A Snapshot of Community Development and Rural Places

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Community Development at the Federal Reserve

- Responsibility: to **improve the economic resilience and mobility of low- and moderate-income (LMI) and underserved individuals and communities**, in support of the Central Bank's mandate of stable prices and maximum employment.

- **Community Development and Policy Studies (CDPS)** is the name of the team responsible for delivering on this work at the Federal Reserve Bank of Chicago.

Rural Places in the 7th Federal Reserve District

- Identifying rural places in five states: IA, IL, IN, MI, and WI
- How rural places are different: income, employment, economic specialization, and population
- Understanding the loss of rural places and rural population
- Leveraging CDPS research to learn about rural places
  - #1 Migration to and from rural places
  - #2 Access to banking services
  - #3 Water infrastructure needs

Five-state region: rural classification by county

4.8 million people live in small town or rural counties out of
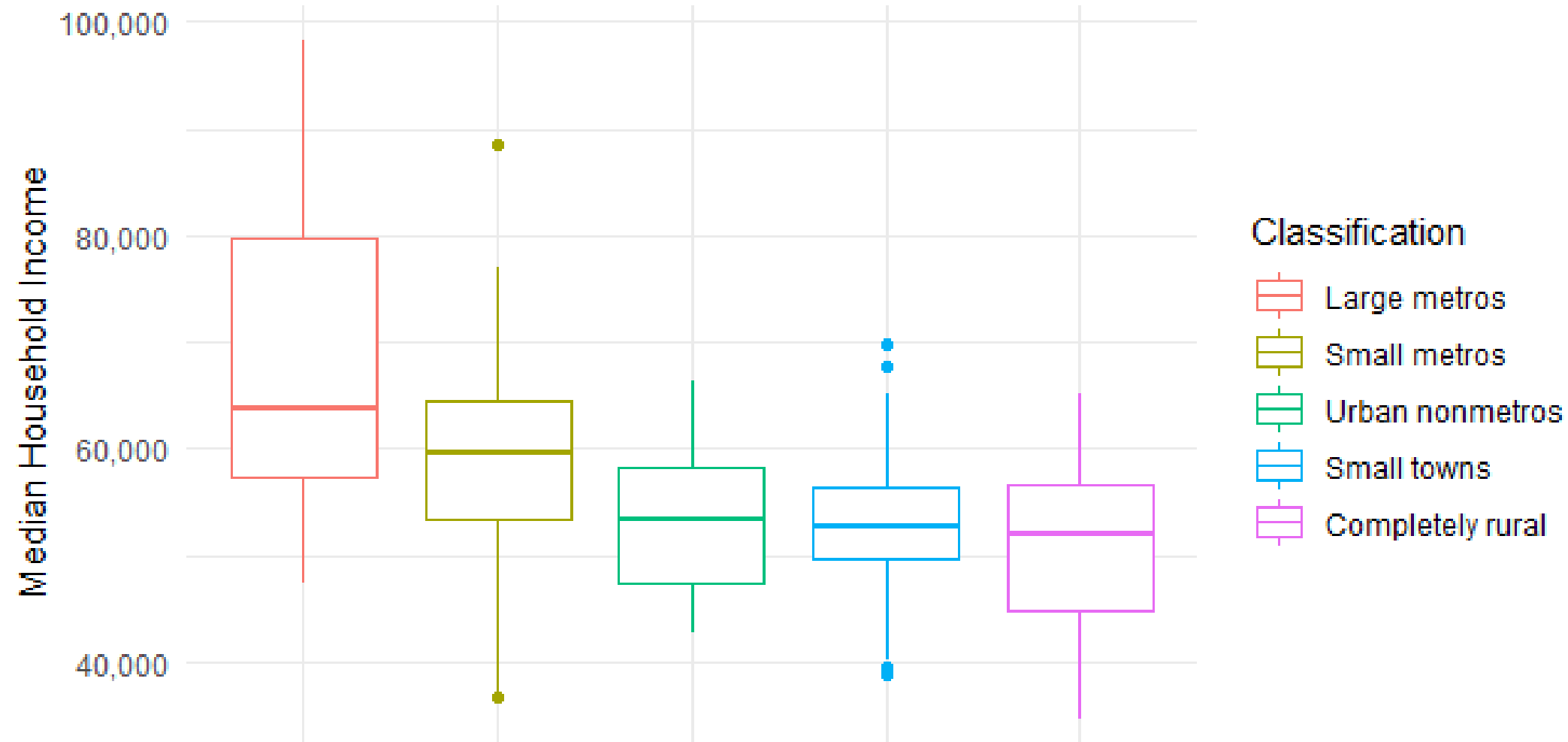38.3 million total population in region

You are here

Grand Rapids

245 small town or rural counties out of
291 non-metro counties out of
448 counties
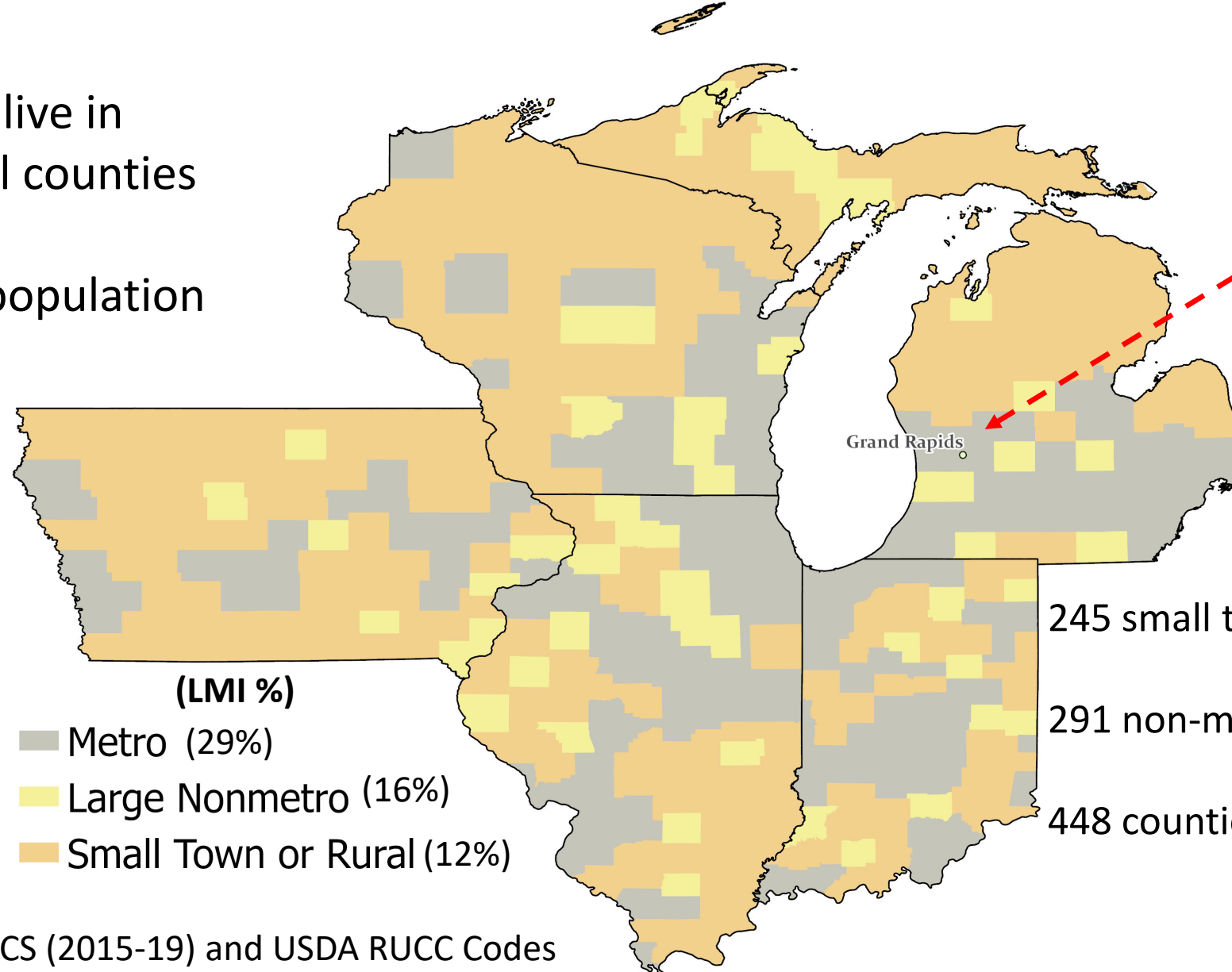
(LMI %)

80% of population — Metro (29%)

7% of population — Large Nonmetro (16%)

13% of population — Small Town or Rural (12%)

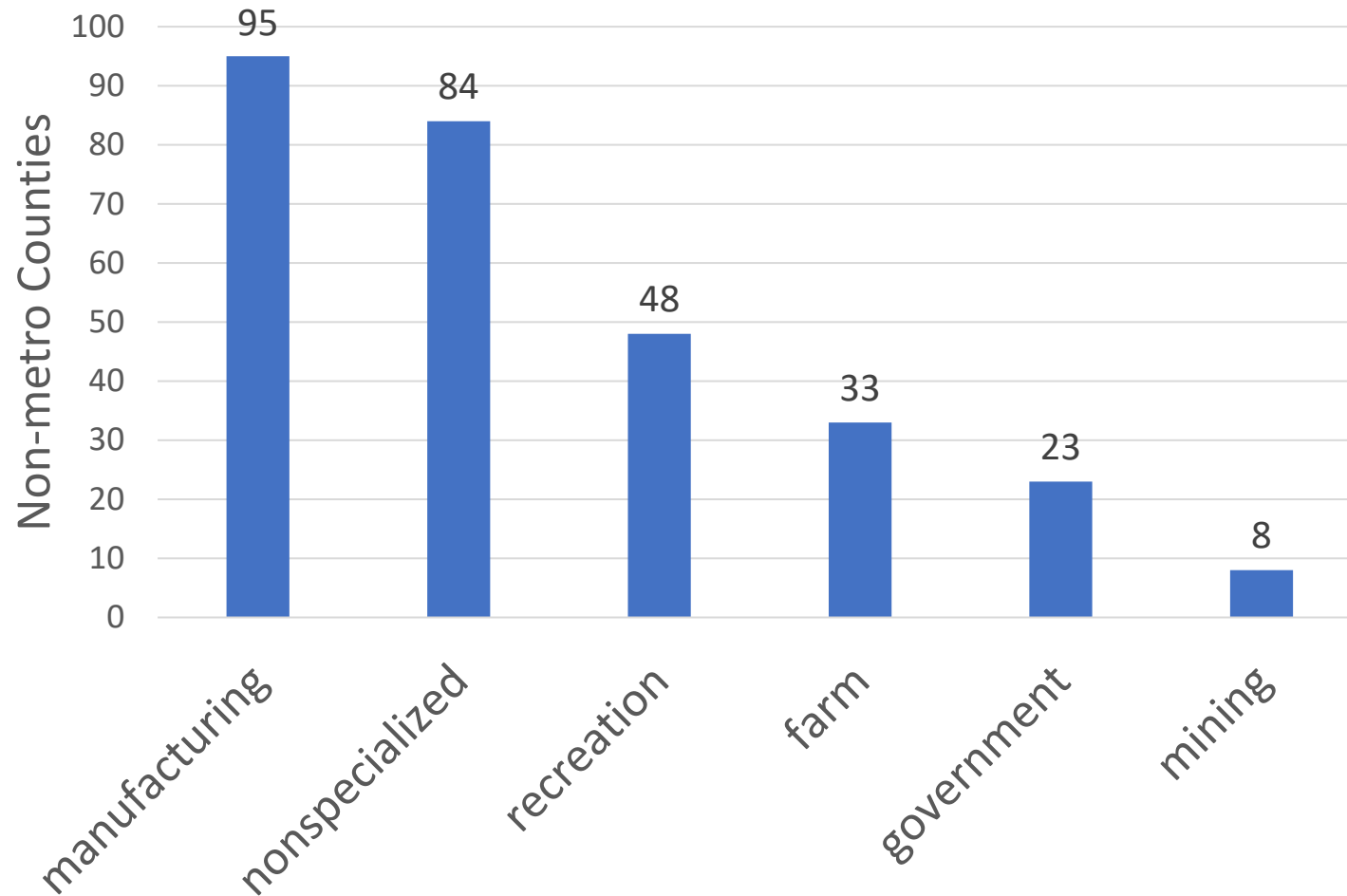Source: ACS (2015-19) and USDA RUCC Codes

