Urban and Regional Migration Estimates: Will Your City Recover from the Pandemic?

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Introduction

The COVID-19 pandemic caused a massive change in the movement of people at both the neighborhood and the regional levels in the United States. In this brief, I introduce a new series of migration measures that reveal that migration is rapidly returning to its old patterns in some metro areas, including New York, Los Angeles, and San Francisco. However, in other major metro areas, including Phoenix, Seattle, and San Diego, the pandemic appears to have permanently shifted migration trends, with no return to the prepandemic trends in sight. Whether or not migration flows return to their prepandemic trends is critically important for businesses and policymakers throughout the country. Migration trends will determine winners and losers in home-price appreciation, local consumer demand and labor force growth, and tax revenues for state and local governments.

The domestic migration estimates introduced in this brief are based on an anonymized random sample of credit histories called the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP). For an explanation of how credit histories can be used to measure migration, please see the appendix.

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What's New in This Report?

While this report builds on the *District Data Briefs* and updates published in 2021 and 2022, the estimates provided here are improved and designed to be used by readers on their own (Whitaker, 2021a, b). In addition to providing estimates through 2023:Q1, the series are presented in tables as well as graphs. The graphs and tables provide longer histories than the previous briefs, back to 2010 rather than 2017, for individual metro areas. There are also new net migration estimates for the 36 largest metro areas that cover all migration, both urban and non-urban.

This brief reports figures for combined statistical areas instead of the core-based statistical areas reported on in the earlier briefs. Combined statistical areas, as the name implies, combine adjacent core-based statistical areas, such as Cleveland and Akron. Riverside is combined with Los Angeles, and San Jose is combined with San Francisco. Washington DC now includes the Baltimore metro area. Because of the change to combined statistical areas, the list of regions designated as high-housing-cost areas is different in this brief than it was in Whitaker (2021b).

The urban neighborhood designations in this report are based on American Community Survey 5-year census-tract-level estimates, using 2015 to 2019 responses. Earlier reports designated tracts using the 2013 to 2017 5-year estimates. With the more current data, some tracts increased their density, rose above the thresholds, and gained the urban designation. Other tracts in areas with falling populations lost their urban designation.

Urban neighborhoods recover in some metro areas, but not others

About one in five Americans lives in a high-density, walkable census tract that most people would recognize as an urban neighborhood if they visited in person. These neighborhoods are of particular interest because they are usually found in the geographic center of metro areas. They surround central business districts, anchor institutions such as hospitals and universities, and regional amenities such as stadiums and entertainment districts. Over the last 50 years, some of these neighborhoods have experienced construction booms and inflows of high-income households, while others have experienced severe divestment and depopulation. The fortunes of urban neighborhoods can greatly bolster or impede the fortunes of central cities, metro areas, and even whole states. The appendix describes how population density and the era of development are used to identify urban tracts for the estimates in this report.

In general, urban neighborhoods usually have positive rates of natural increase, a situation during which births outnumber deaths. Natural increase supports populations, along with strong inflows of international migrants and young adults leaving their parents' homes. As urban residents age into their 30s and beyond, many move to non-urban neighborhoods. In the years before the pandemic, CCP-based estimates of domestic migrations suggest that approximately 83,000 more people moved out of these neighborhoods each quarter than moved in (see Figure 1). In the first year of the pandemic, the net flow out of urban neighborhoods more than doubled, to 206,000 people per quarter. Whether people living in dense urban neighborhoods were responding differently to the COVID-19 health risk was a widely discussed topic.

As the pandemic waned, the discussion shifted to whether urban neighborhoods can continue to retain residents when hybrid work reduces the benefit of having a short commute. Figure 1 displays the total national net migration for urban neighborhoods, and it includes trend lines that best fit the prepandemic (2010:Q1 to 2019:Q4) and recovery (2021:Q2 to 2023:Q1) data points. The most recent observations suggest net migration from the urban neighborhoods is returning to normal in aggregate. The intersection with the recovery trend line suggests quarterly migration may reach its prepandemic trend in the second half of 2023.

Overall for urban neighborhoods, the prepandemic trend was one of increasing out-migration, so the viability of urban neighborhoods is not guaranteed by a return to the previous normal. In the 2010s, international migration and natural increase were able to offset the number of people moving out of urban neighborhoods and keep most urban neighborhoods stable or growing. The share of urban residents who are elderly is rising, so deaths are increasing and births are falling. Natural decrease in urban neighborhoods could soon be compounding the challenges of increasing out-migration.

The other main source of urban population growth, net international migration, fell below 400,000 people for the country as a whole in 2021 but recovered to a more typical 1.1 million in 2022 (Knapp and Lu, 2022). Future international migration levels will depend on federal policy. Amid these changes, the domestic migration measured by the CCP appears to have returned to its prior patterns in some urban centers, while the flows in other metro areas continue to be far less favorable compared to their prepandemic patterns.

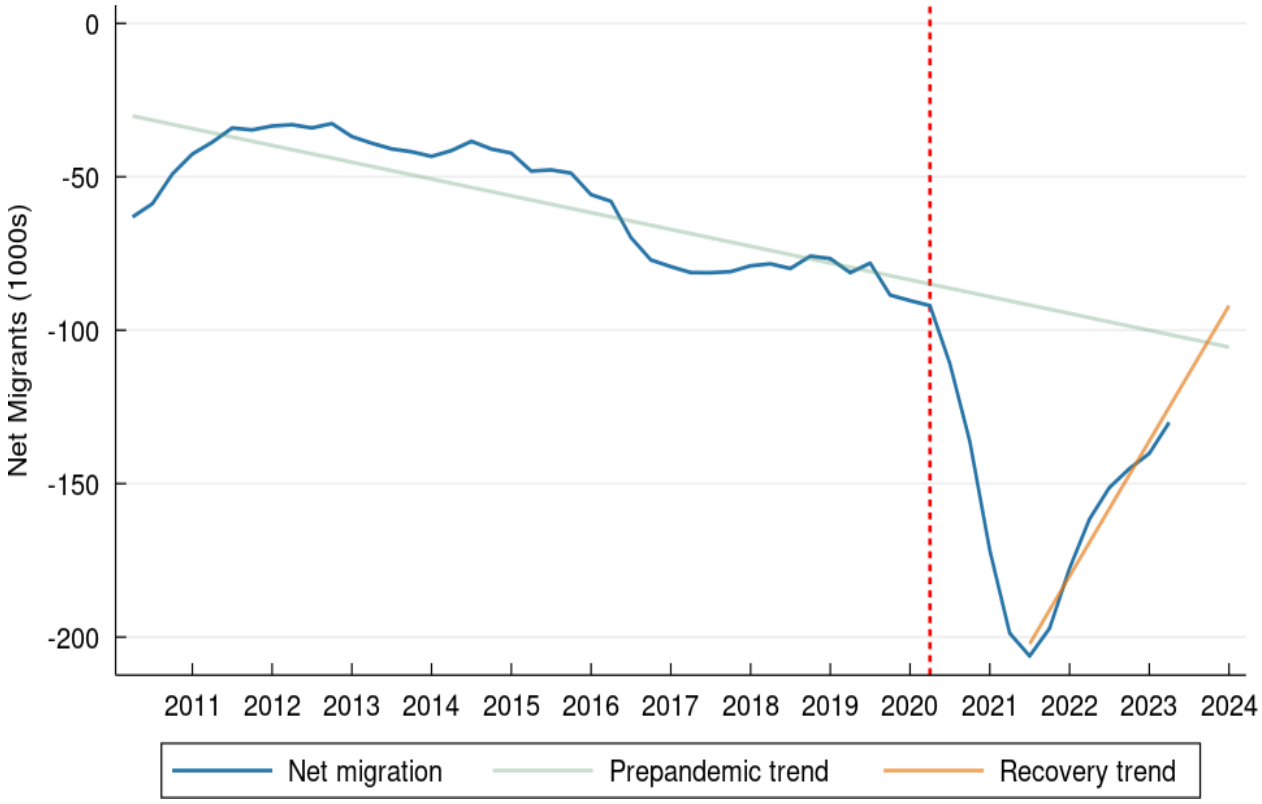


Figure 1. Four-Quarter Moving Average of Quarterly Net Migration from/to Urban Neighborhoods

