

Online appendix to *Chicago Fed Letter* No. 487

What is driving the differences in inflation within the Midwest?

Elainia Gupta, research assistant, and Leslie McGranahan, senior vice president of regional analysis and community development

Our [Chicago Fed Letter](#) focuses on areas within the Midwest over the January 2020–August 2023 period. Here we present data on areas within the Midwest over a much longer period and on the nation and the four U.S. Census regions over the same period as in the main article.

Figure A1 displays cumulative inflation, measured in ways consistent with figure 2 of the main article, for the January 2002–August 2023 period.

Figure A2 shows total price changes for each of the eight major expenditure categories for the entire nation and the four Census regions over the January 2020–August 2023 period. The largest maximum gap between two regions is for the housing category (and the medical care category). The results in figure A2 contrast with the data presented in main article's figure 5 for the maximum gaps between the biggest midwestern cities (Class A cities): The maximum gap for housing is the fifth largest for all such gaps for the eight expenditure categories.

A1. Cumulative Consumer Price Index (CPI) inflation in areas within the Midwest, using different weights and price changes, January 2002–August 2023

	Midwest region	East North Central division	West North Central division	Class A cities	Class B/C cities	Difference between Class A & B/C cities	Chicago	Detroit	Minneapolis	St. Louis	Maximum gap between Class A cities	Percentage change in maximum gap
Official BLS data	65.7	n.a.	n.a.	63.1	67.1	4.0	59.6	64.4	65.2	65.8	6.2	
Using area weights and area price changes	66.1	n.a.	n.a.	63.8	67.7	3.9	60.8	64.3	65.1	65.6	4.9	
Using Midwest weights and area price changes	66.1	n.a.	n.a.	64.0	67.4	3.4	60.8	64.9	66.3	65.7	5.5	14
Using area weights and Midwest price changes	66.1	n.a.	n.a.	65.9	66.4	0.5	65.9	66.6	64.8	66.0	1.8	−63

Notes: All values are in percent. The U.S. Census Bureau’s geographic definitions of the Midwest region and East North Central and West North Central divisions are [available online](#). According to U.S. Bureau of Labor Statistics (BLS) definitions, Class A cities (Chicago, Detroit, Minneapolis, and St. Louis in the Midwest) have a population greater than 2,500,000 and Class B/C cities have a population of 2,500,000 or less. For this figure, outside of the first row of data (which reflects official BLS data, with expenditure weights that are updated every month), we perform our own calculations using data on annual expenditure weights and price changes from the BLS; see note 6 of the main article for further details. For all rows, we interpolate missing data to provide estimates of inflation for odd-month-reporting cities in even months and vice versa. Because of the data needed for this imputation, we present the data through the month (August 2023) prior to the month of the most recent CPI data release (September 2023). See note 5 of the main article for more details on the interpolation of missing data. The BLS does not produce expenditure weights for the East North Central and West North Central divisions. Note that n.a. indicates not available. Data for the East North Central and West North Central divisions are only available from 2017 onward. The differences in cumulative inflation rates between Class A and B/C city groups may not equal the differences reported in the sixth column of data because of rounding; similarly, the differences between the highest and lowest cumulative inflation rates for individual Class A cities may not equal the maximum gaps reported in the penultimate column. The second-to-last value (last value) in the final column is the percentage change between the third row’s (fourth row’s) maximum gap in cumulative inflation rates between Class A cities and the second row’s maximum gap.

Source: Authors’ calculations based on data from the U.S. Bureau of Labor Statistics from Haver Analytics.

A2. Cumulative Consumer Price Index regional price changes, by expenditure category, January 2020–August 2023

	United States	Midwest	Northeast	South	West	Maximum gap between regions
Total	19.0	19.0	15.8	20.6	19.4	4.7
Food and beverages	23.4	24.5	20.9	23.1	24.8	3.8
Housing	19.5	19.0	15.8	21.9	19.3	6.1
Apparel	8.6	6.6	9.1	9.1	9.4	2.9
Transportation	31.7	32.9	28.6	33.3	30.3	4.7
Medical care	7.0	8.0	3.0	7.2	9.2	6.1
Entertainment	11.6	12.7	9.7	11.5	12.1	2.9
Education and communications	4.3	2.9	5.3	4.9	3.8	2.5
Other goods and services	17.9	17.9	16.3	17.4	19.6	3.3

Notes: All values are in percent. The four regions of the United States are [defined](#) by the U.S. Census Bureau. For this figure, we use official U.S. Bureau of Labor Statistics data, with expenditure weights that are updated every month. The maximum gaps between regions may not equal the differences between the highest and lowest regional cumulative inflation rates for the expenditure categories because of rounding.

Source: Authors' calculations based on data from the U.S. Bureau of Labor Statistics from Haver Analytics.