5

Differences:
Median household income

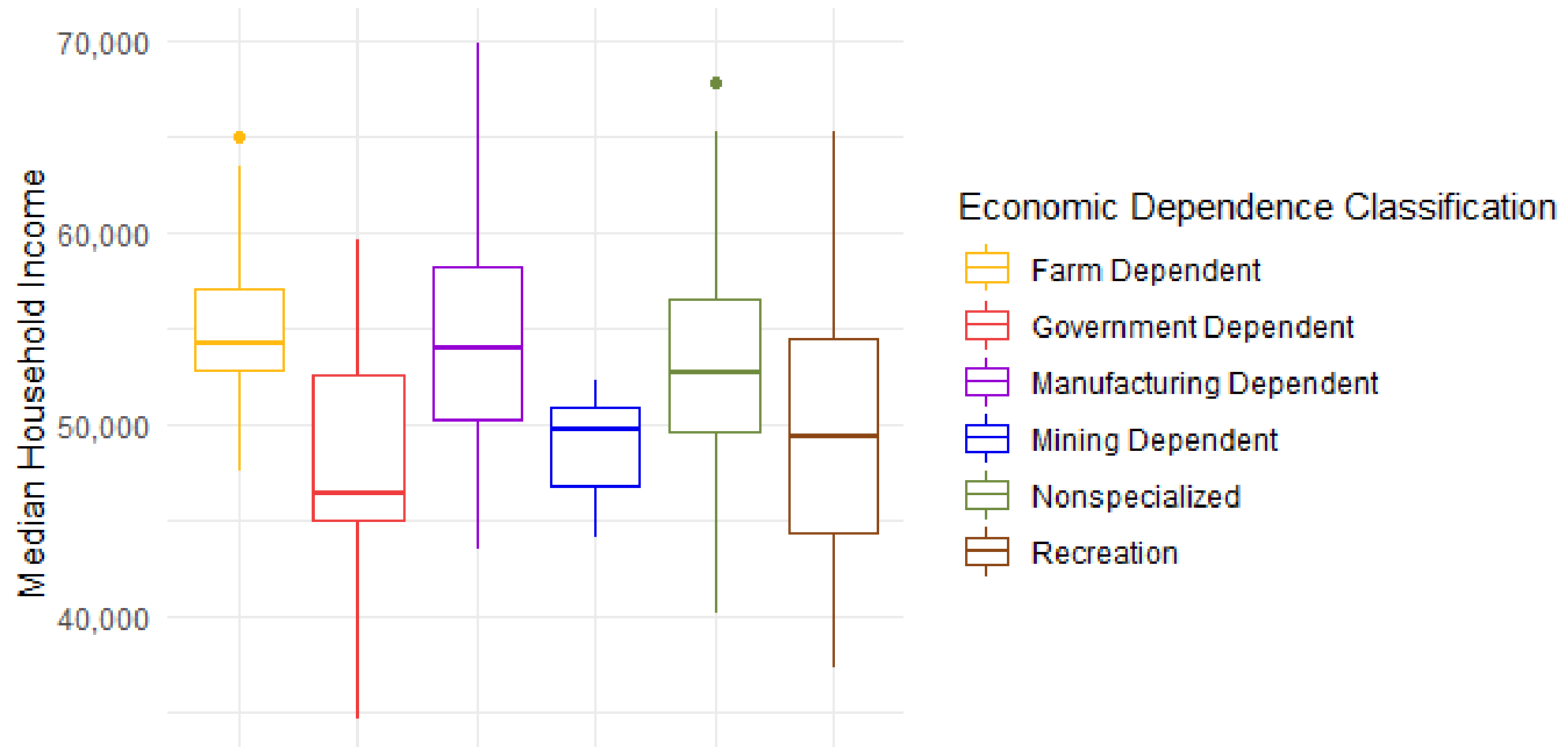Source: ACS (2015-19) and USDA RUCC Codes

Differences:
County economic specialization

- USDA classifies into six mutually exclusive categories of economic dependence

- Use earnings and employment

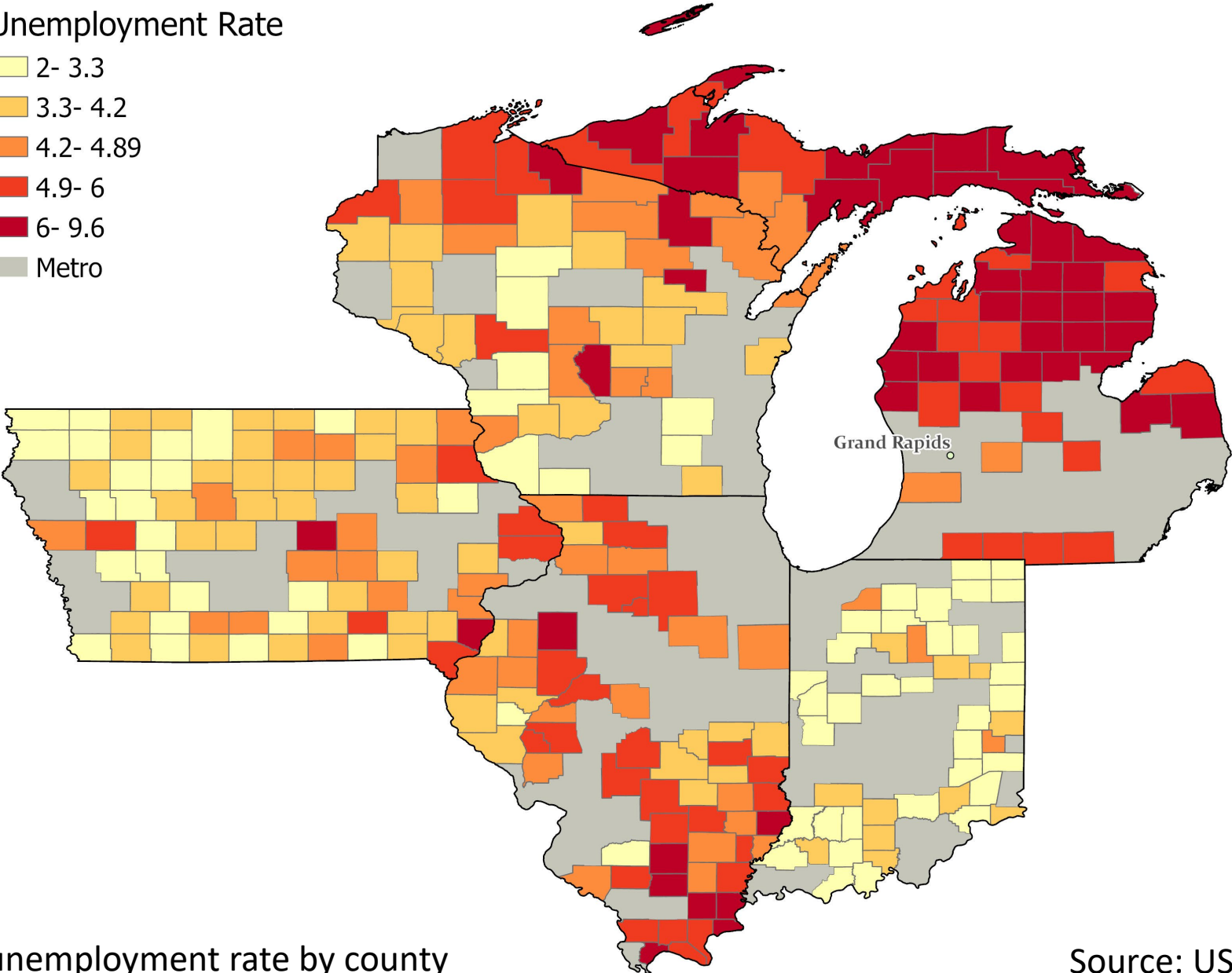- Five-state region non-metro counties →

Differences:
Median household income & economic specialization

Source: ACS (2015-19) and USDA RUCC Codes
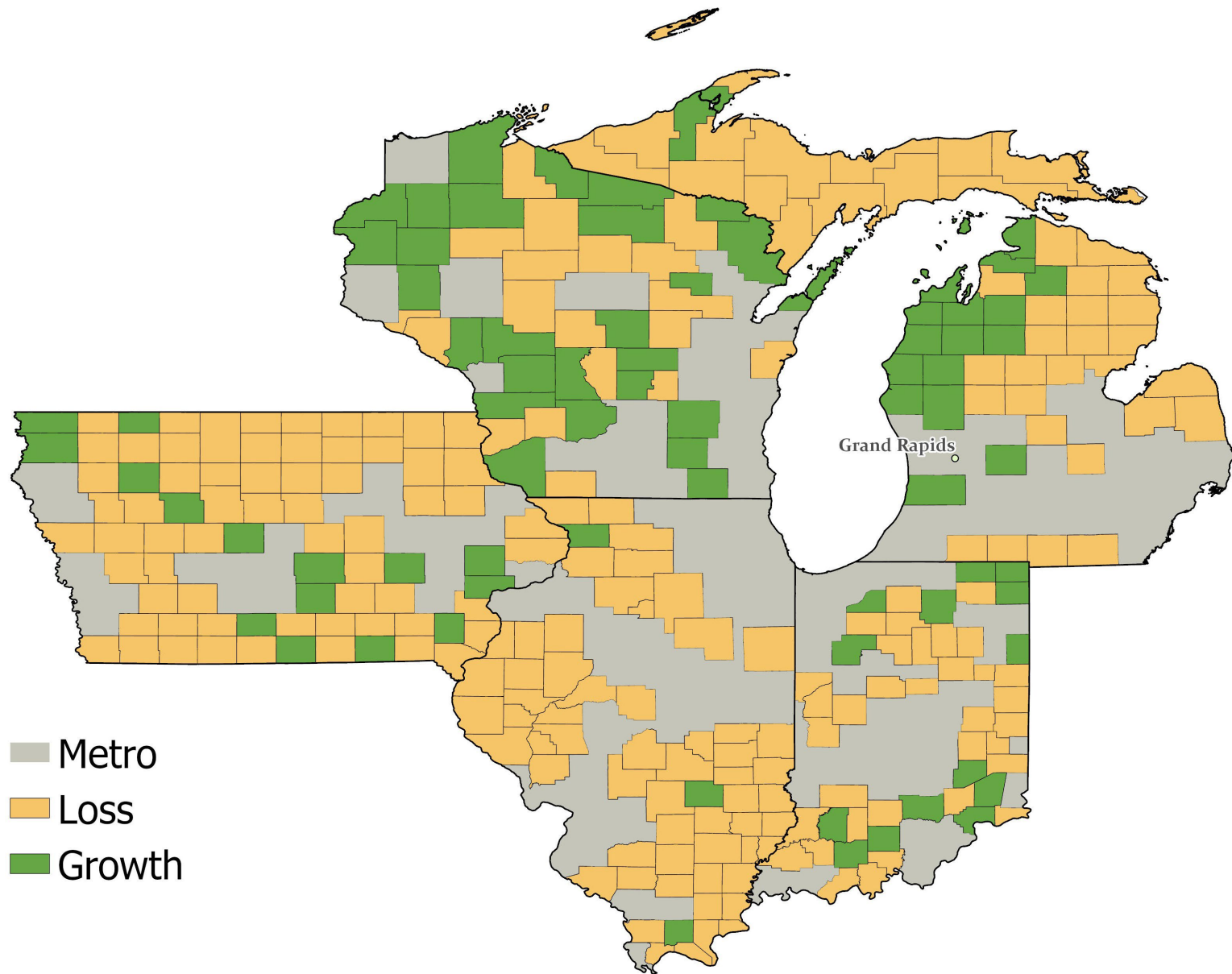
Differences: 2021 Unemployment Rates
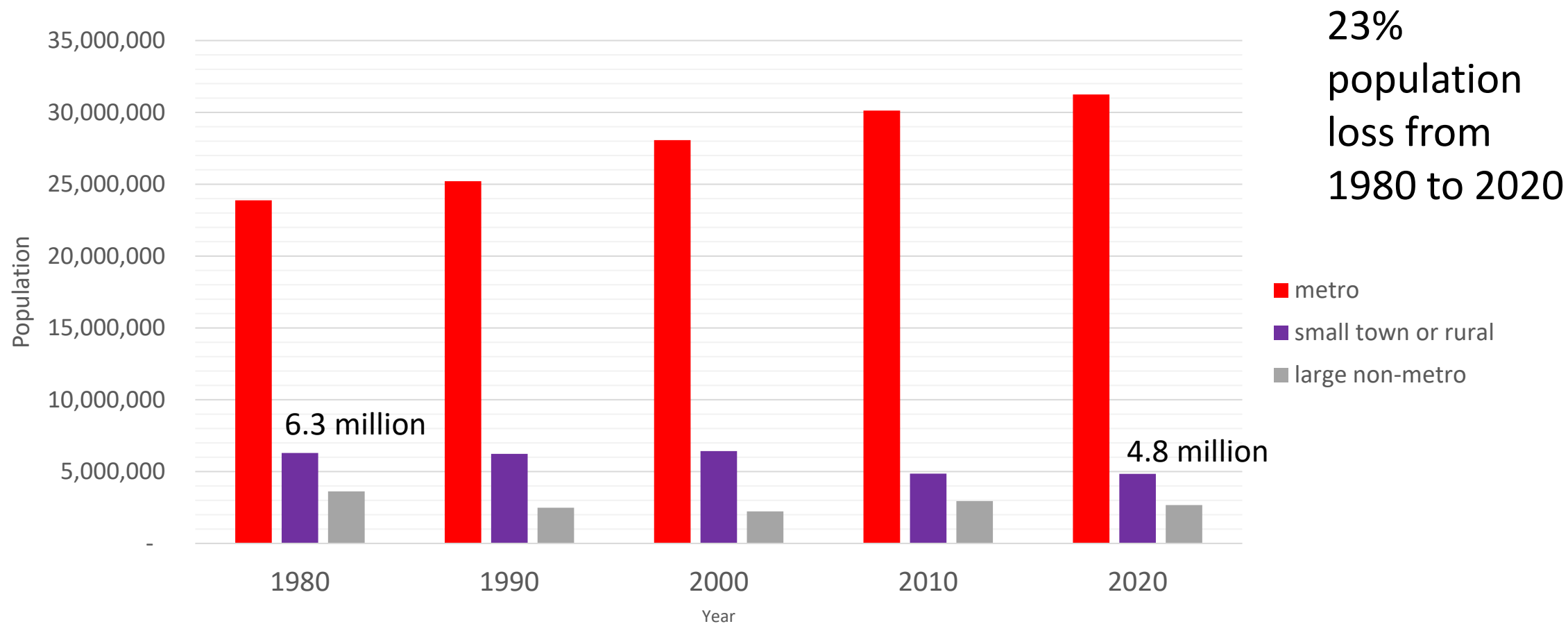
Unemployment Rate