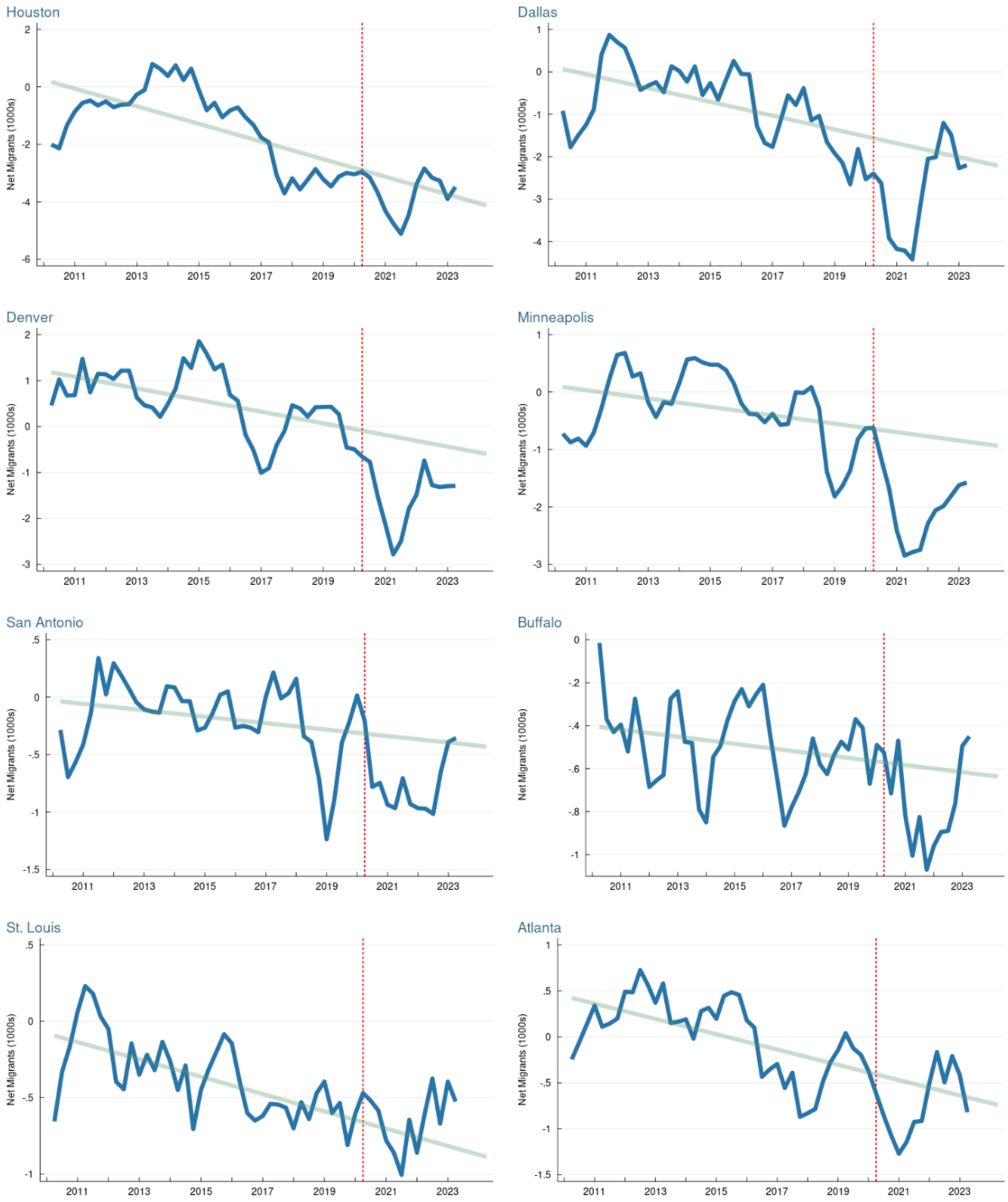
Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Figures 2 and 3 show net migration measures of the urban neighborhoods of 16 regions where there was an urban exodus followed by a recovery. New York, Los Angeles, San Francisco, and Chicago are all on pace to return to their prepandemic trend lines in the next 3 to 9 months. Similar patterns of recovery exist for Boston, Washington, Miami, Philadelphia, Houston, Dallas, Denver, Minneapolis, San Antonio, Buffalo, St. Louis, and Atlanta.

Figure 2. Four-Quarter Moving Average of Quarterly Net Migration for Recovering Urban Neighborhoods, Select Metro Areas

Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

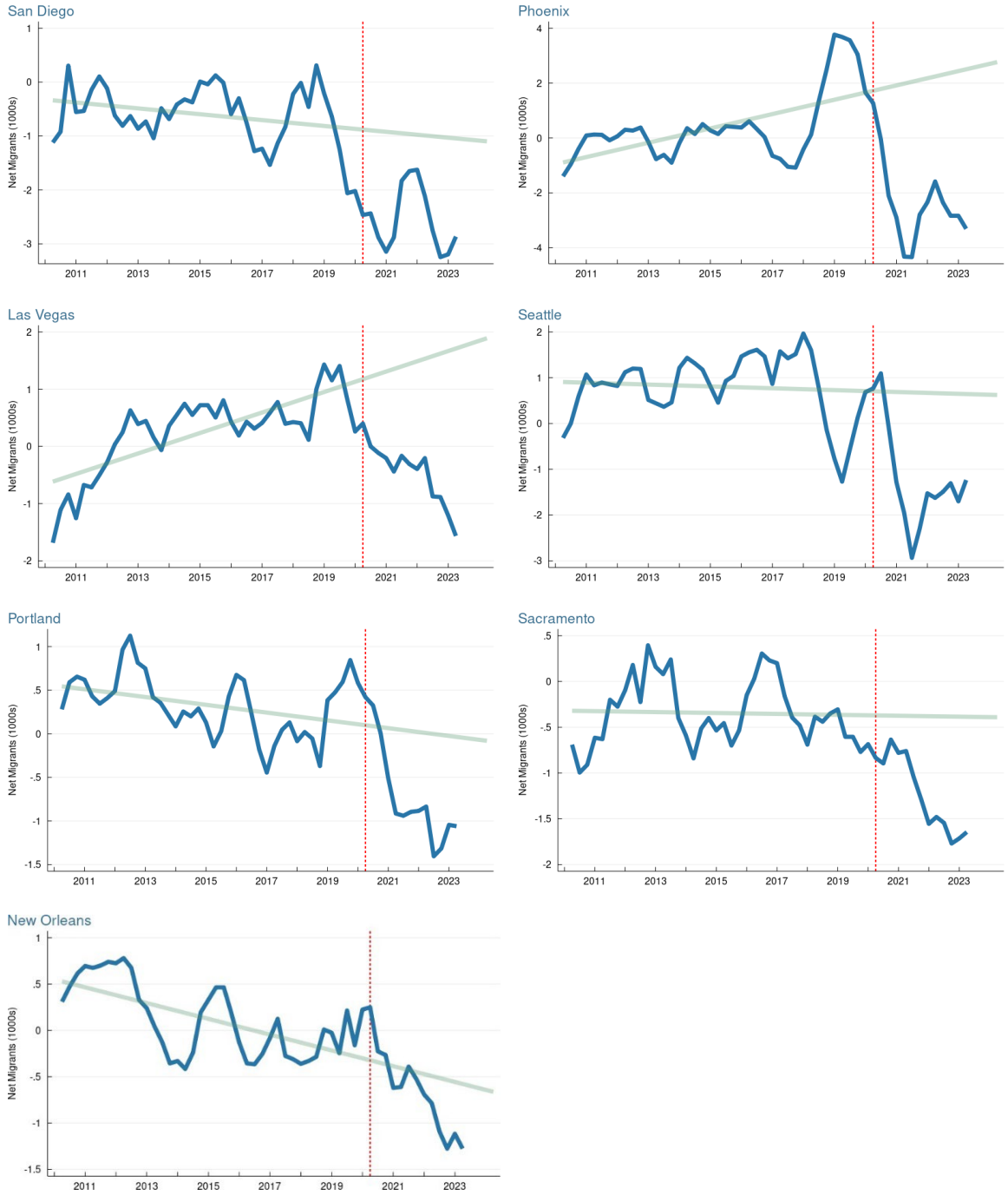
Figure 3. Four-Quarter Moving Average of Quarterly Net Migration for Recovering Urban Neighborhoods, Additional Select Metro Areas



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

In contrast, net migration for urban neighborhoods is not recovering in metro areas shown in Figure 4, including San Diego, Phoenix, Las Vegas, Seattle, Portland, Sacramento, and New Orleans.

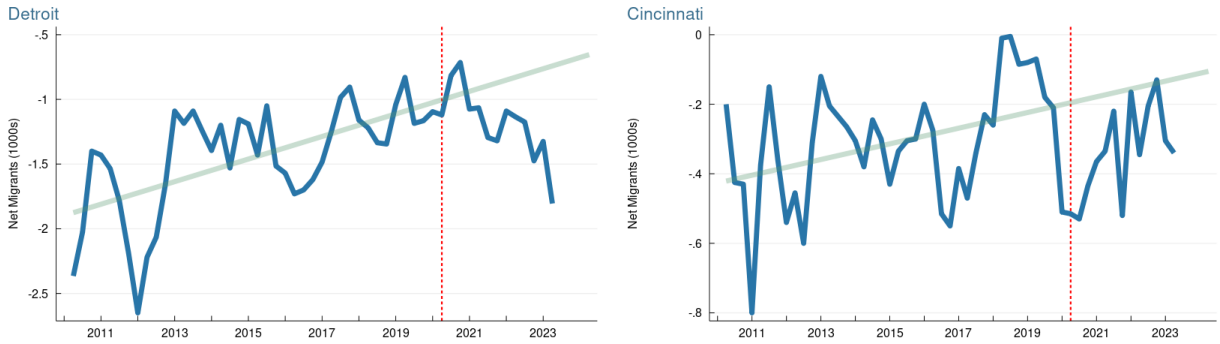
Figure 4. Four-Quarter Moving Average of Quarterly Net Migration for Urban Neighborhoods That Are Not Returning to Prepandemic Migration Trends



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Detroit and Cincinnati had negative but improving net migration from their urban neighborhoods before the pandemic, but that improvement has not resumed (Figure 5). There are eight other metro areas with urban populations over 250,000 whose patterns do not clearly place them in any of these groups. Estimates for those metro areas can be seen in the appendix Figure A2.

