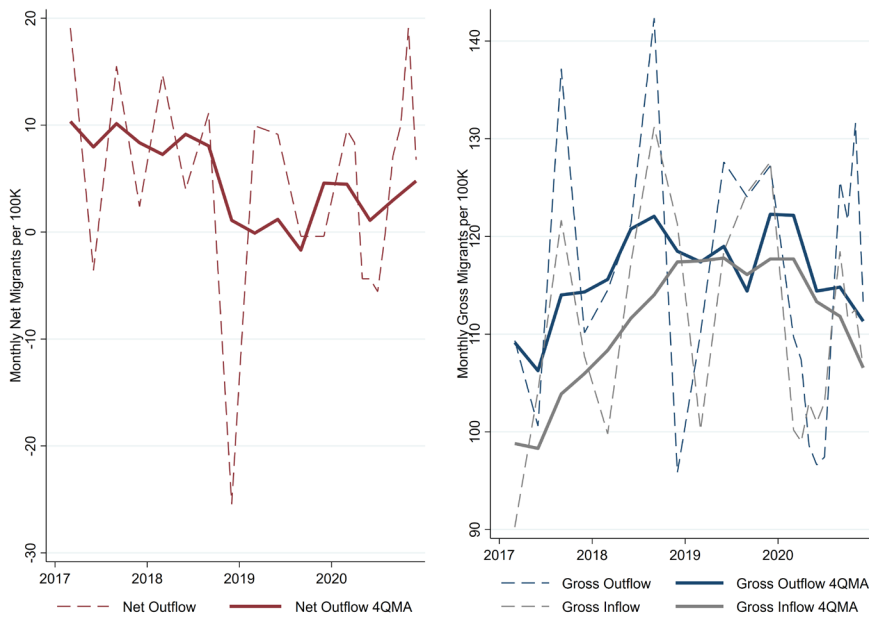

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A52. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Tampa–St. Petersburg–Clearwater, FL
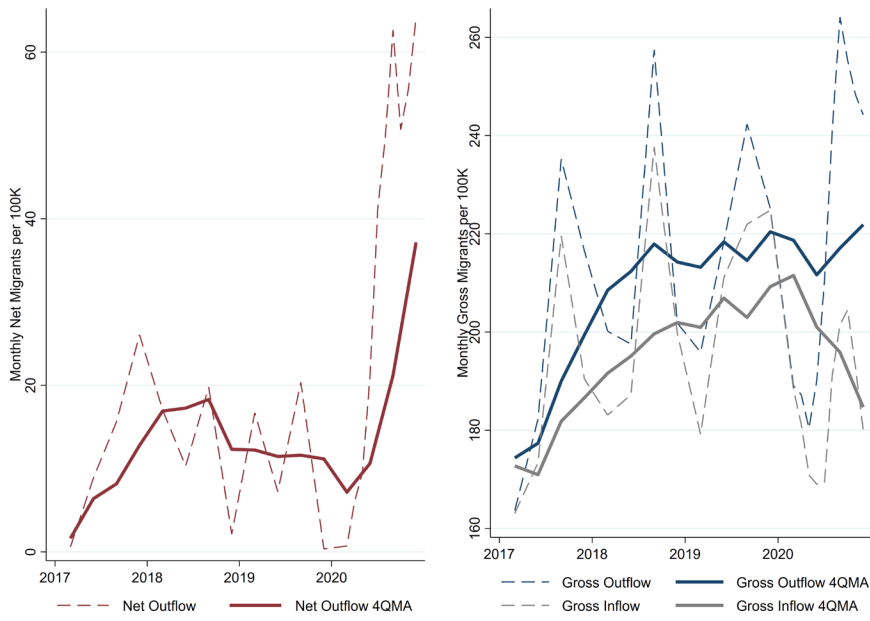

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A53. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Virginia Beach–Norfolk–Newport News, VA–NC

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Figure A54. Estimated Gross and Net Migration into and out of Urban Neighborhoods: Washington–Arlington–Alexandria, DC–VA–MD–WV

Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.