- 2- 3.3
- 3.3- 4.2
- 4.2- 4.89
- 4.9- 6
- 6- 9.6
- Metro

Grand Rapids

Average annual unemployment rate by county

Source: USDA ERS

9

Differences: Population gain or loss (2010 to 2020)

Understanding rural population loss: 1980 to 2020

23% population loss from 1980 to 2020

Source: Authors' tabulations using U.S. Census Bureau and USDA Economic Research Service data

11

Understanding the loss of rural places and population: 1980 to 2020
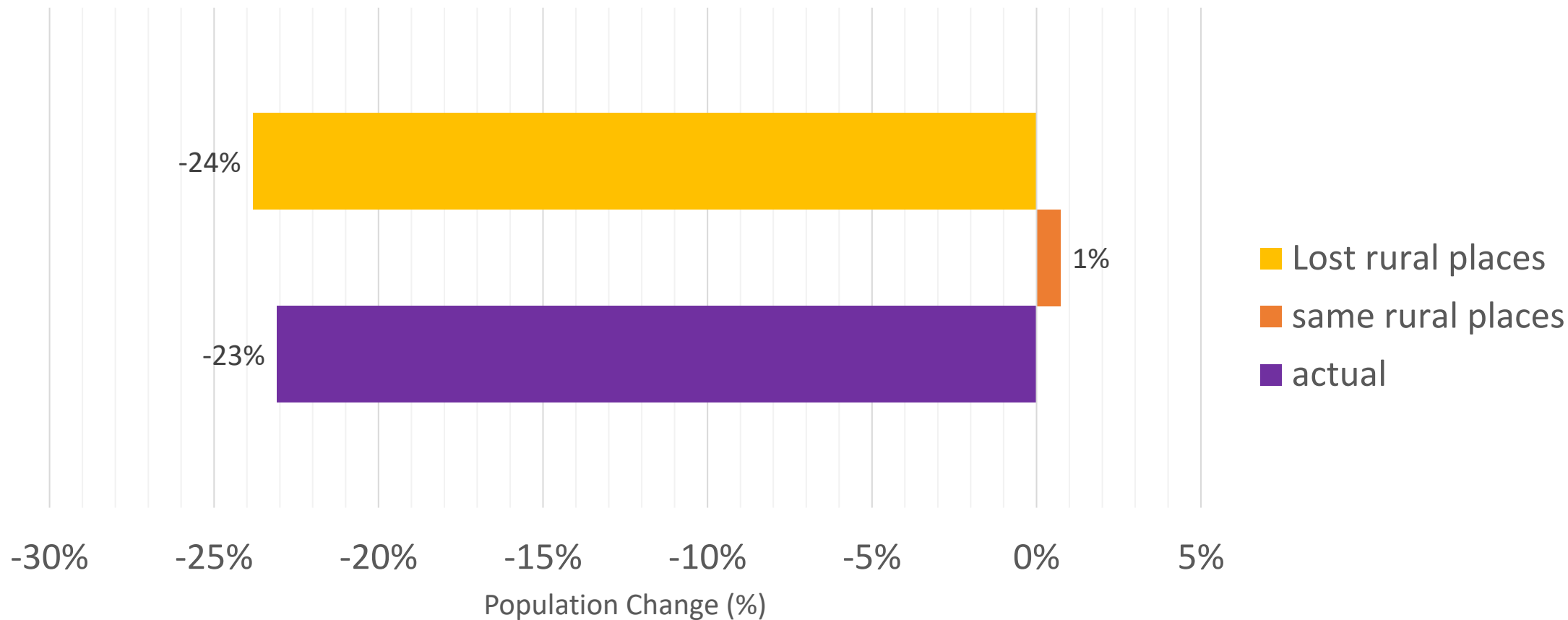

Source: Authors' tabulations using U.S. Census Bureau and USDA Economic Research Service data

12

Leveraging Ongoing CDPS Research

#1 Use credit bureau data to measure migration

- Credit histories of 240 million U.S. adults, updated quarterly
- Use changes in reported mailing addresses to measure migration
- We see a 5% sample of same people over time
- Our team measured migration in Chicago and rural places
- Advantages relative to other migration data
  - Observe census tract to census tract migration
  - Updated quarterly
- Disadvantages
  - Omits 10% of U.S. adults without credit history + SSN
  - Lowest-income persons more likely to lack credit history ~30%
- Assessing reliability – national, state, county, tract, urban/rural

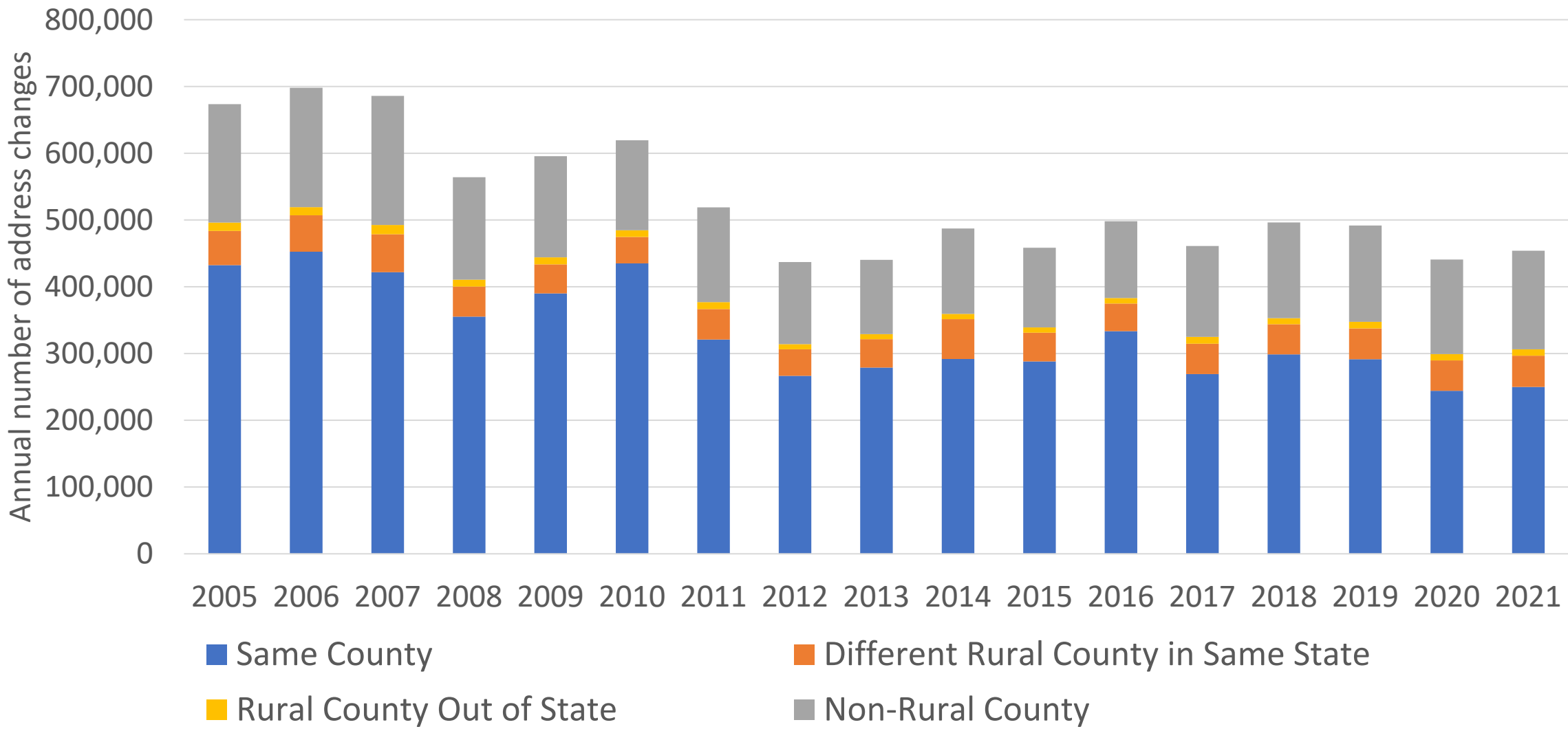# Focus region – Illinois, Indiana, Iowa, Michigan, Wisconsin