Figure 5. Four-Quarter Moving Average of Quarterly Net Migration for Urban Neighborhoods That Had Negative but Improving Prepandemic Migration



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Pandemic shocks to inter-regional migration patterns

As with the choice of neighborhoods, migration between regions experienced a massive shock at the onset of the pandemic. This shock is also dissipating in some regions, while the altered patterns are holding steady or accelerating in others. To get an overall picture of what types of regions lost or gained favor during the pandemic, I begin by dividing all US metro and rural areas into four categories:

1. **High-cost metro areas:** This category contains the 12 metro areas that have housing costs far above the rest of the country and populations of at least 2 million. These high-cost metro areas are San Francisco, New York, San Diego, Los Angeles, Seattle, Boston, Miami, Sacramento, Denver, Salt Lake City, Portland, and Washington–Baltimore. Over two-thirds of the US population lives in real estate markets in which houses list for less than $200 per square foot, on average (from 2017 to 2022). Prices in the high-cost metro areas range from $217 per square foot to more than $560 per square foot. For a visualization of this division, see Figure A1.
2. **Affordable, large metro areas:** These metro areas have populations of more than 2 million and housing prices of less than $200 per square foot. This category includes 23 metro areas, such as Chicago, Houston, Philadelphia, Pittsburgh, Cleveland, Columbus, and Cincinnati.[1]

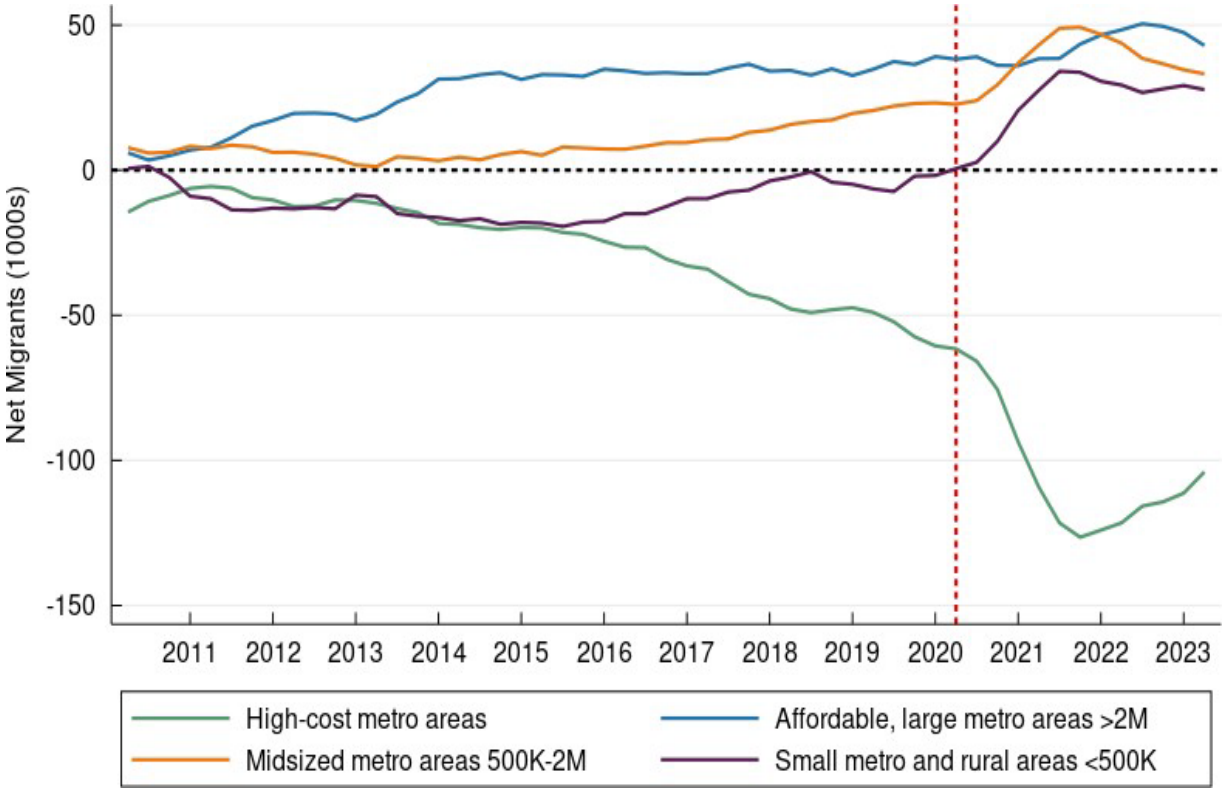
[1] A list of all the high-cost and affordable, large metro areas can be found in the appendix.

3. **Midsize metro areas:** These metro areas have populations between 500,000 and 2 million.
4. **Small metro and rural areas:** This category has metro areas with fewer than 500,000 residents and rural areas.

Figure 6 presents the aggregate net migration for the four types of regions. We can see that during the 2010s, the high-cost metro areas have been losing an increasing number of people each year to the affordable, large metro areas and the midsize metro areas. The pandemic doubled the net outflows from the high-cost metro areas. The increases reversed in mid-2021, but it still took more than two years of improvements in net migration for the high-cost metro areas to return to their prepandemic trend. Net migration to affordable, large metro areas is not far from its long-term trend. Migration to midsize metro areas received a bump up during the pandemic, but it is on pace to be back to its trend toward the end of 2023.

For small metro areas and rural areas in aggregate, the pandemic turned net migration strongly positive after a decade of negative net flows. Some small metro areas and rural regions are receiving an influx of movers, although their experiences among the 1,052 regions in this category vary widely. In the prepandemic years of 2017, 2018, and 2019, only 41 percent of small metro areas and rural commuting zones had positive net domestic migration. During the pandemic years (2020–2022), 57 percent of these least populous regions had positive net domestic migration.

Figure 6. Four-Quarter Moving Average of Quarterly Net Migration for Four Types of Regions

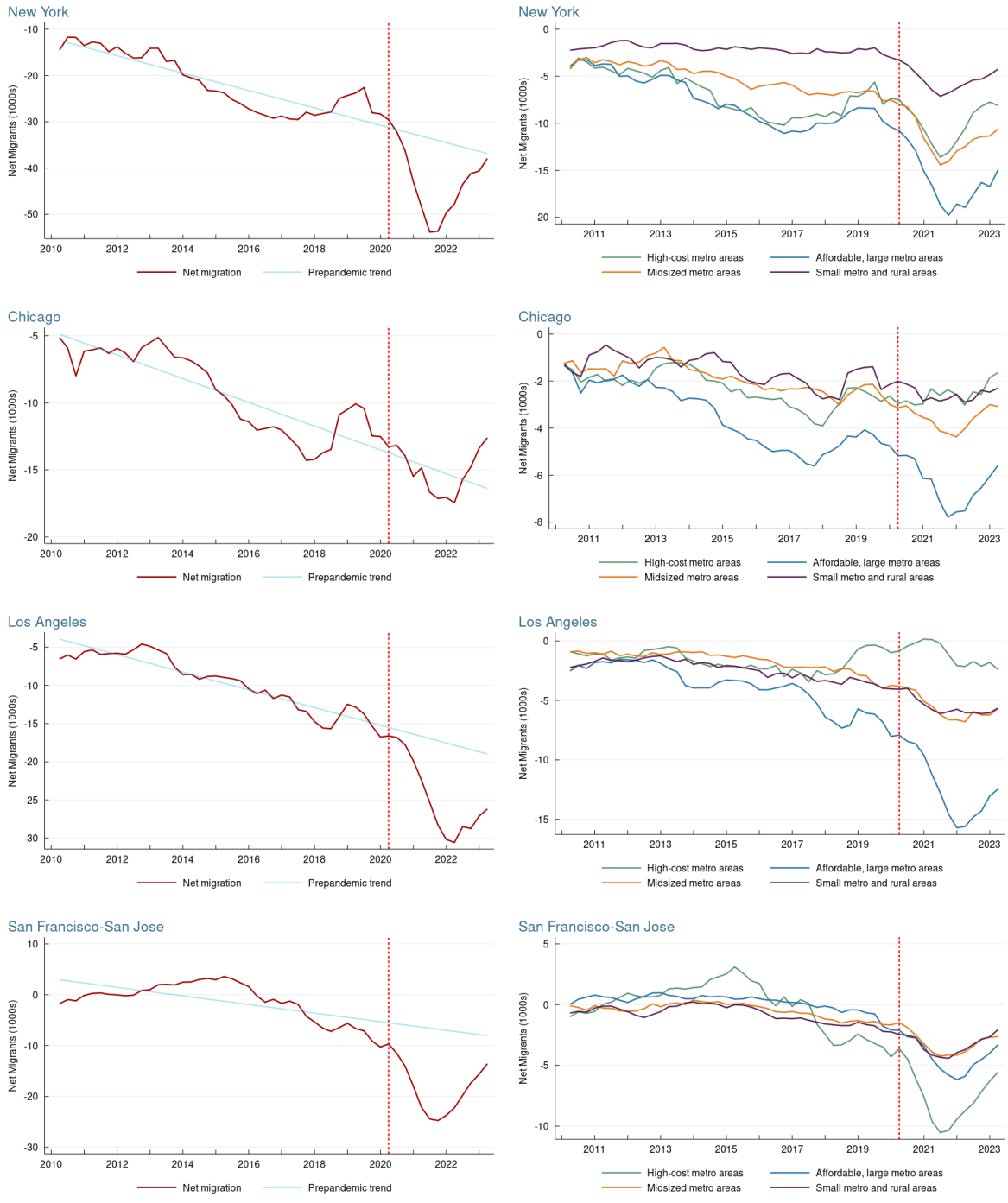


Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Figure 7 shows how four of the most populous metro areas are contributing to the national aggregate shown in Figure 6. The figure shows pairs of graphs for each metro area. The left graph displays the total quarterly net domestic migration for the metro area, measured by the CCP. The right graph disaggregates the flow by the type of region with which the metro area is exchanging people. The return to normal is slower for San Francisco than it has been for New York and Chicago, and it will take another year of improvement to reach its prepandemic trend; it may take Los Angeles more than two years to reach its trend. It is also important to note that the prepandemic trends for all four major metro areas featured large and growing net domestic outflows. Significant challenges will remain for these regions after the pandemic's impact has dissipated.

