

## Impact of Inflation on Rural Household Expenses in the U.S., June 2020-2022

How has inflation impacted household budgets of rural Americans? What goods and services are costing more? Has inflation impacted rural areas worse than urban cities? Inflation is a concern for most Americans. Last month, the federal government reported consumer prices rose by 9.1% between June of 2021 and June of 2022. This report provides preliminary estimates of how inflation has impacted rural and urban households during the COVID-19 pandemic from 2020 to 2022.

Inflation is defined as the increase in prices for goods and services. For the past several decades, inflation in the U.S. has been low. However, the rapid rise in inflation over the past year caught many people off-guard. This current round of inflation is caused by three main factors.<sup>1</sup> First, there is strong pent-up demand due to the COVID-19 pandemic. Households reduced purchasing during the pandemic, yet also saved more money due to reduced spending, wage gains, and government payments. Now, households are making these delayed

purchases and have the money to bid up prices. Second, there is a scarcity of goods caused by strong demand, but also a lack of consumer products from continued supply chain disruptions. Third, demand for housing and services has also increased. Home prices and rents have risen as demand for housing has outstripped supply, due in part to slow home building caused by the Great Recession of 2008. People are also spending more on experiences than tangible goods. This includes more demand for travel, personal care services, and entertainment. Other minor factors include uncertainty in markets due to the war in Ukraine; and the inflationary impact of pandemic relief payments by the federal government.

### Data and Methods

To estimate the impact of current inflation on household budgets, we draw on two data sources from the U.S. Bureau of Labor Statistics. Inflation is measured using percent change in the Consumer Price Index (CPI-U) between June 2020 and June

2022. Next, we apply inflation rates to household spending patterns from the Consumer Expenditure Survey (CEX) for 2020. We adjust incomes to account for recent wage gains that partially offset the impact of rising prices. Linking inflation rates and spending patterns by specific goods and services allows us to gauge the cost of inflation on household budgets. For example, high inflation will have a minimal impact if households spend only a small fraction of their income on that good or service. By contrast, moderate inflation will take a bigger bite of household budgets if it is a major expense.

Urban households are those living in a metropolitan area, or those living in non-metros in cities of 2,500 or more. Rural households are those living in non-metro areas in towns under 2,500 or the open countryside. Refer to the appendix for more details on the methods.

## **Regional Differences**

The cost of goods and services rose by 9.1% in the U.S. from June of last year. However, inflation rates are not uniform across the nation. The northeastern U.S. has slower price gains of only 7.6%. On the other side of the country, Pacific coast states also have below average inflation at 8.3%. This is surprising given both areas contain some of the nation's largest cities. For example, prices in the New York City metro area only rose by 6.7%. In California, the cost of living in the San Francisco metro rose

by only 6.8%, and in Los Angeles prices rose a bit faster at 8.6%.

On the other hand, inflation is hitting people hard in parts of the southern U.S., in particular the west south central states (including Texas and Louisiana) where prices jumped by 10.6%. Inflation is also a problem in the mountain west (ranging from Arizona to Montana) and southeastern states along the Atlantic (from Virginia down to Florida). Inflation in Atlanta, Miami, and Houston are all near or over 11%. Price gains in the Chicago metro are likely driving inflation in the Great Lakes states (called the east north central division). Refer to figure 1.

## **Income and Expenses**

Rural households are more vulnerable to inflation. In 2020, rural household post-tax incomes stood at \$58,012. About 82% of rural incomes went towards expenses, leaving \$10,661 in discretionary income for savings and unanticipated expenses. However, by 2022 expenses rose by 18.5% overall. Earnings were not able to keep pace with inflation, rising by only 6.1%. The net effect cut rural discretionary incomes by -49.1% between June 2020 and June 2022, reducing the cushion to only \$5,426. Expenses now consume 91% of rural take-home pay.

Urban households were less affected by inflation, having higher post-tax incomes (\$76,411) and more discretionary incomes (\$16,414) in 2020. Over the past two years, expenses rose more slowly at 14.5%,

while earnings for urban workers rose by 8.6% This cut discretionary income by only -13.1%, leaving a sizable cushion of \$14,270. See figure 2.

Rural households have been dealing with inflation over the past two years, but price gains in 2022 are far worse

than they were in 2021. Rural discretionary incomes dropped by -8.7% in 2021, but by 2022 rampant inflation cut this income cushion by -40.4%. By contrast, urban families actually saw discretionary incomes rise by 1% in 2021, but they fell by -13.9% the following year.