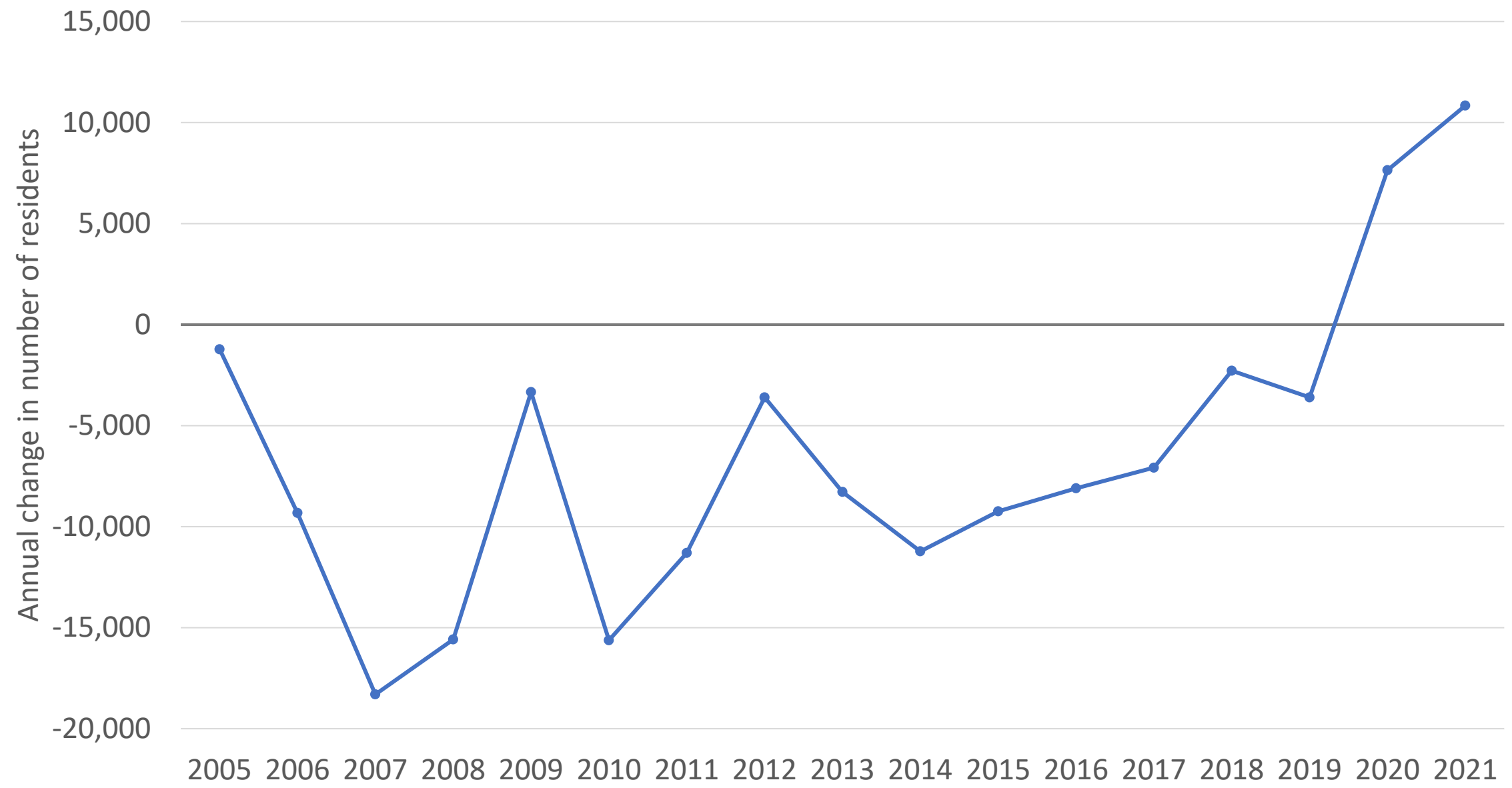## Percent of residents changing address, by year
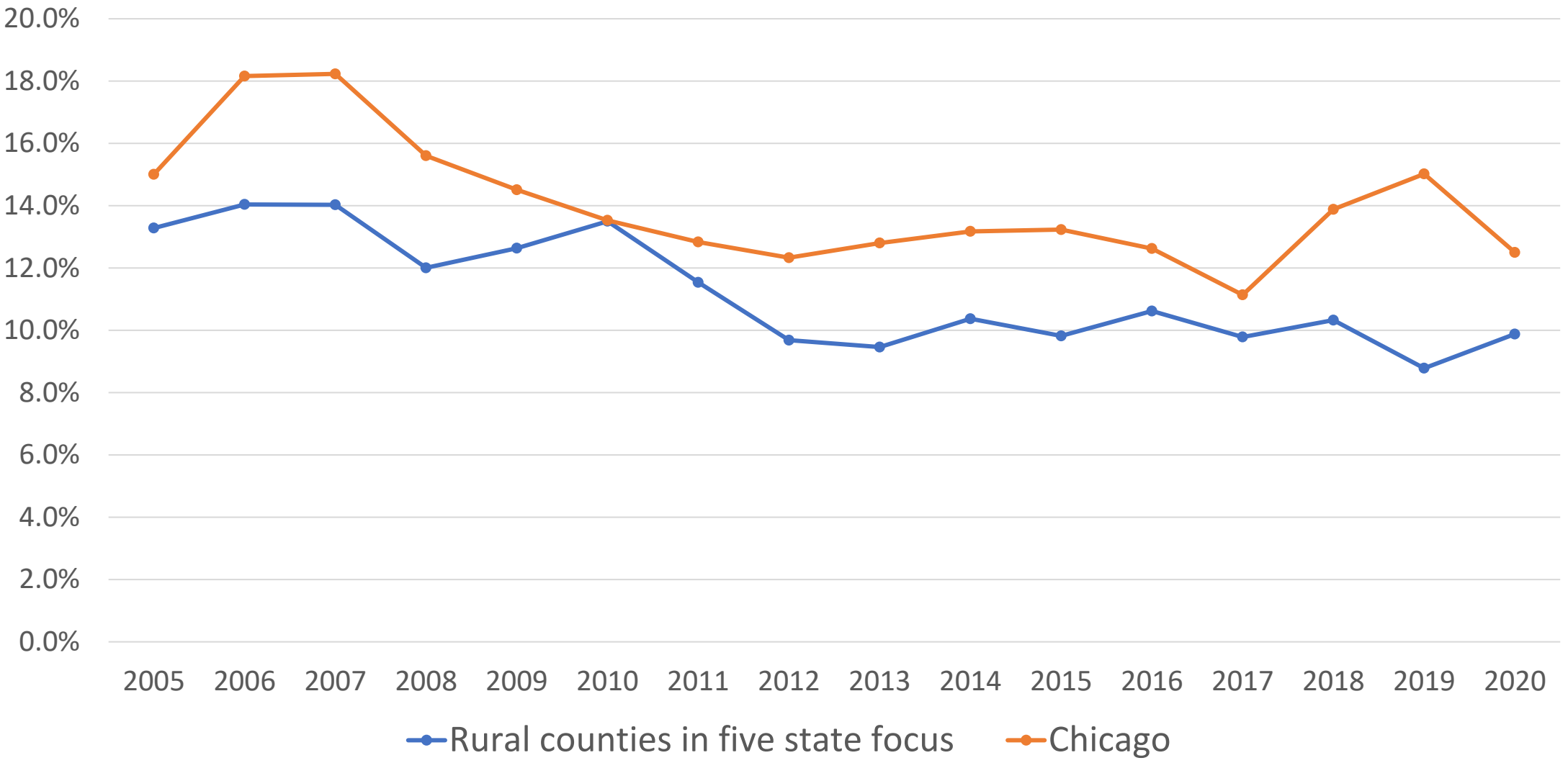
Location of new address, for residents of rural counties with new address, by year
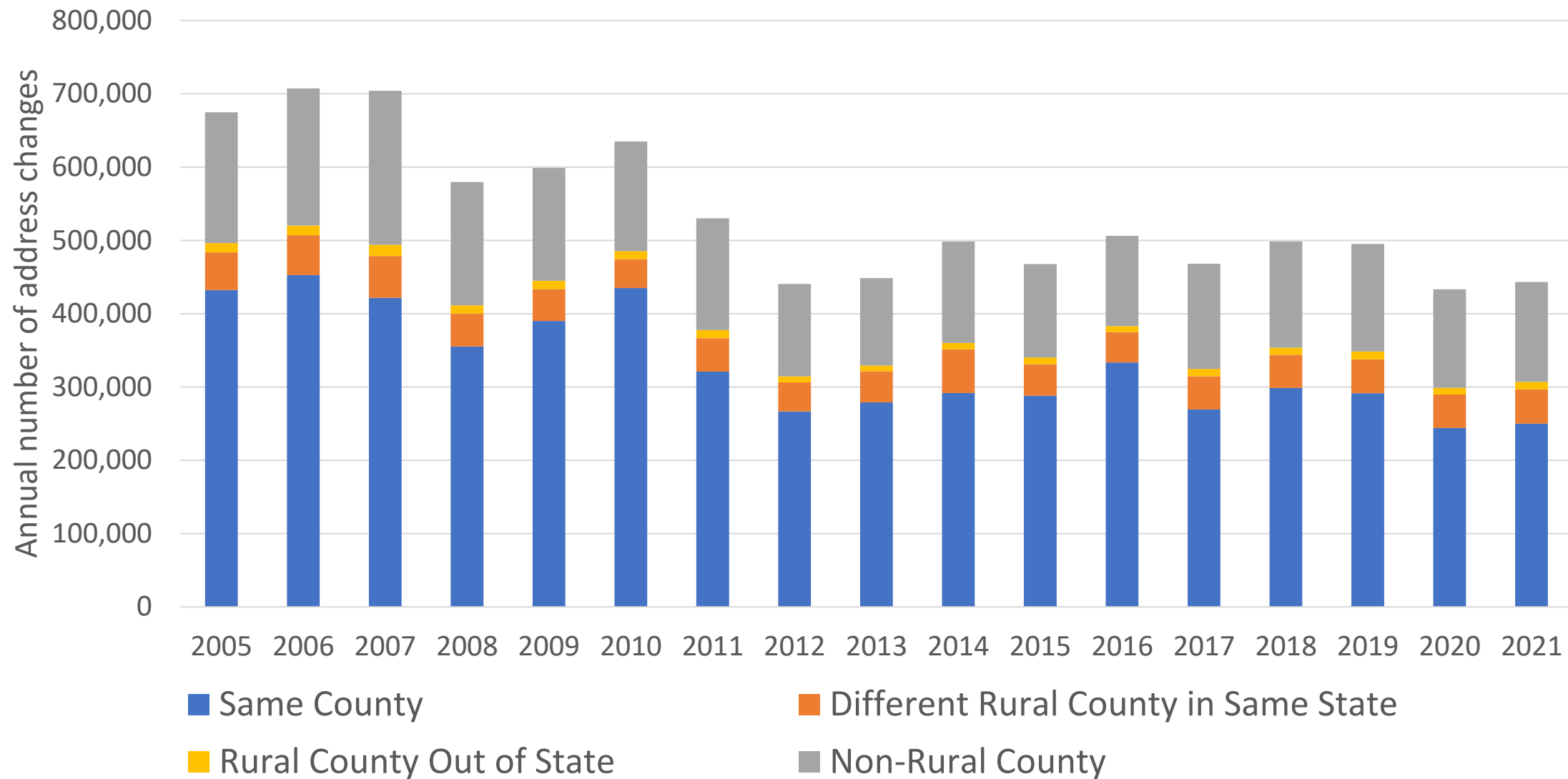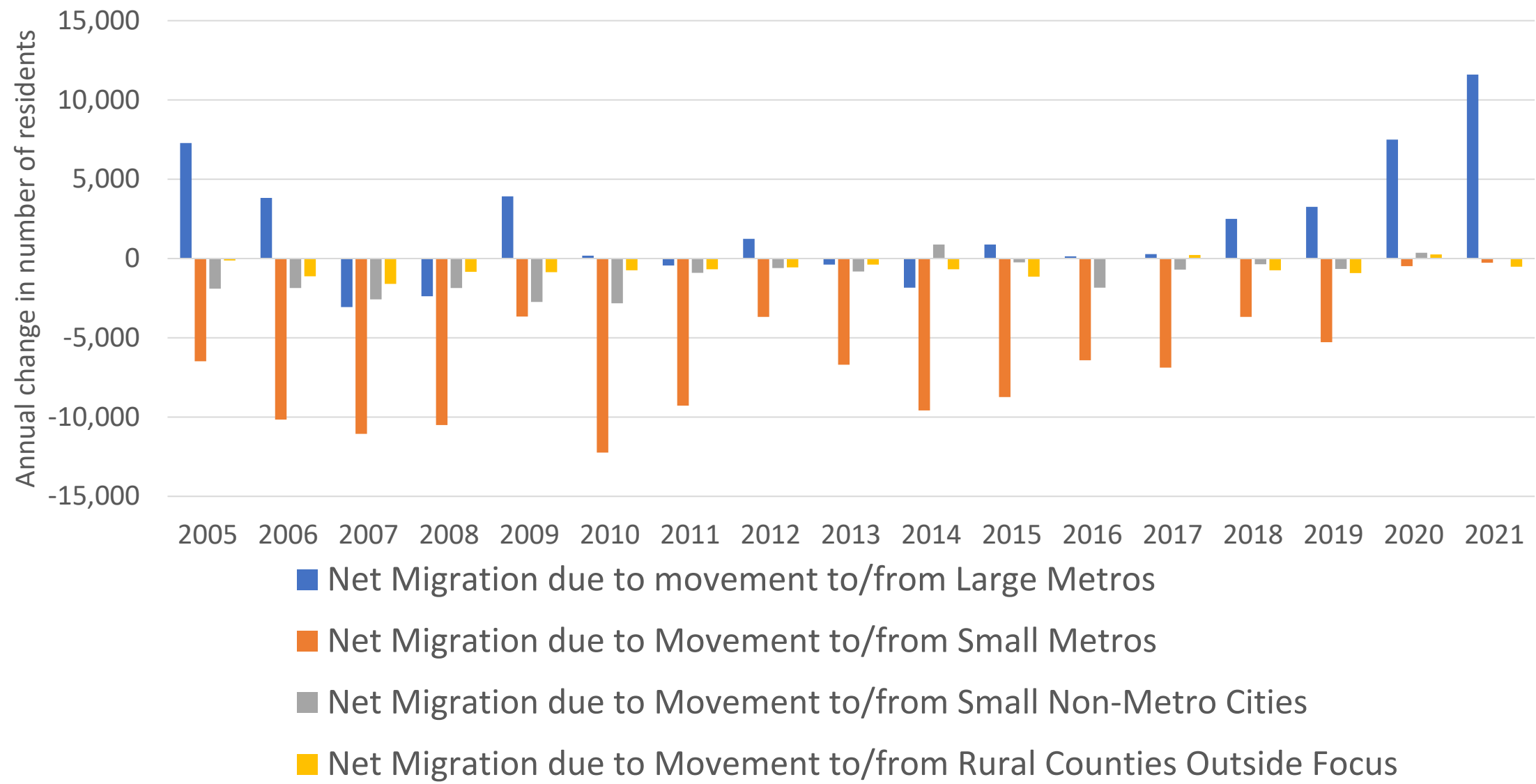
Location of previous address, for residents of rural counties with new address, by year