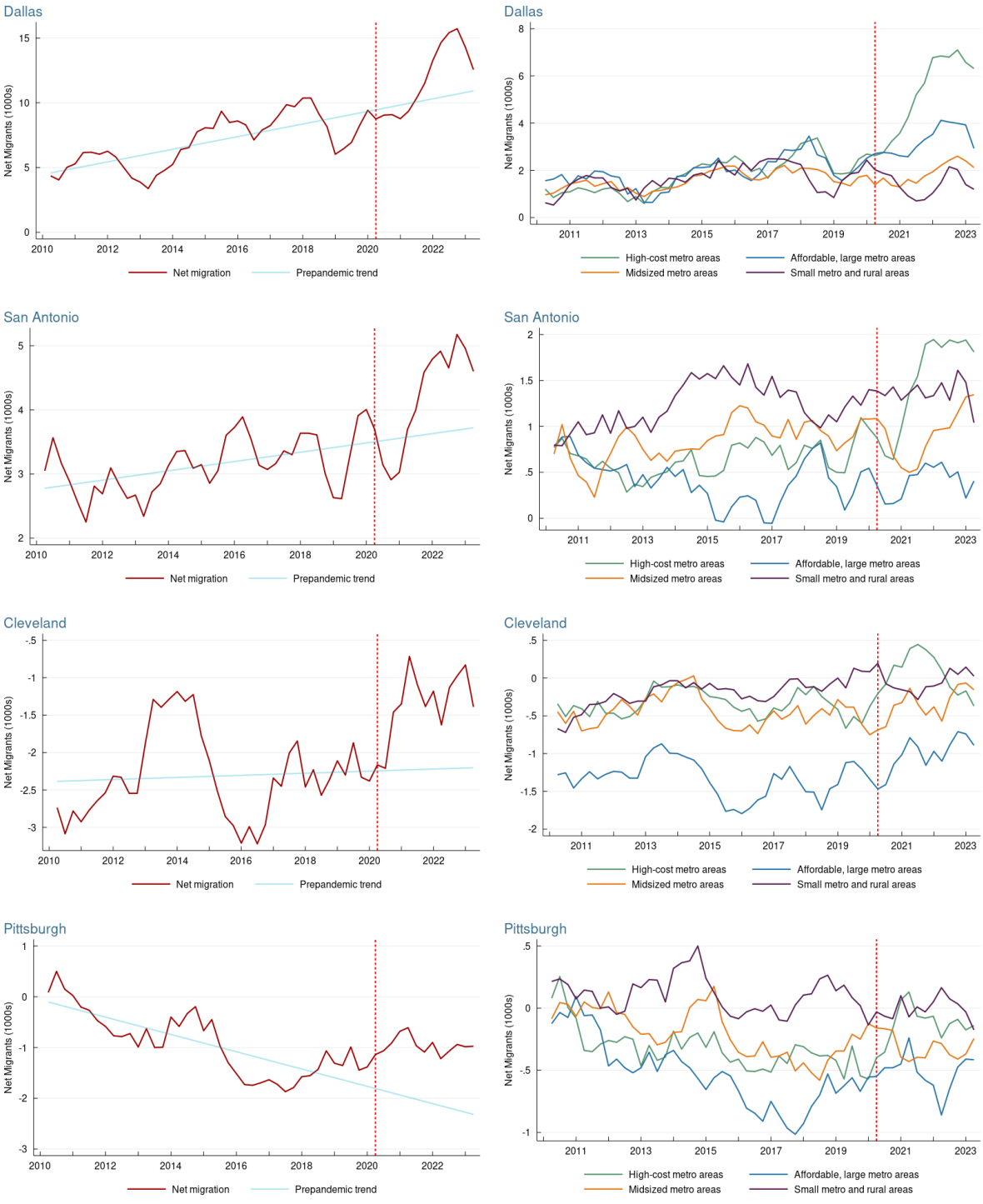
Figure 8 shows two regions that seem to be better off after the pandemic. These are the rapidly growing Texas metro areas of Dallas and San Antonio. Surprisingly, the slowest growing large metro areas between the last censuses, Pittsburgh and Cleveland, also seem to have been aided by the pandemic; these areas have recently seen attenuated net domestic out-migration.

Figure 7. Four-Quarter Moving Average of Quarterly Net Migration for the Most Populous Metro Areas, All Other Regions (left) and Four Types of Regions (right)



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

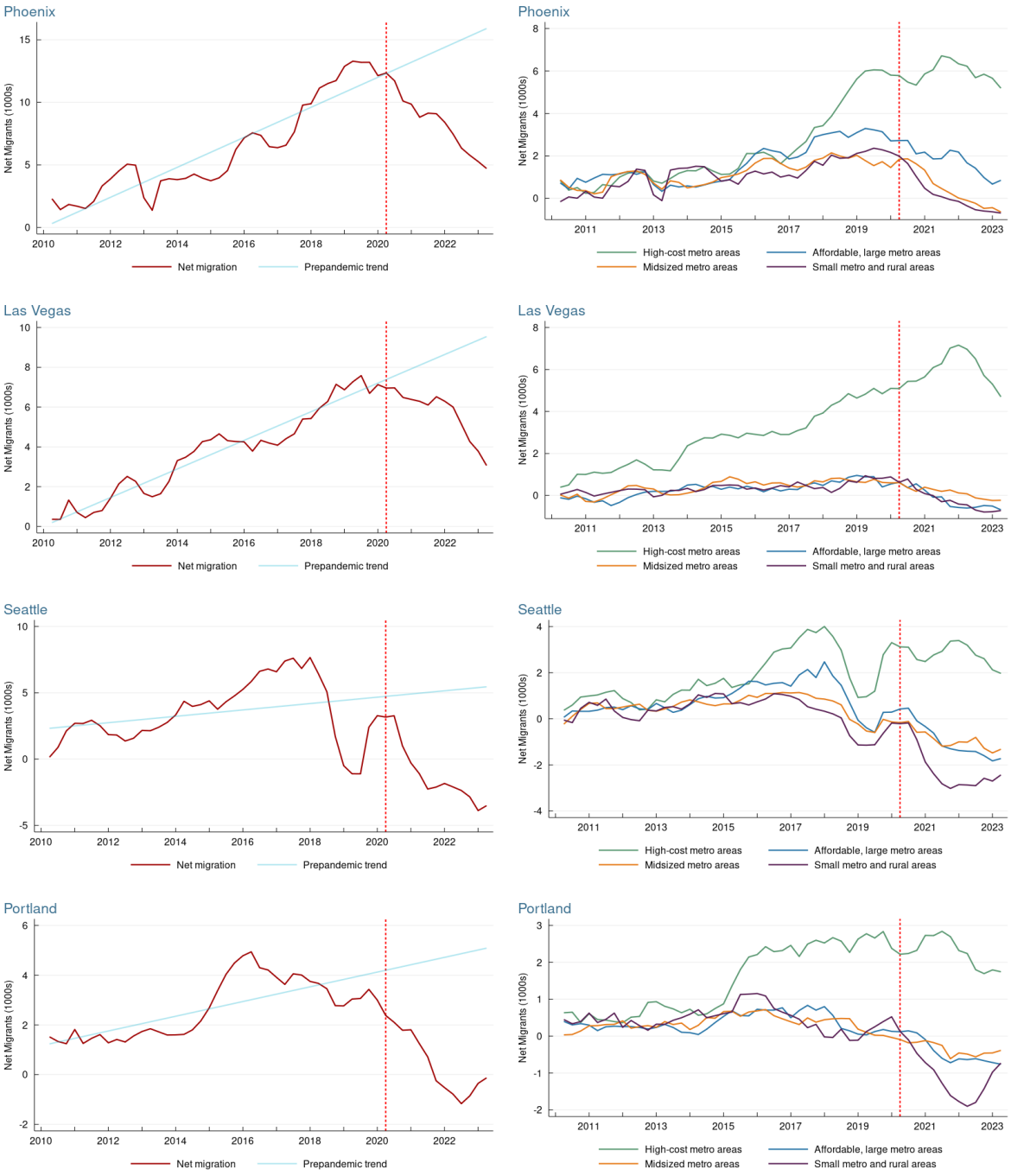
Figure 8. Four-Quarter Moving Average of Quarterly Net Migration for Metro Areas with Improving Net Migration after the Pandemic, All Other Regions (left) and Four Types of Regions (right)