Annual Net Domestic Migration for Small Town or Rural Counties
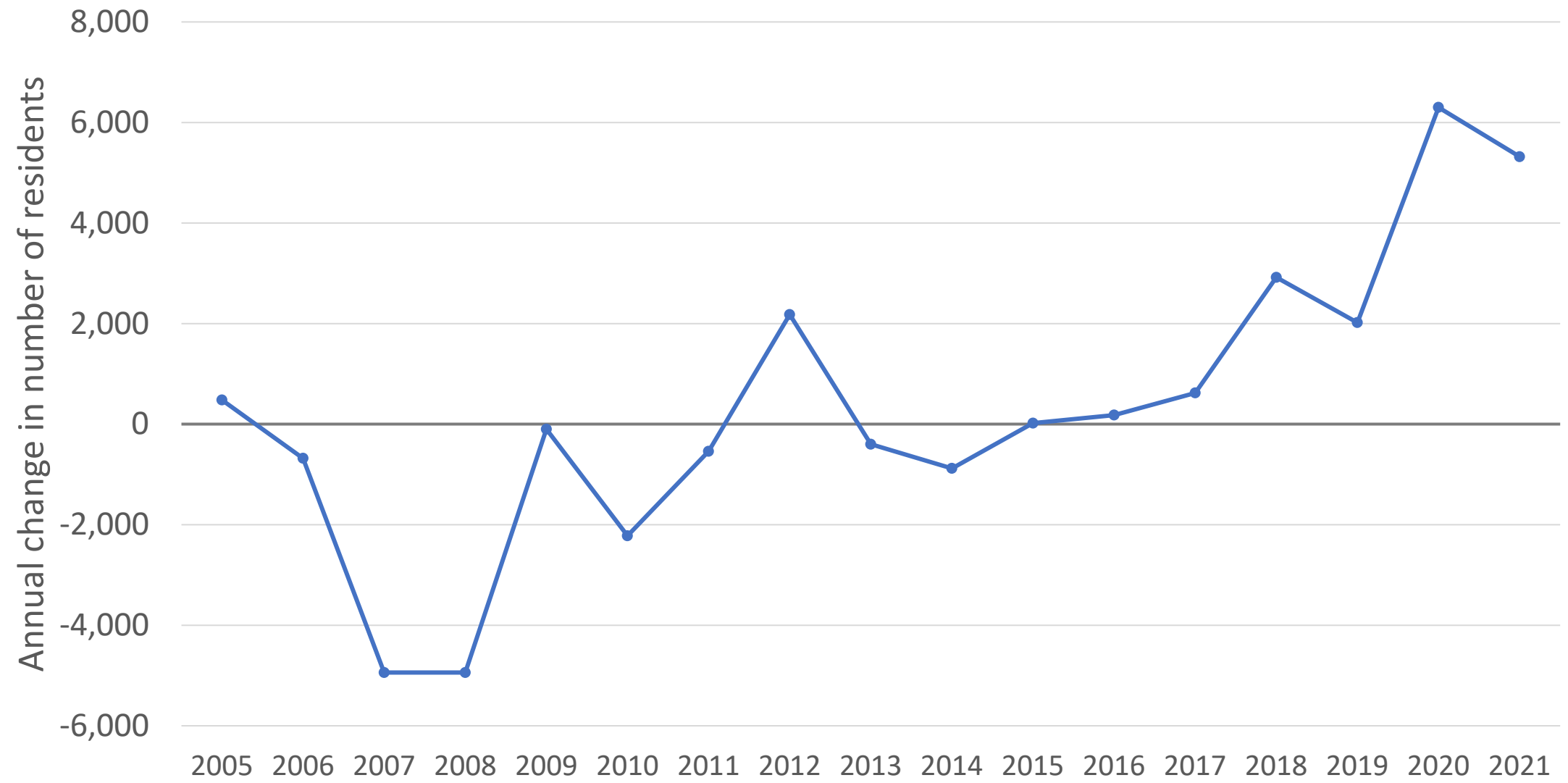
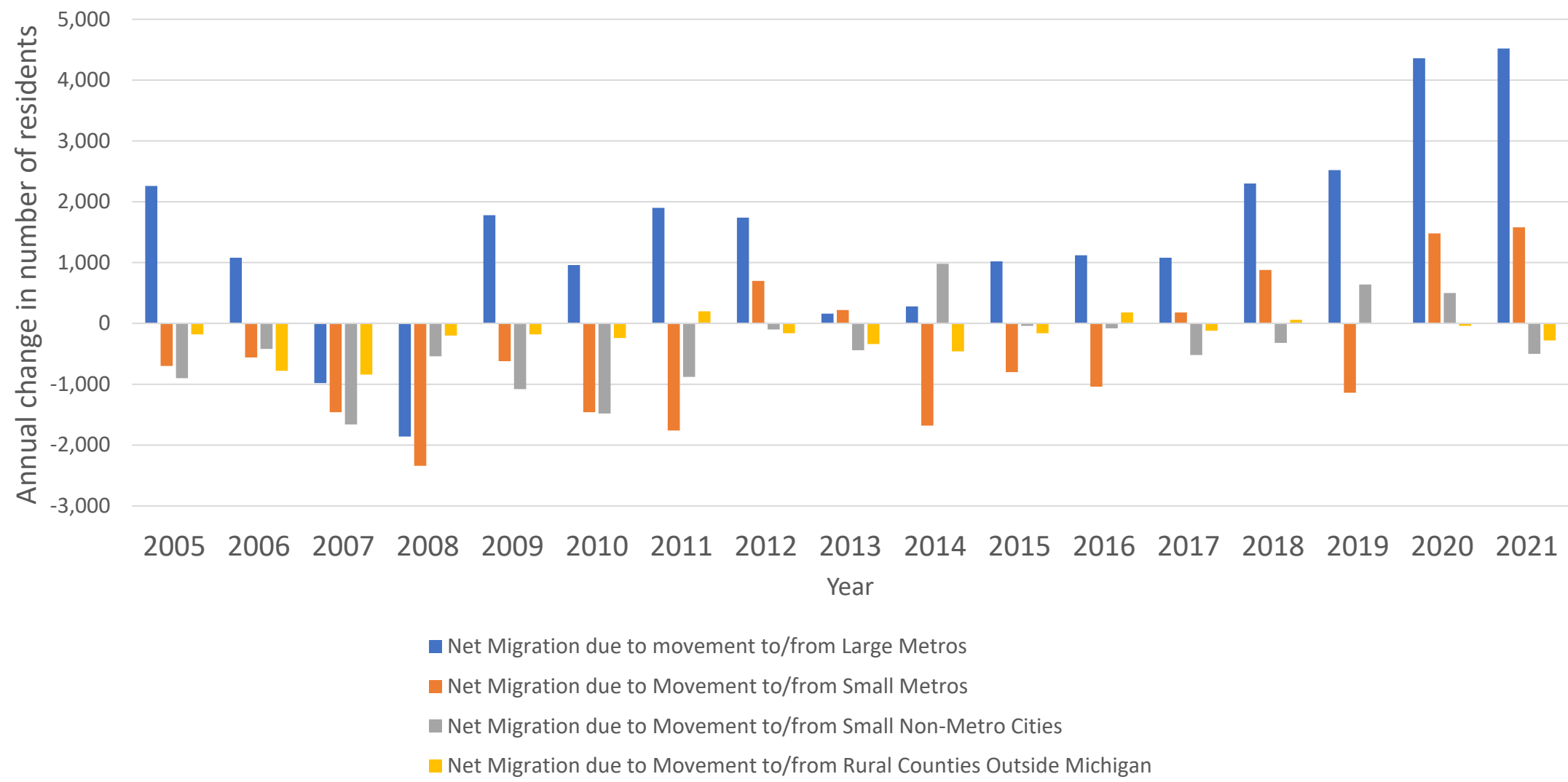Annual Net Domestic Migration for Rural Counties, by Flow Decomposition

Small Town or Rural Counties in Michigan

Annual Net Domestic Migration

Rural Counties in Michigan
Annual Net Domestic Migration, by Flow Decomposition

#2 Measuring access to banking services

- Rural households less likely to be unbanked
  - FDIC (2019) reports that 6.2% of rural households are unbanked vs. 8.1% of urban households
- 9 in 10 rural households visit a bank branch at least once each year
- Rural households less likely to use bank credit and more likely to use non-bank credit than metro households
  - Bank credit: 65% v. 70%
  - Non-bank credit: 6.3% v. 4.5%
- 41% of rural counties (disproportionately distressed and minority ones) lost bank branches from 2012 to 2017, and nearly 100 rural banking markets lost their only headquarters

Annual bank branch visits by rural status

Source: FDIC Survey (2019)

23
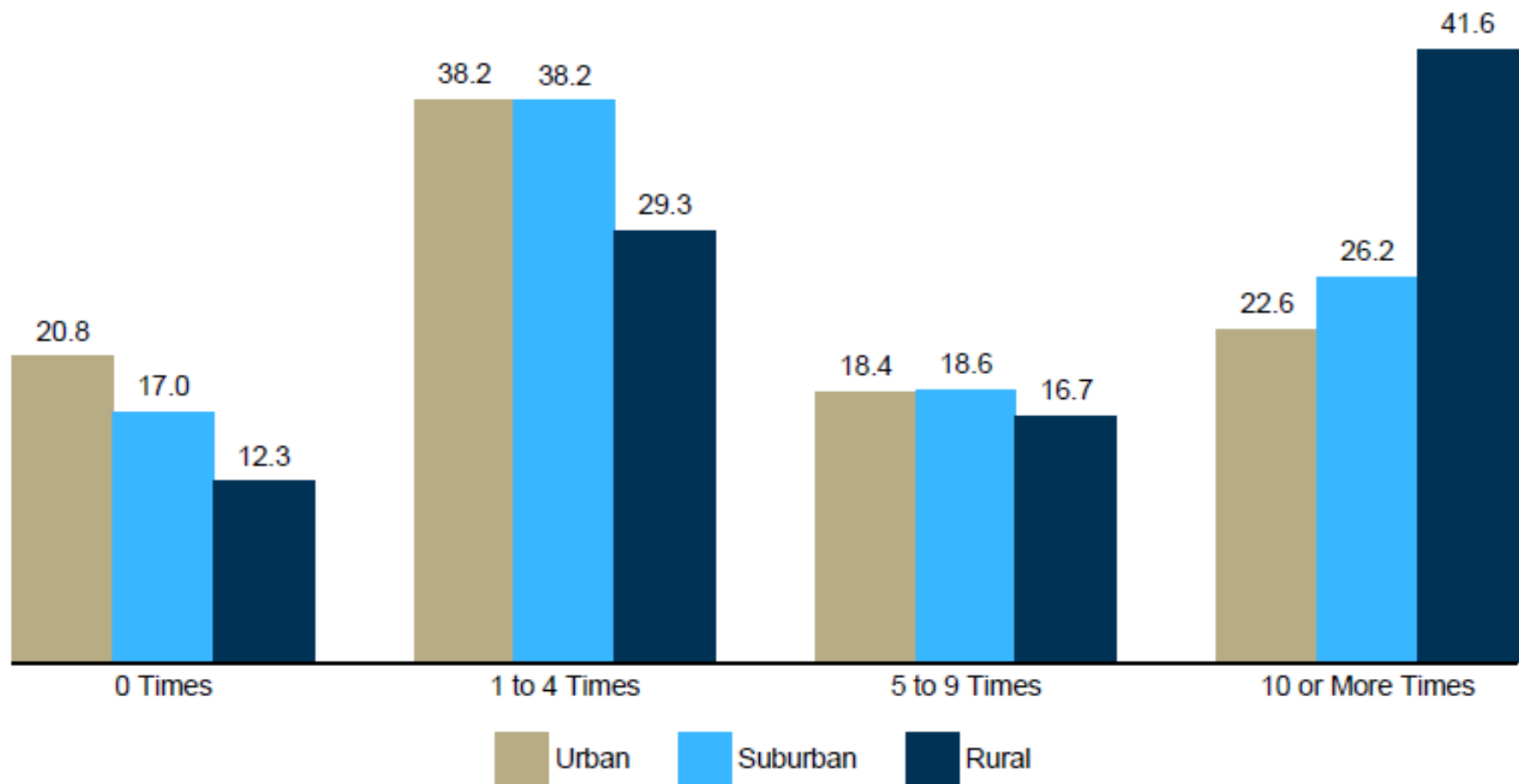
# Nonbank credit use higher for rural households
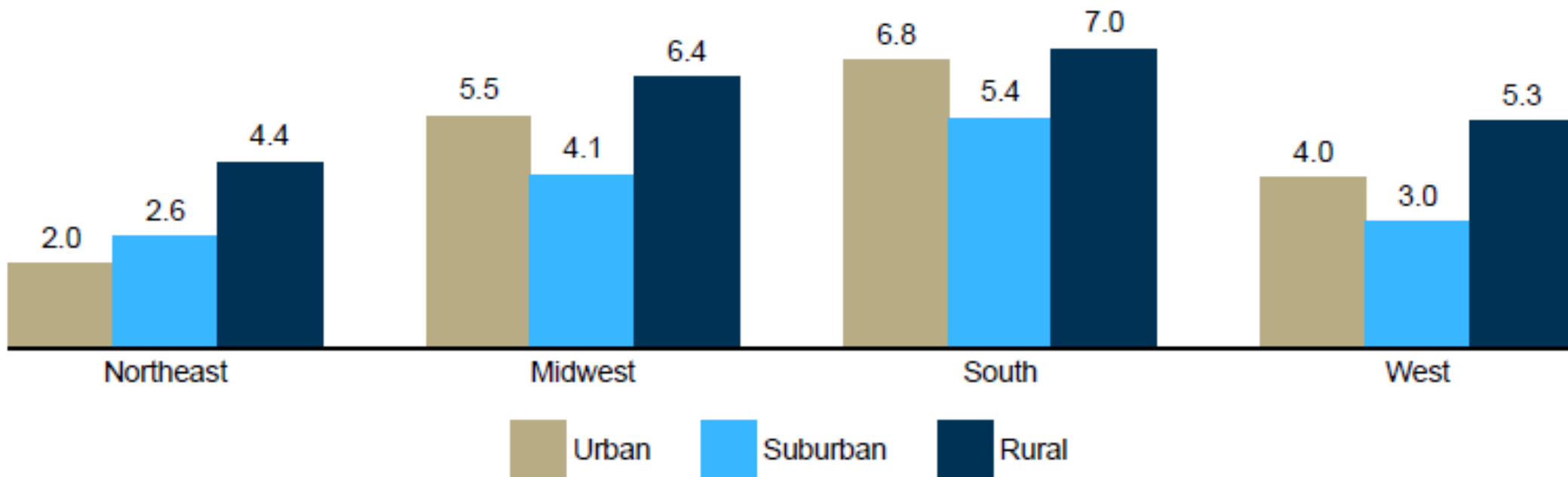
Source: FDIC Survey (2019)

Using cell phone location data to measure bank access

- Cell phone location data show trips from home to bank branches
- Measure the relationship between distance and bank trips
- Goal: measure access to equivalent quality banking services across places
  - Access combines distance & set of services and their quality
  - Access decreases with distance and increases with services and quality
- Use trip and other data to infer demand for and supply of banking services and bank branch quality
- On average, residents of big cities have 3x higher access to banks than residents of rural areas