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

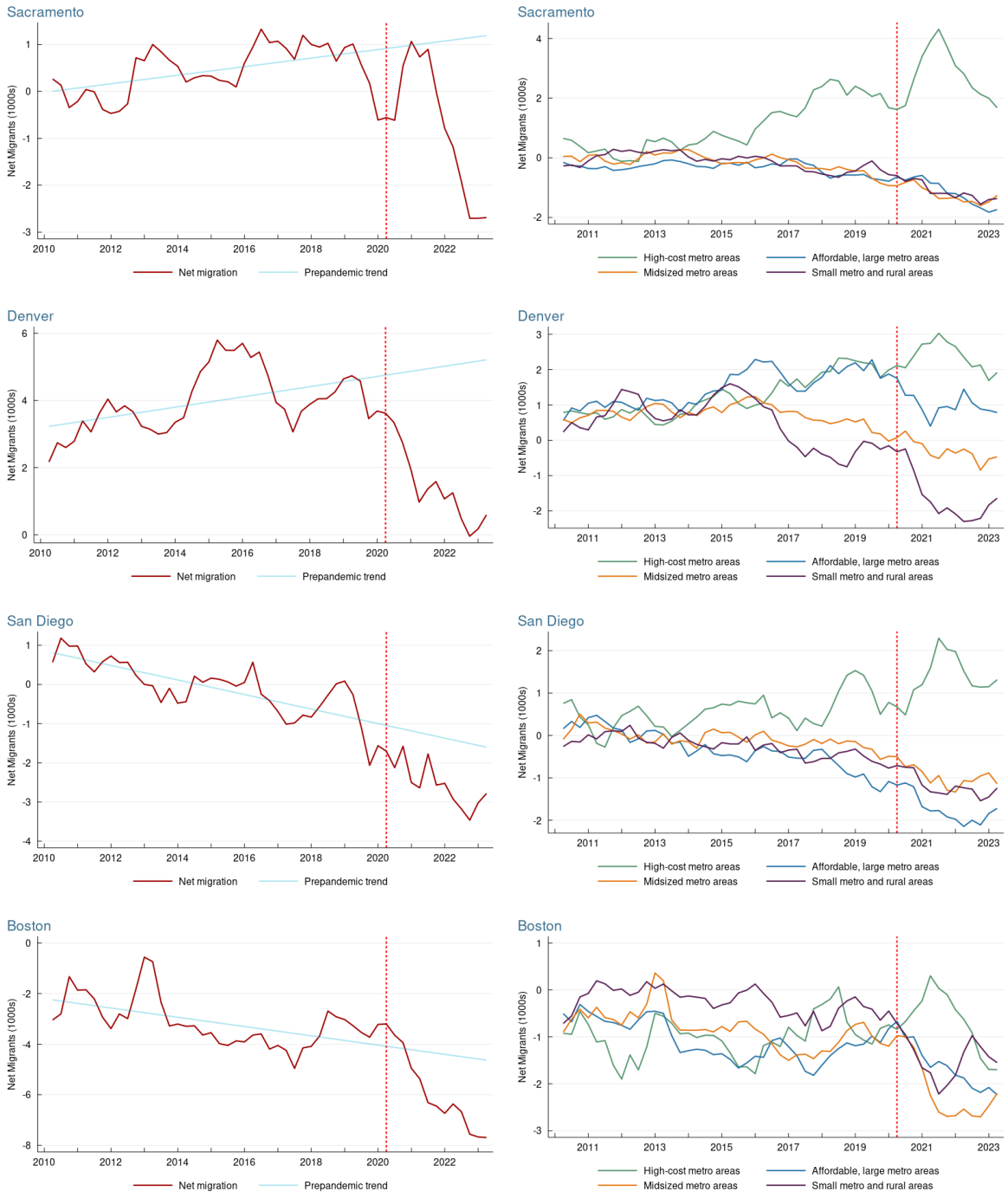
As with the migration to urban neighborhoods, the pandemic's shock seems to have dimmed the prospects of some previously growing western US metro areas. Phoenix, Las Vegas, Seattle, and Portland had been growing for multiple decades before the pandemic. Their net migration has remained positive recently, but its pace has been declining (Figure 9). Notably, Phoenix, Las Vegas, Seattle, and Portland all had positive net migration from all four types of regions during the decade prior to the pandemic. Changes since the pandemic began are making it so that these four metro areas have positive net migration flows only from high-cost metro areas. There are also very limited signs of recovery for the migration flows to Sacramento and Denver (Figure 10). Out-migration from San Diego and Boston increased during the pandemic and has not reversed.

Figure 9. Four-Quarter Moving Average of Quarterly Net Migration for Previously Growing Western US Metro Areas, All Other Regions (left) and Four Types of Regions (right)



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Figure 10. Four Quarter Moving Average of Quarterly Net Migration for Metro Areas with Weaker Net Migration after the Pandemic, from/to All Other Regions (left) and Four Types of Regions (right)



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Conclusion

When the early pandemic-impacted migration estimates first became available, they showed that an "urban exodus," with people rapidly moving out of urban neighborhoods, was occurring in only the New York and San Francisco metro areas. Most other large metro areas were seeing a slowdown in movement into their urban neighborhoods, which reduced net migration. In 2021, the story shifted abruptly to people moving from the urban neighborhoods of many large metro areas to local suburbs and smaller cities in the region. As we entered 2023, the patterns began to shift once again. These ongoing shifts demonstrate the need for timely and frequent monitoring of urban and regional migration.

Both the urban neighborhoods and the overall metro areas of New York, San Francisco, and the other most populous metro areas are returning to their prepandemic trends of slowly increasing net outflows. The additional rush seen during the pandemic is disappearing. This is important because these cities also have the highest shares of employment in remote-work-capable occupations. The fact that they are returning to trend in the new normal of hybrid work suggests proximity to work was not the most important driver of demand for these neighborhoods. Urban amenities, which could be revived post-pandemic, might keep population declines from being worse than they would otherwise be. Similarly, the rise of hybrid rather than fully remote work arrangements may be preventing sustained large outflows of people from high-cost metro areas.

The estimates in this brief have also revealed that a surprising subset of major metro areas seems to have incurred lingering damage from the pandemic. The urban neighborhoods of Phoenix, Las Vegas, Seattle, Portland, and Sacramento are exhibiting elevated outflows. These same regions no longer have positive net migration from across the nation but instead are drawing only from high-cost metro areas. Updating the estimates in this brief will enable regional leaders to quickly see if the patterns shift again in response to slowing home-price appreciation or other shocks that will arrive in the post-pandemic years.

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Appendix

Measuring migration with credit histories

The migration estimates in this brief are created with the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP). The CCP is a 5 percent random sample of the credit histories maintained by Equifax (Lee and Van der Klaauw, 2010; Whitaker, 2018). The CCP reports the census block of residence for more than 10 million individuals each quarter. Equifax receives individuals' addresses, along with reports of debt balances and payments, from creditors (such as mortgage lenders, credit card issuers, student loan servicers) each month. An algorithm maintained by Equifax considers all the addresses reported for an individual and identifies the individual's most likely current address. Equifax anonymizes the data before they are added to the CCP, removing names, addresses, and Social Security numbers. In lieu of mailing addresses, the census block of the address is added to the CCP. Equifax creates a unique anonymous identifier to enable researchers to build individuals' panels. The panel nature of the data allows us to observe when someone has migrated and is living in a census block different from the one they lived in at the end of the preceding quarter (DeWaard, Johnson, and Whitaker, 2019).

The CCP is representative of US adults who have a Social Security number and a credit history. Coverage excludes all children and the estimated 10 percent to 11 percent of adults who do not have a formal credit history. This means that younger and financially disadvantaged people are less likely to be fully represented in the data. Also, international migrants do not appear in the data until they obtain a Social Security number and begin using credit in the United States. This means that the CCP can measure only domestic migration.

Definition of urban neighborhoods

For the analysis of urban neighborhoods, I apply a definition at the census tract level, based on data from the American Community Survey estimates from 2015 to 2019. I designate urban census tracts as those with population densities of more than 7,000 people per square mile. This density was the average density in the largest US cities in the 1930 census. High-density neighborhoods can support walkable retail districts and high-frequency public transportation. They are more likely to have the street life that people associate with living in an urban, rather than a suburban, area. For the same reason, I also designate urban tracts as those that were developed before World War II. Before the war, few families owned a car for each adult, so workplaces, shopping, schools, and parks had to be accessible on foot. Because street grids rarely change after initial development, I designate tracts as urban if more than half of their housing units were built before World War II and they have a population density of more than 2,000 people per square mile. I set a lower population density threshold for the pre-war neighborhoods because many urban tracts have lost population

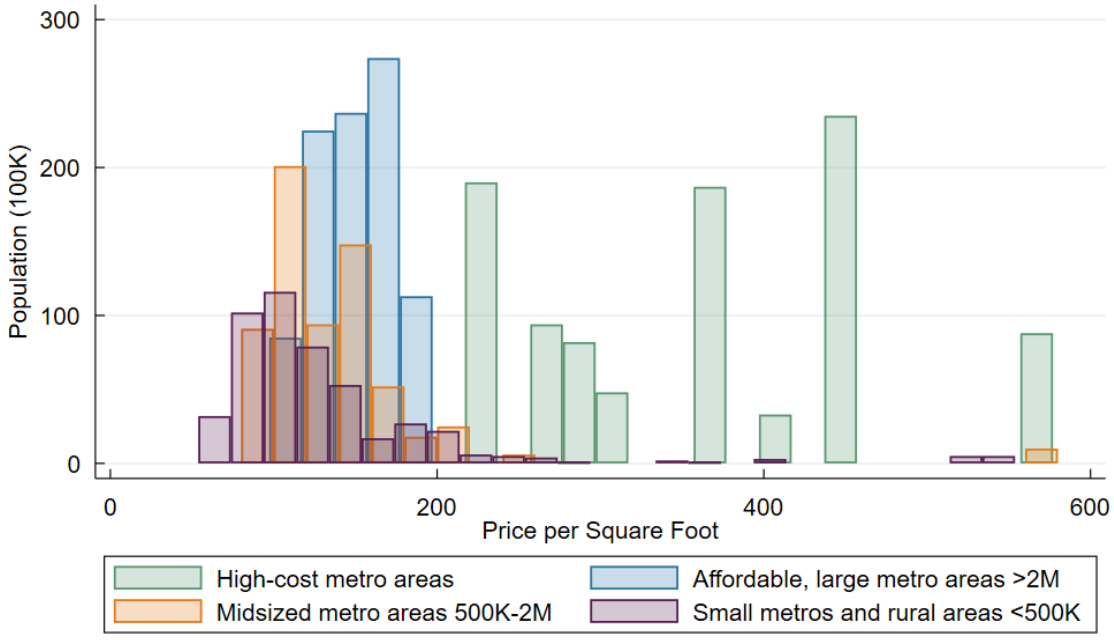
since the 1960s. While the street grids remain, the area also needs sufficient density to support neighborhood establishments and continue to function as an urban neighborhood.

Small towns and cities often have a few dense tracts, but I do not give these neighborhoods an urban designation unless their metro area has at least 500,000 residents. Another defining characteristic of an urban neighborhood is that it places its residents close to amenities that can be supported only by the scale of a major metro area. Examples of these amenities would include larger sports stadiums, professional theaters, museums, and unique restaurants.

By these definitions, approximately 19 percent of the US population, 63 million people, live in urban neighborhoods. The most urbanized regions include Los Angeles (57 percent), New York (57 percent), San Francisco (52 percent), and San Diego (42 percent). The least urbanized regions are mostly in the Southeast, including Orlando (6 percent), Atlanta (4 percent), Nashville (2 percent), and Charlotte (1 percent).

Categorization of large metro areas

Figure A1. Population of Regions by Categorization



Notes: The median list prices per square foot are averaged over the months from April 2017 to April 2022. County-level medians are weighted by the number of active listings in the county and then averaged for all counties in the combined statistical area or commuting zone.
Sources: National Association of Realtors, US Census Bureau, and author's calculations.

Table A1. Metro Area Median List Price Per Square Foot and Categorization

Metro Area (Combined Statistical Area)	$ per ft^2	Categorization
San Jose–San Francisco–Oakland, CA	568	High-cost
New York–Newark, NY–NJ–CT–PA	440	High-cost
San Diego–Carlsbad, CA	409	High-cost
Los Angeles–Long Beach, CA	366	High-cost
Seattle–Tacoma, WA	299	High-cost
Boston–Worcester–Providence, MA–RI–NH–CT	293	High-cost
Miami–Fort Lauderdale–Port St. Lucie, FL	274	High-cost
Sacramento–Roseville, CA	257	High-cost
Denver–Aurora, CO	231	High-cost
Salt Lake City–Provo–Orem, UT	230	High-cost
Portland–Vancouver–Salem, OR WA	229	High-cost
Washington–Baltimore–Arlington, DC–MD–VA–WV–PA	217	High-cost
Austin–Round Rock, TX	196	Affordable, large
Phoenix–Mesa–Scottsdale, AZ	183	Affordable, large
Las Vegas–Henderson, NV AZ	180	Affordable, large
Nashville–Davidson–Murfreesboro, TN	178	Affordable, large
Chicago–Naperville, IL–IN WI	172	Affordable, large
Philadelphia–Reading–Camden, PA–NJ–DE–MD	165	Affordable, large
Minneapolis–St. Paul, MN WI	163	Affordable, large
Tampa–St. Petersburg–Clearwater, FL	162	Affordable, large
Orlando–Deltona–Daytona Beach, FL	159	Affordable, large
Dallas–Fort Worth, TX–OK	150	Affordable, large
Milwaukee–Racine–Waukesha, WI	148	Affordable, large
Raleigh–Durham–Chapel Hill, NC	146	Affordable, large
Charlotte–Concord, NC SC	144	Affordable, large
Atlanta–Athens–Clarke County–Sandy Springs, GA	142	Affordable, large
San Antonio–New Braunfels, TX	141	Affordable, large
Detroit–Warren–Ann Arbor, MI	136	Affordable, large
Houston–The Woodlands, TX	136	Affordable, large
Kansas City–Overland Park–Kansas City, MO–KS	129	Affordable, large
Cincinnati–Wilmington–Maysville, OH–KY–IN	129	Affordable, large
St. Louis–St. Charles–Farmington, MO–IL	124	Affordable, large
Columbus–Marion–Zanesville, OH	124	Affordable, large
Pittsburgh–New Castle–Weirton, PA–OH–WV	105	Affordable, large
Cleveland–Akron–Canton, OH	99	Affordable, large
Indianapolis–Carmel–Muncie, IN	97	Affordable, large

Notes: The median list prices per square foot are averaged over the months from April 2017 to April 2022. County-level medians are weighted by the number of active listings in the county and then averaged for all counties in the combined statistical area or commuting zone.
Sources: National Association of Realtors, US Census Bureau, and author's calculations.

Graph values

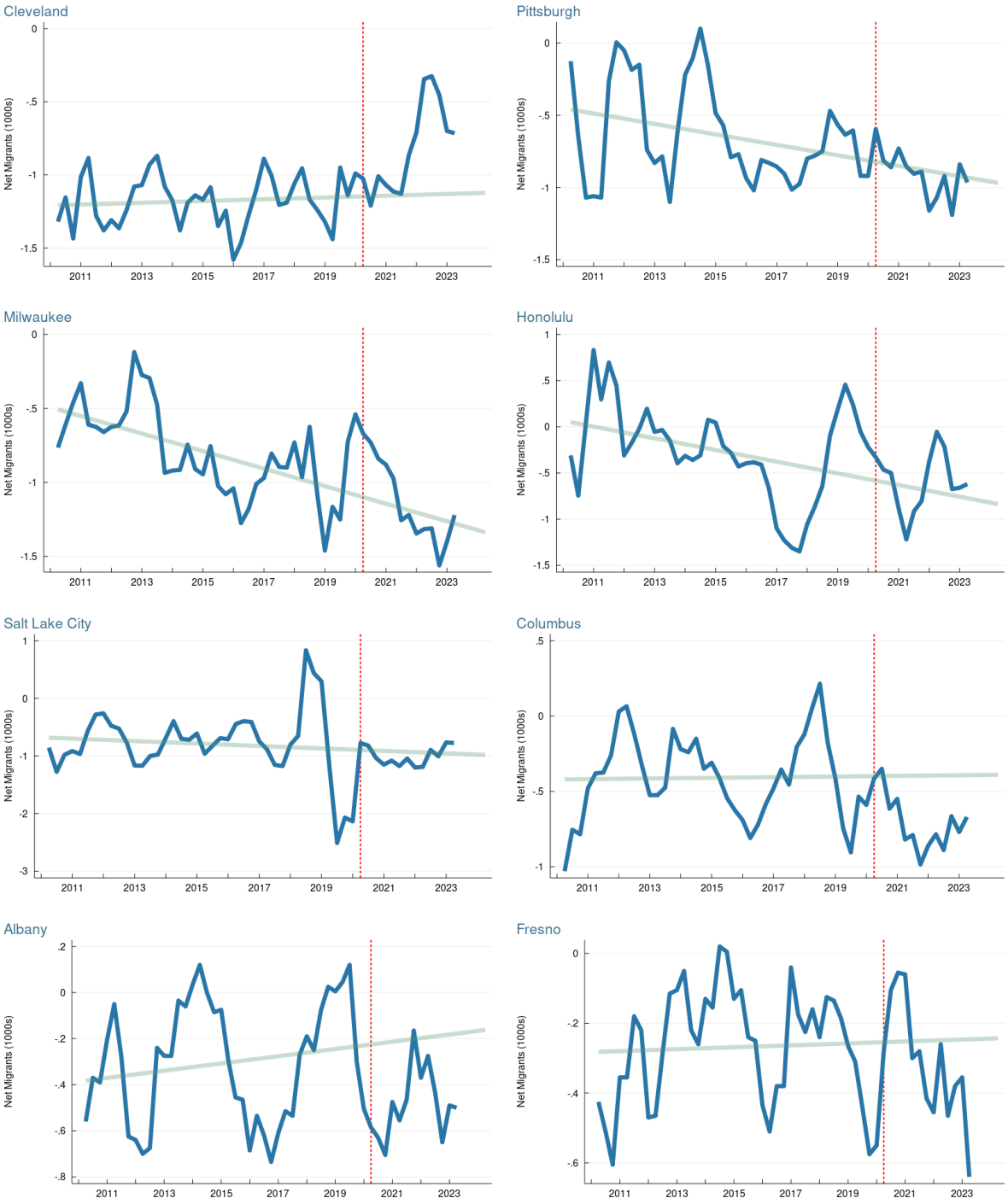
Tables A2 and A3 contain the migration estimates that appear in each of the figures in this brief. For the urban neighborhood estimates to be included in the figures and table, the metro area had to have at least 250,000 people living in its urban neighborhoods in 2019. The metro areas above this threshold represent 90 percent of urban residents in the United States by the definition of urban provided in this appendix. Table A3 contains the net migration between the combined statistical areas with populations of more than 2 million and the four types of regions described. As in the figures, all values are four-quarter moving averages. The units are thousands of migrants.