Measure of Bank Access in Five States
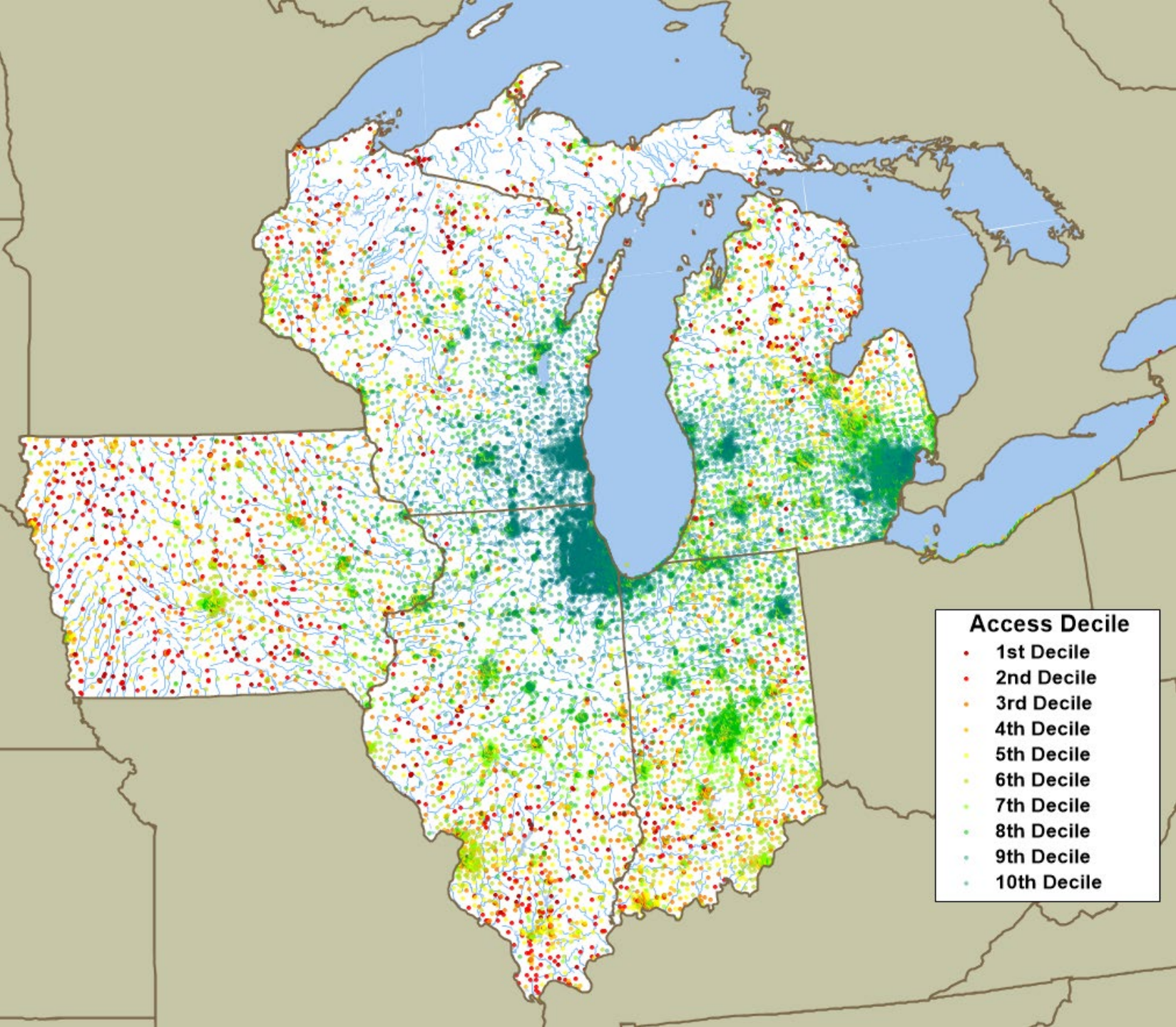
Source: Authors' tabulations based on Sakong and Zentefis (2022). **DO NOT CITE WITHOUT PERMISSION**

Access Decile
- 1st Decile
- 2nd Decile
- 3rd Decile
- 4th Decile
- 5th Decile
- 6th Decile
- 7th Decile
- 8th Decile
- 9th Decile
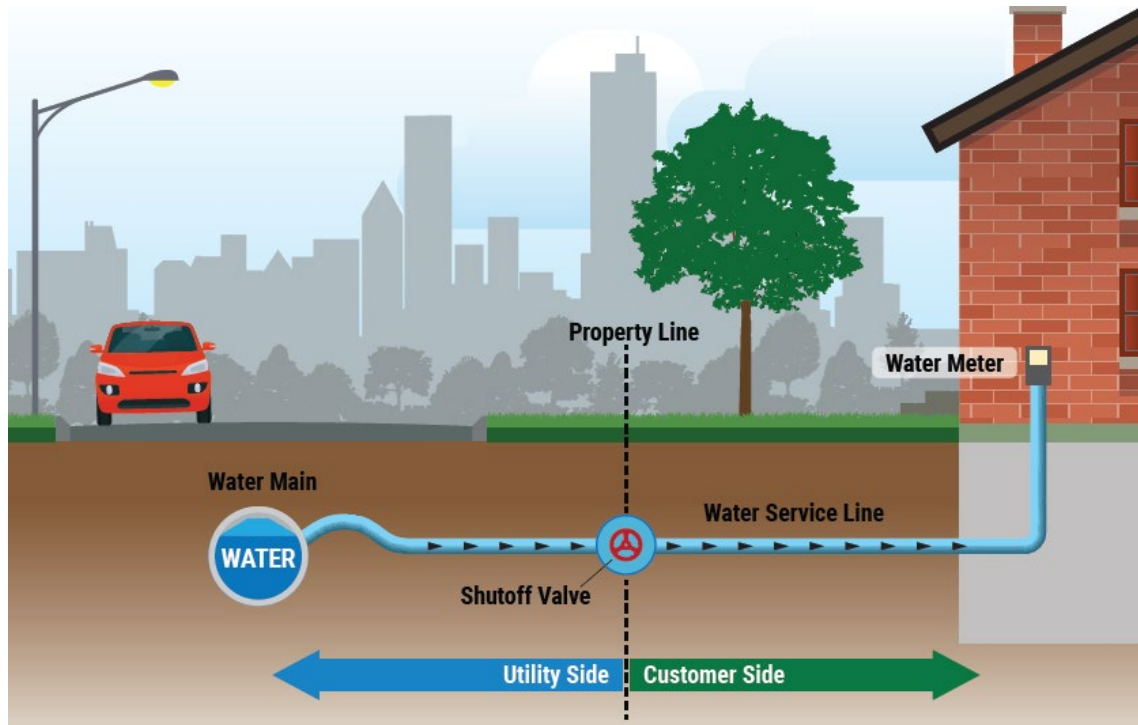- 10th Decile

#3 Drinking Water Infrastructure

- Nearly 90% of the 50,000 drinking water utility systems in the United States serve fewer than 10,000 people, and more than half serve fewer than 500 people.

- Primarily a city and county responsibility financed via water rates

- Infrastructure needs:
  - Smallest systems (serving 3,000 or fewer people) need: $74.4 billion
  - 16.6% of total water infrastructure need and serve only 7.8% of population
  - Small systems serving 10,000 or fewer: $132.1 billion (28.8%)

- What are infrastructure needs
  - Rehabilitation and construction, not operation and maintenance

Source: EPA *Drinking Water Infrastructure Needs Survey and Assessment (2015)*

Drinking Water Infrastructure Needs: Small Systems

State	Total Drinking Water Infrastructure Need (billions)	Water System Need 10,000 or fewer (billions)	SWS Need as % of Total
Iowa	$7.85	$3.59	46%
Illinois	$20.91	$6.77	32%
Indiana	$7.52	$2.52	34%
Michigan	$13.05	$4.02	31%
Wisconsin	$8.57	$2.84	33%

Source: EPA *Drinking Water Infrastructure Needs Survey and Assessment (2015)*

Example: Lead Service Lines

- Staff at the Chicago Fed are using our expertise to help find ways to overcome economic and financial barriers to replacing LSLs, as part of the Federal Reserve's broader mission to foster economic opportunity, advance a strong and inclusive economy, and promote an efficient financial system.

Lead Service Lines in Michigan

- State law: inventory by 2025 and replace by 2040 @ 5% each year

- Statewide estimates:
  - Preliminary materials inventories (PMI): between 331k to 650k
  - NRDC: 460k

- Cost estimates LSL replacement using PMI:
  - about $7k in Benton Harbor, MI right now

	Service Lines	Known or Likely Lead	Replacement Cost @ $8k	LSL Bipartisan Infrastructure $
Michigan	2,648,185	331,523	$2,320,661,000	$348,000,000
Small Water Systems	1,008,549	106,181	$743,267,000	
Smallest Water Systems	486,627	42,525	$297,675,000	

Thank You

Extra Extra

Manufacturing-dependent counties

Manufacturing dependent
Nonmetro
Metro

Other
Nonmetro
Metro

USDA, Economic Research Service (2017)

33
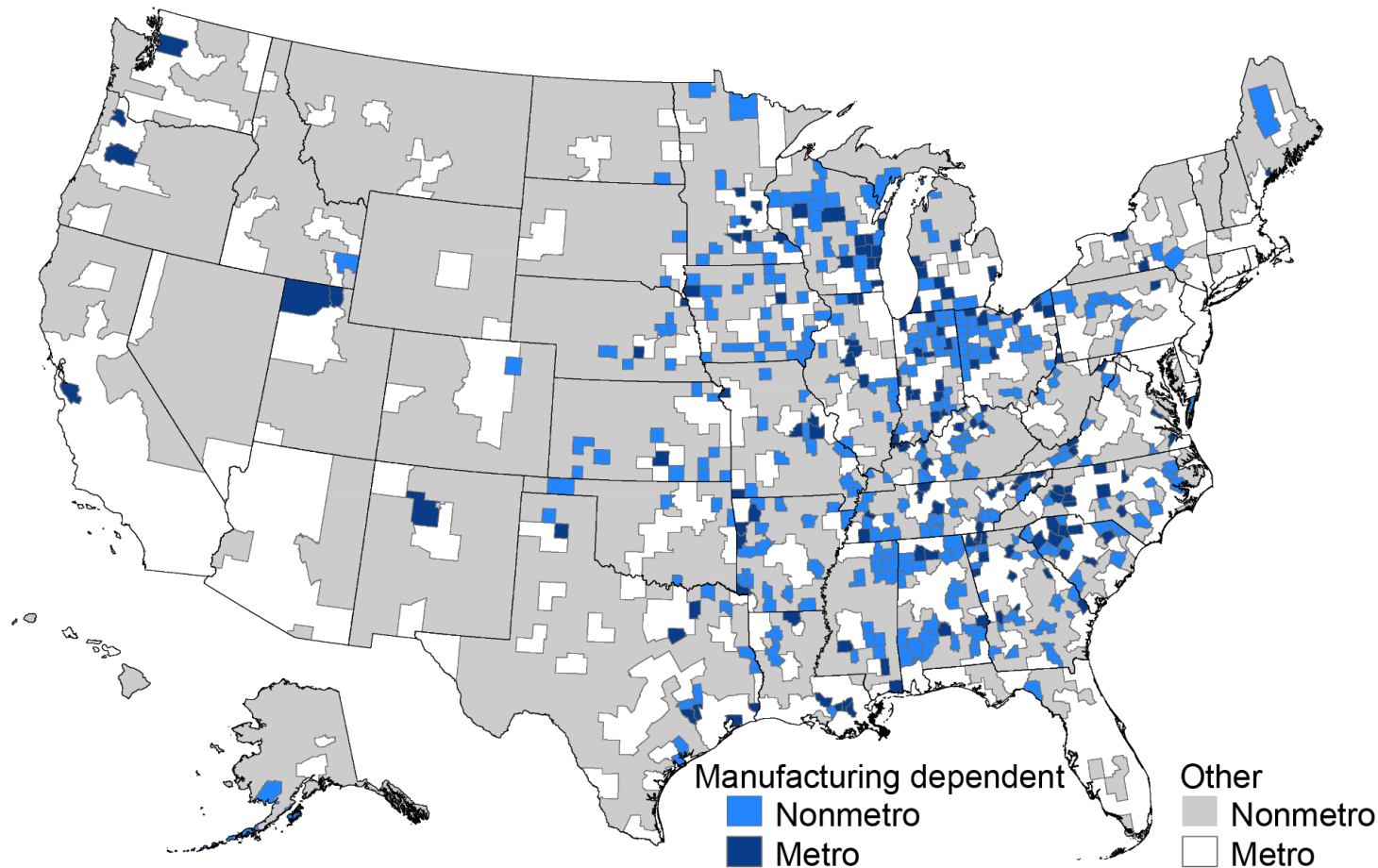
Unemployment Rate – by RUCC
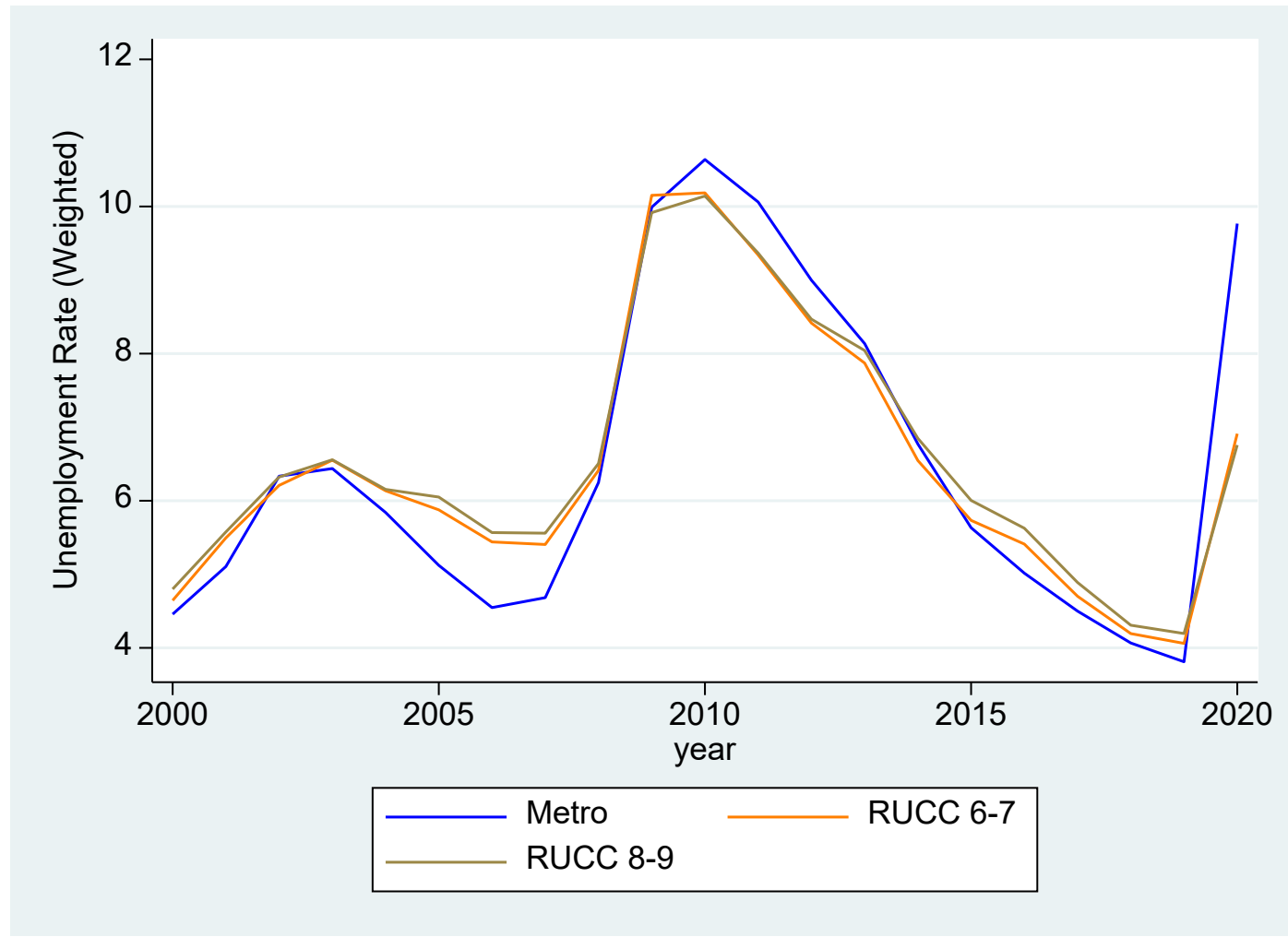
Population Declines in Rural Places
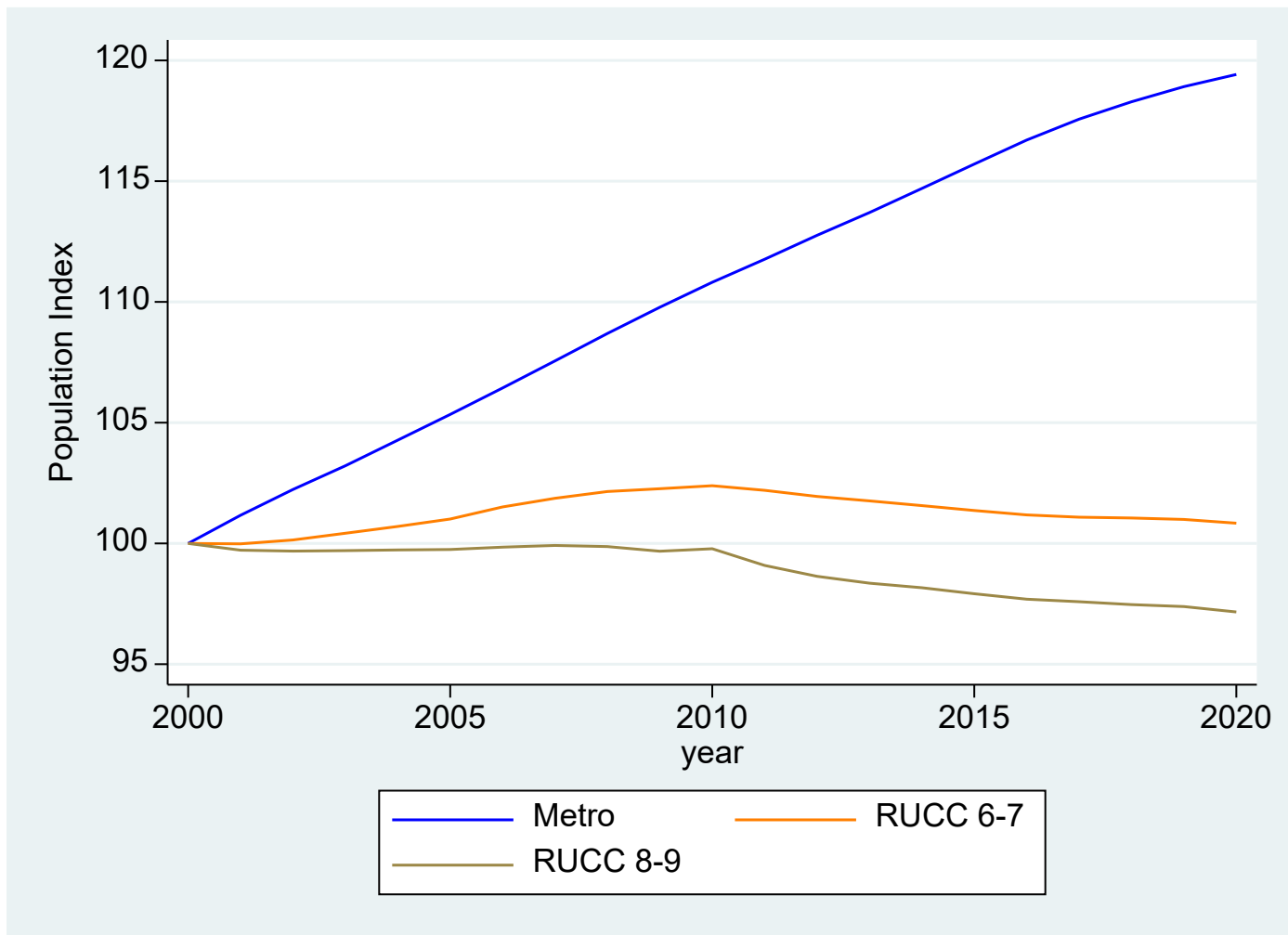
Annual population changes

Population change by metro/nonmetro status, 1976-2017

Percent change from previous year

Metro

U.S.

Nonmetro

Note: Metro status changed for some counties in 1980, 1990, 2000, and 2010.
Source: USDA, Economic Research Service using data from the U.S. Census Bureau.
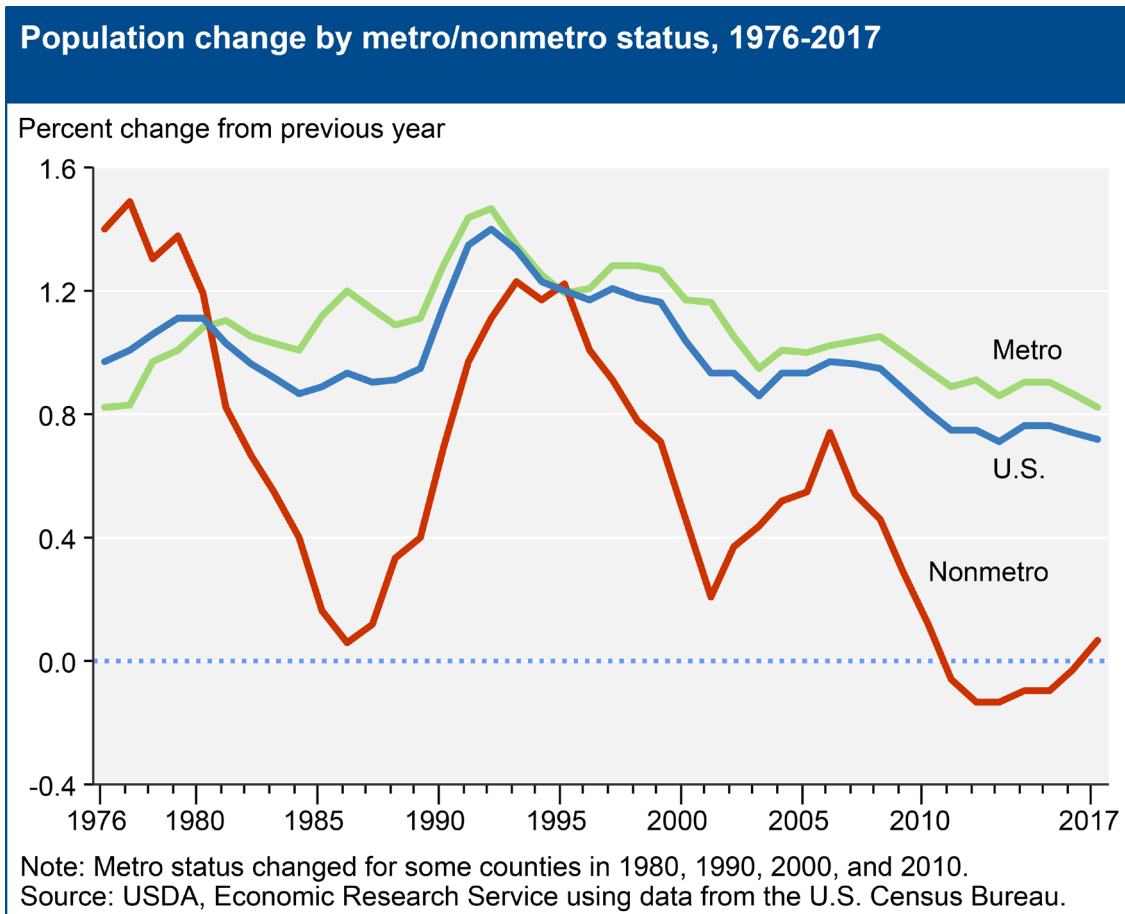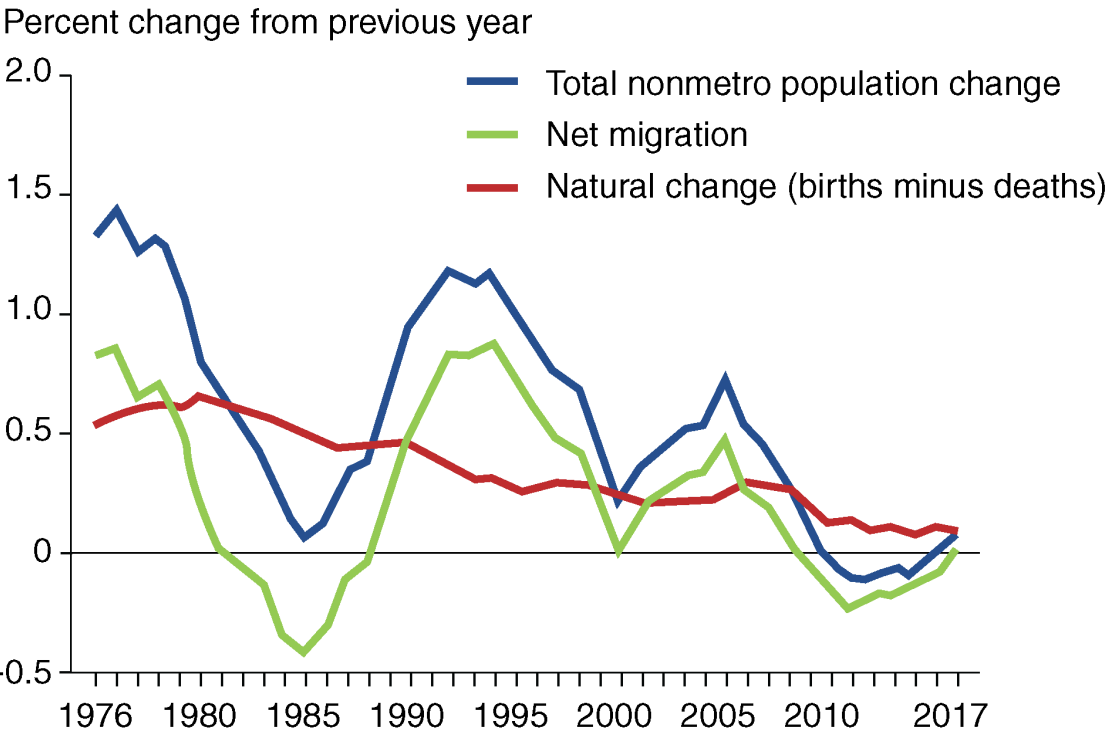
Understanding the loss of rural places and population in 7th District: 2010 to 2020
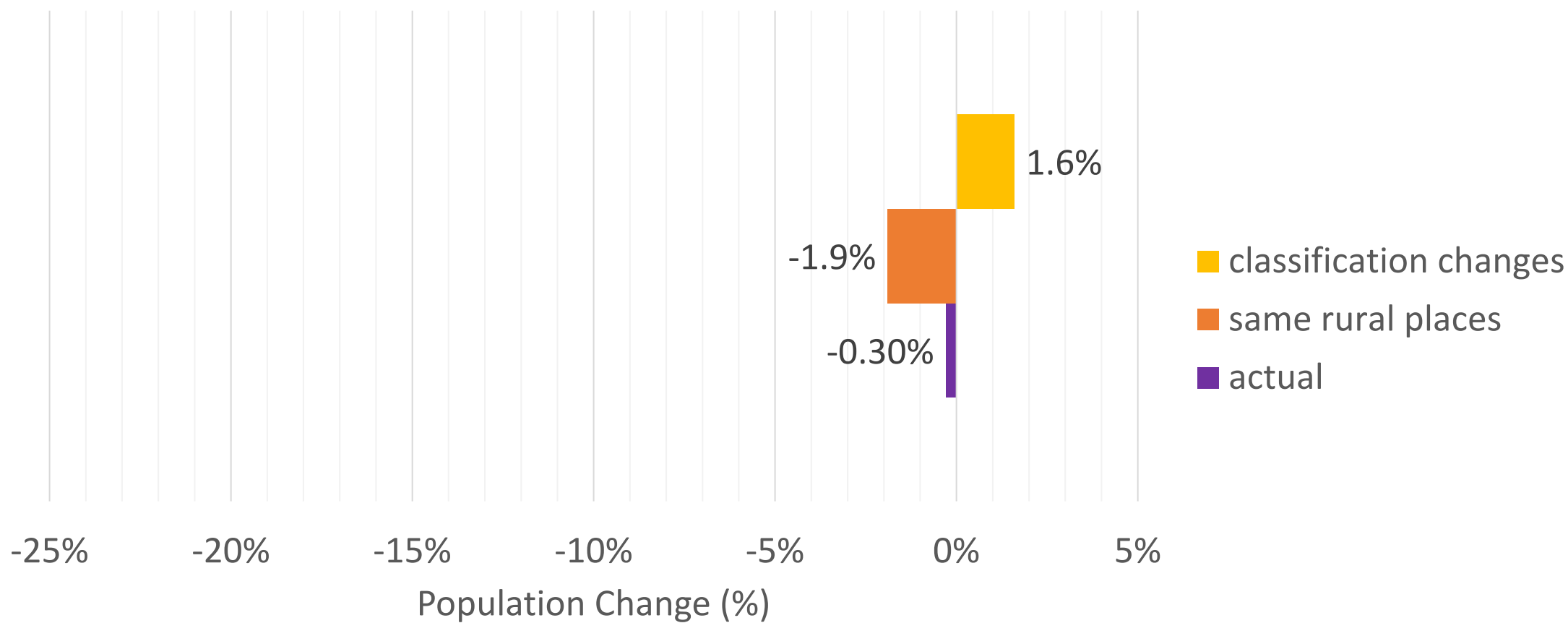
Authors' tabulations using U.S. Census Bureau and USDA Economic Research Service data
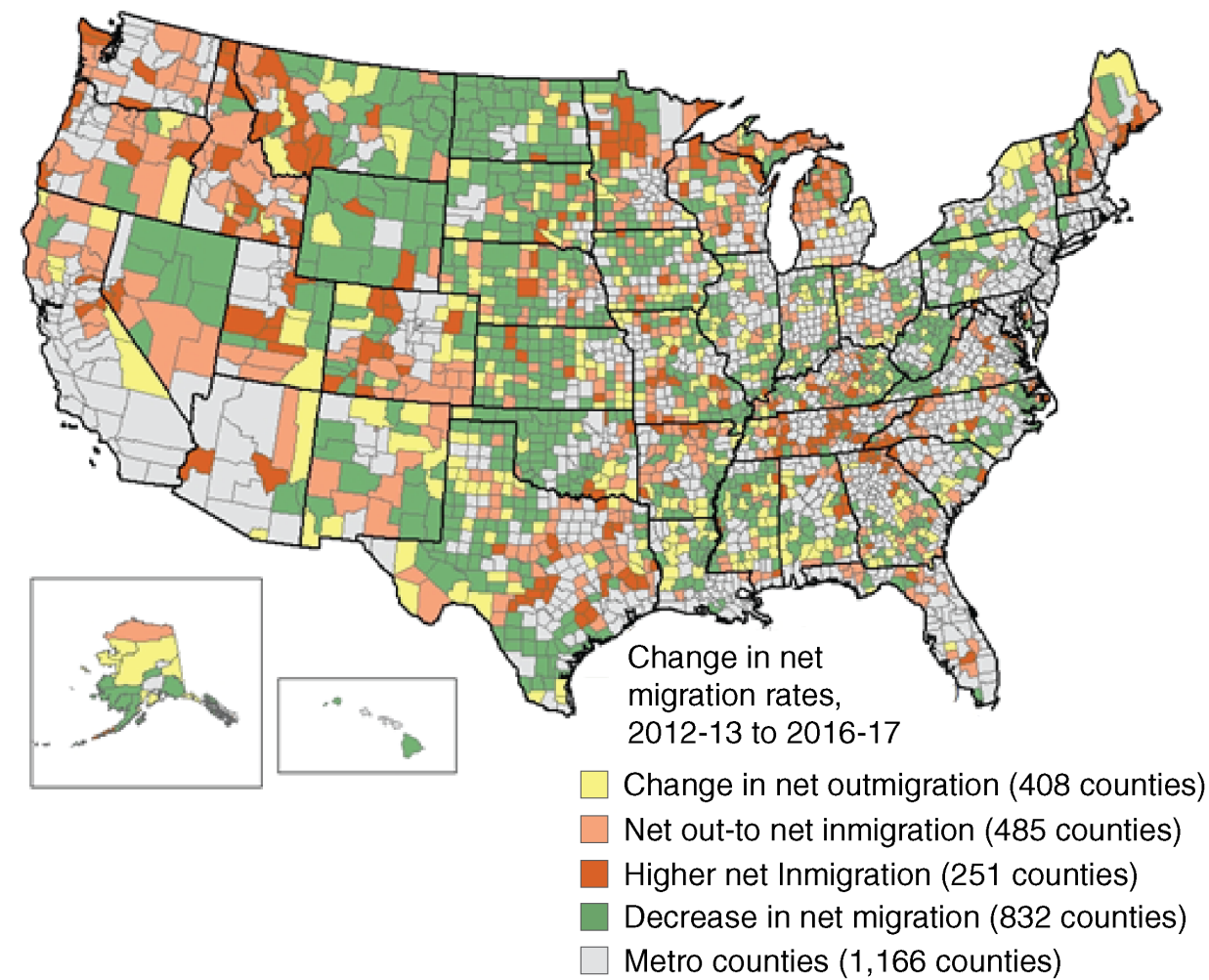
37