Table A2. Four-quarter Moving Averages of Net Migration for Urban Neighborhoods of the Indicated Metro Areas (Combined Statistical Areas), Thousands of Migrants

Table A3. Combined Statistical Areas Four-Quarter Moving Average Net Migration for Other Regions by Type, Thousands of Migrants per Quarter

Net urban migration for additional metro areas

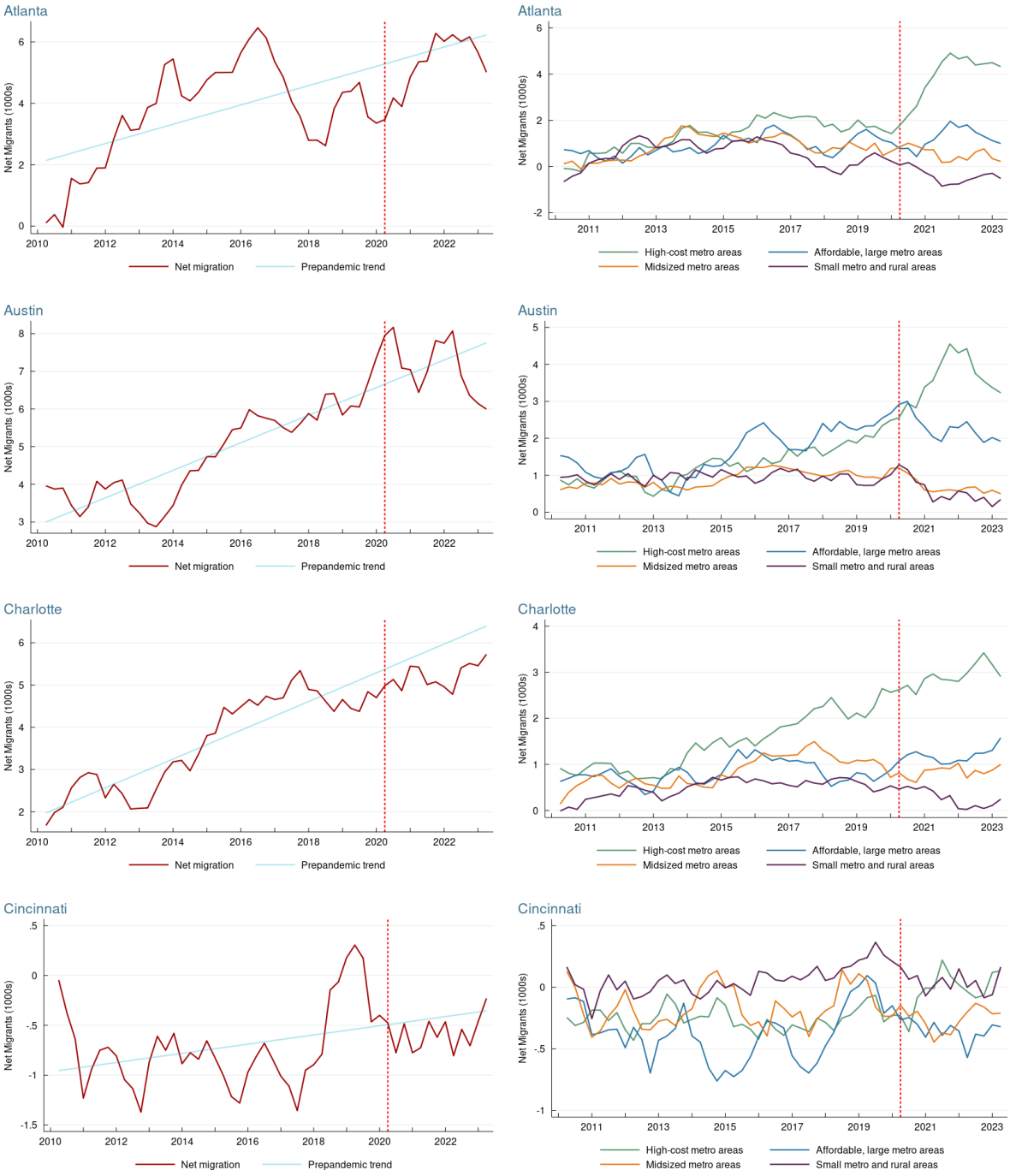
Figure A2. Four-Quarter Moving Average of Quarterly Net Migration for Urban Neighborhoods



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

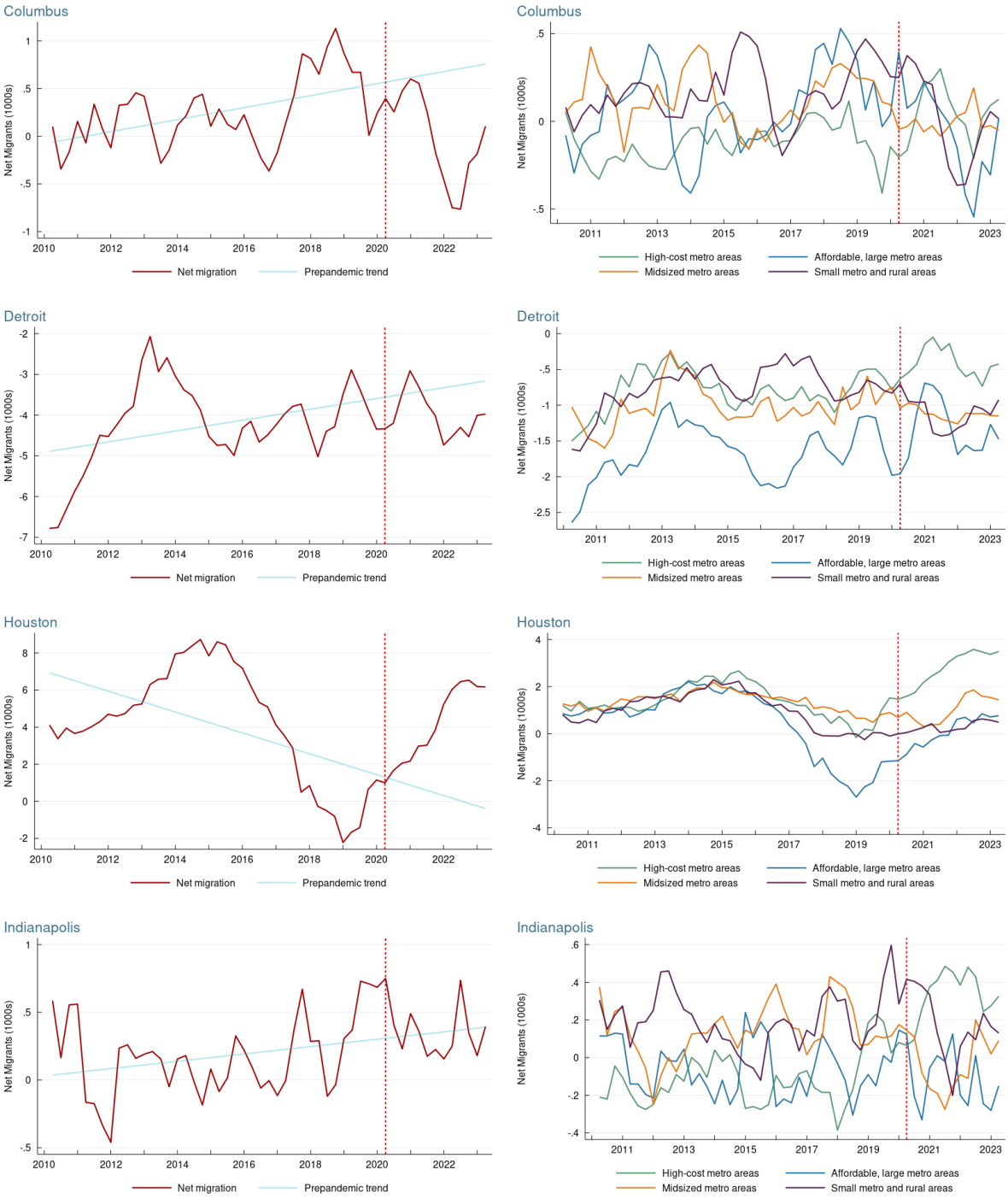
Net regional migration for additional metro areas

Figure A3. Four-Quarter Moving Average of Quarterly Net Migration for All Other Regions (left) and Four Types of Regions (right)



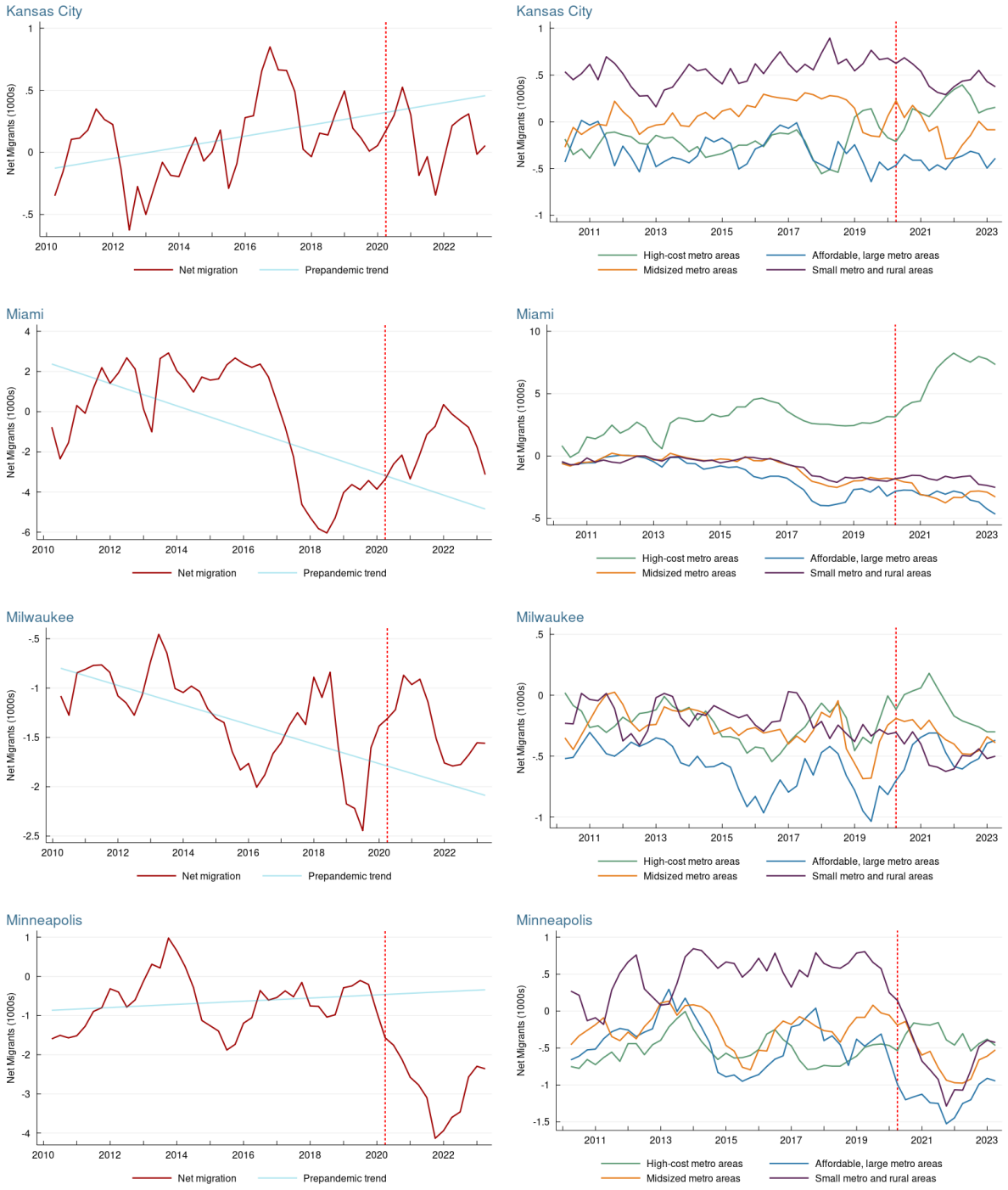
Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Figure A4. Four-Quarter Moving Average of Quarterly Net Migration for All Other Regions (left) and Four Types of Regions (right)