Net migration has driven growth in the rural (nonmetro) population since 2011-12

Percent change from previous year

Note: Nonmetro is determined by the Office of Management and Budget, 2013 metro/nonmetro area definitions. Nonmetro status changed for some countries in 1980, 1990, 2000, and 2010.

Source: USDA, Economic Research Service using data from the U.S. Census Bureau.

Rural areas with improved net migration rates were most common in recreation and retirement destinations, such as in the Upper Great Lakes and the Pacific Northwest


Change in net migration rates, 2012-13 to 2016-17

☐ Change in net outmigration (408 counties)
☐ Net out-to net inmigration (485 counties)
☐ Higher net Inmigration (251 counties)
☐ Decrease in net migration (832 counties)
☐ Metro counties (1,166 counties)

Source: USDA, Economic Research Service
using data from the U.S. Census Bureau, Population Estimates Program.

In-Migration: Leaving High-Cost Large Metros
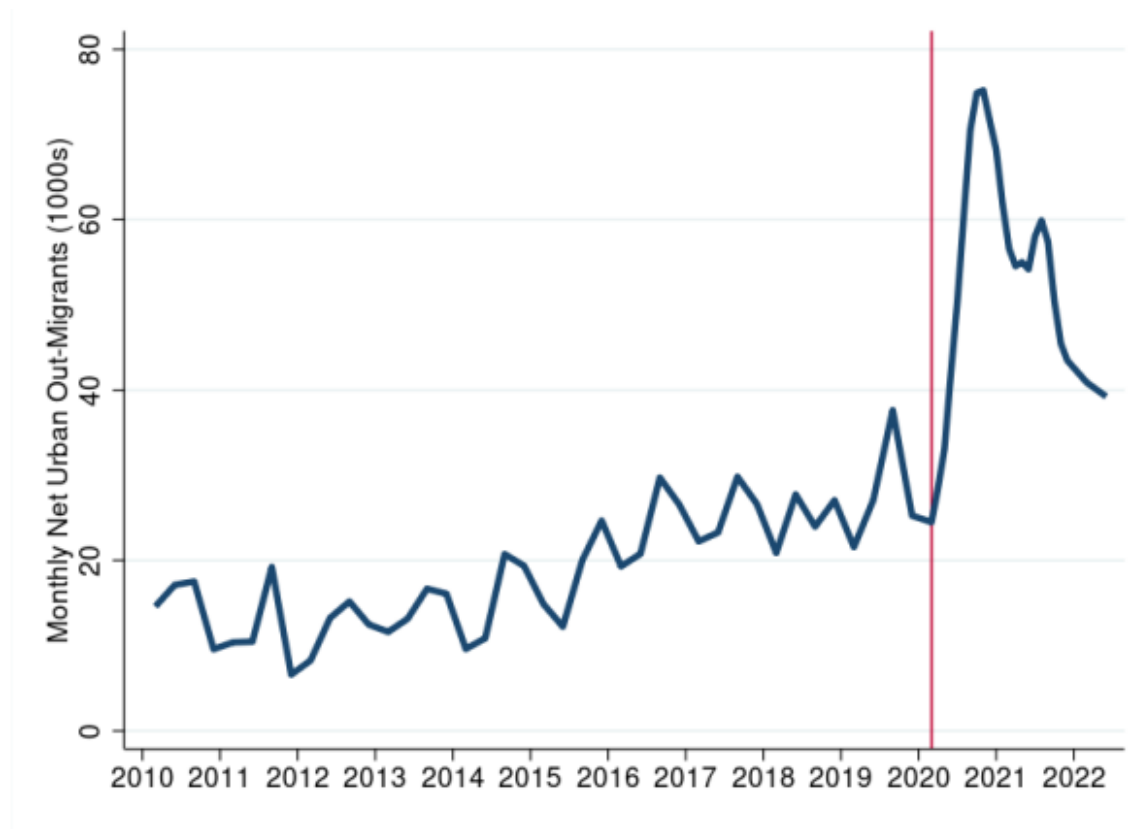
Sources: Federal Reserve Bank of New York/Equifax Consumer Credit Panel, American Community Survey, and author's calculations.

Leaving High-Cost Large Metros → Lower-Cost & Less Populous Regions
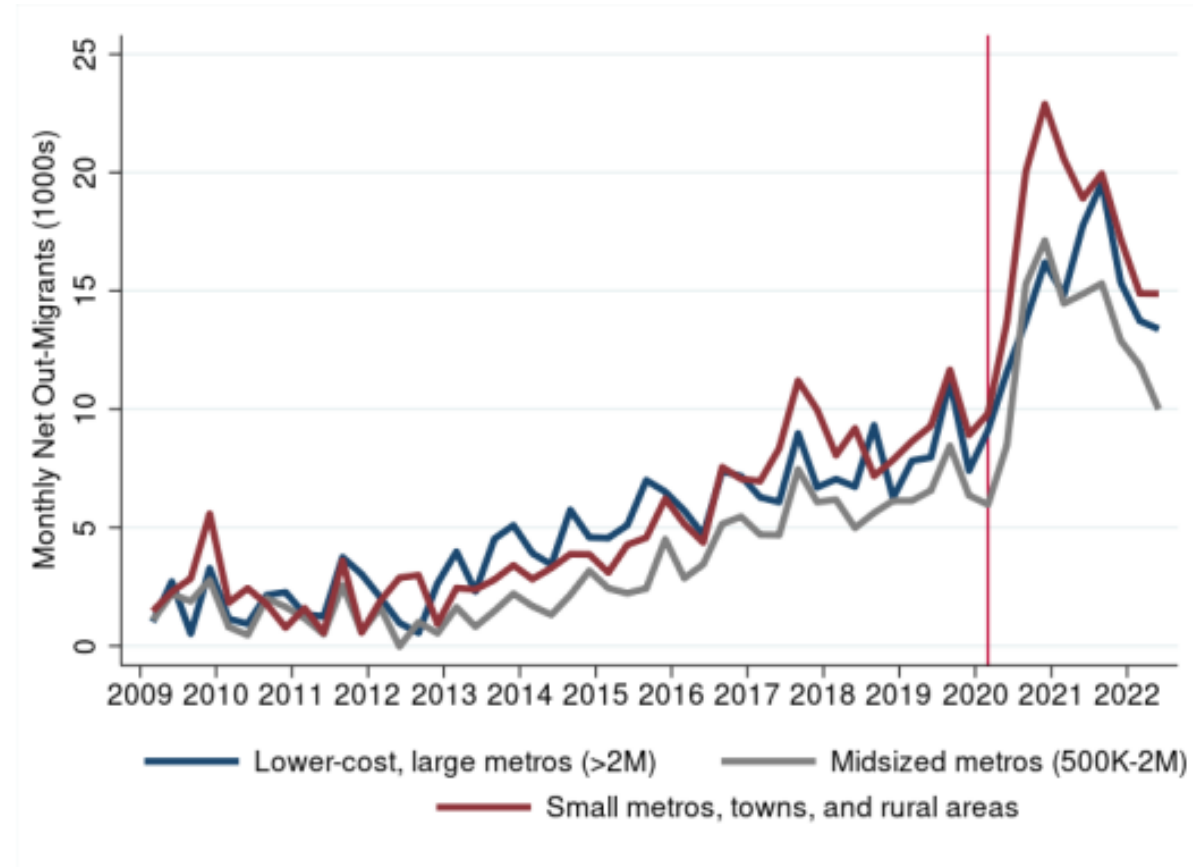
Sources: Federal Reserve Bank of New York Consumer Credit Panel/Equifax Data, American Community Survey, National Association of Realtors, and author's calculations.