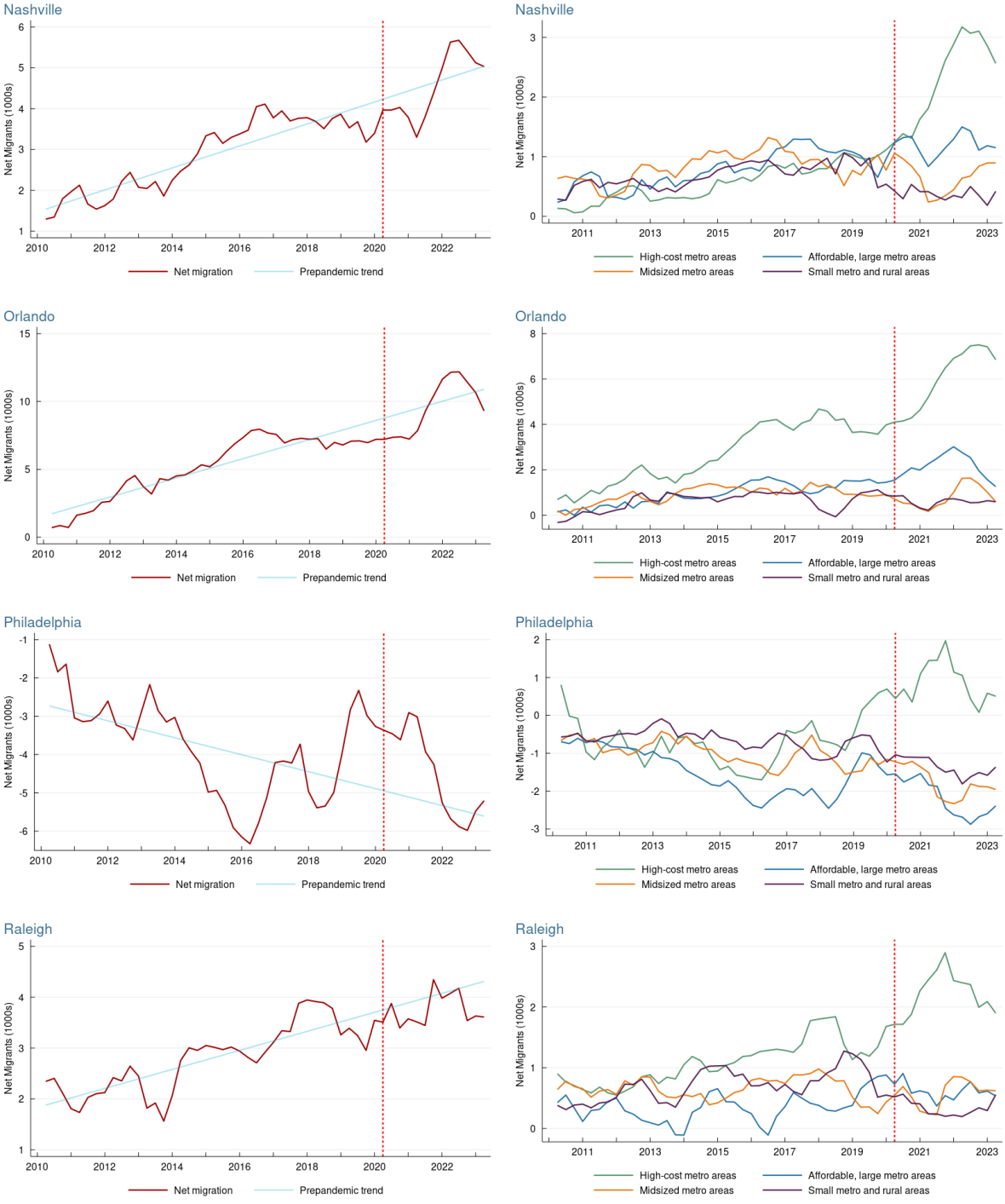
Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Figure A5: Four-Quarter Moving Average of Quarterly Net Migration for All Other Regions (left) and Four Types of Regions (right)



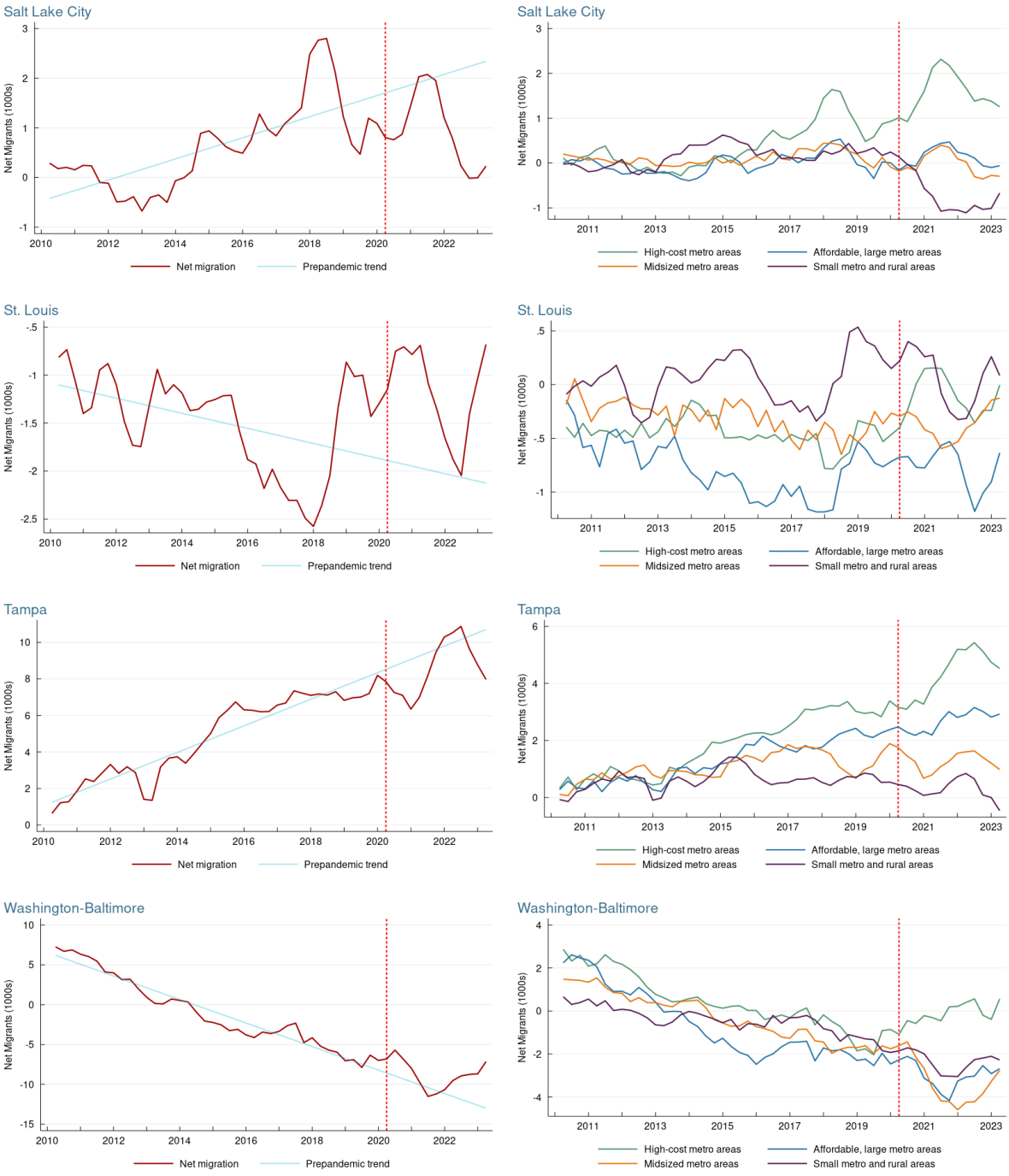
Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Figure A6. Four-Quarter Moving Average of Quarterly Net Migration for All Other Regions (left) and Four Types of Regions (right)



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.

Figure A7. Four-Quarter Moving Average of Quarterly Net Migration for All Other Regions (left) and Four Types of Regions (right)



Note: Dashed vertical line indicates the beginning of the pandemic.
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, US Census Bureau, and author's calculations.