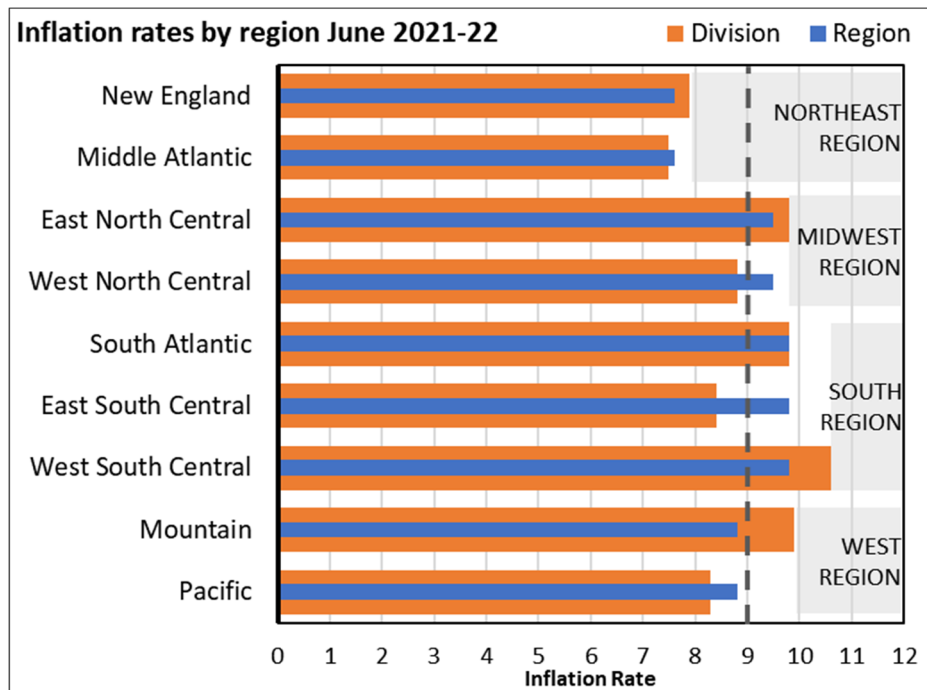


Figure 1. Inflation rates by region of the U.S.

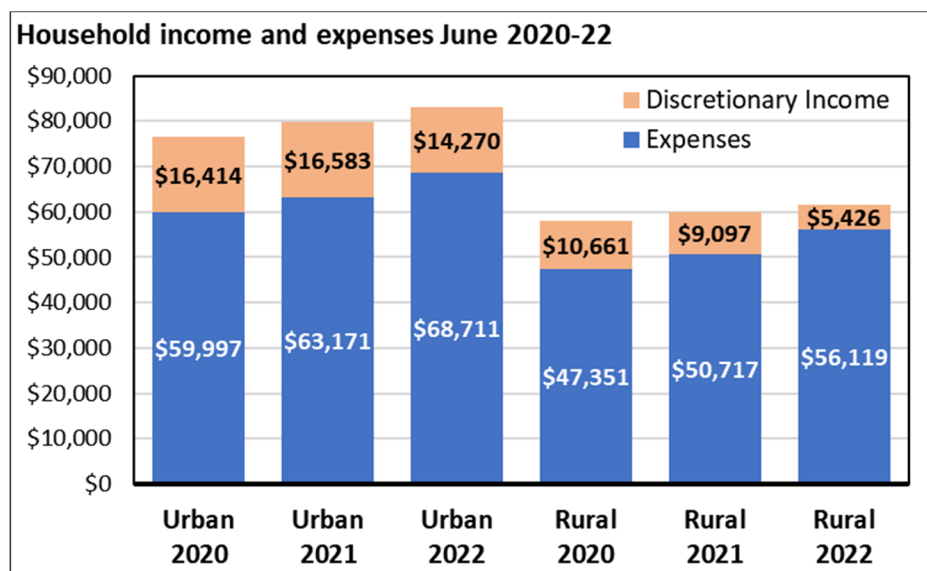


Figure 2. Income and expenses for urban and rural households.

## **Increases in Rural Expenses**

The biggest inflationary impact on rural households has been the increased cost of transportation, which is essential in rural areas where residents have to drive longer distances to work, school, or to shop for daily needs. Rural people are paying \$2,470 more for gasoline and diesel fuels than they did two years ago. Fuel costs rose by \$839 in 2021, then by an additional \$1,632 by June of 2022. The cost of used vehicles has also risen by \$1,778 since 2020, with most of the gains occurring in 2021. Last year, the price of used vehicle only rose by \$330.

Rural housing costs are also on the rise. Fuel oil and liquefied petroleum/propane gas for home heating now costs an extra \$434, with the biggest price hikes occurring in 2022. The costs of owning a rural home rose by an extra \$398, with 70% of the gains happening last year. These expenses include home mortgages and insurance, home maintenance and repair, and other home services. Electricity bills are now \$311 higher than two years ago, with almost all price gains happening this year.

Health insurance for rural people is also getting more expensive, but the trends are complicated. Between 2020-21, health insurance costs actually fell by -\$258 during the pandemic. However, over the past year health insurance costs rose

steeply by \$603, a sizable price spike for rural families. See figure 3.

Urban household also saw gains in motor vehicle fuels, new and used vehicles, health insurance, and owner-occupied homes. However, urban people also now pay more for rented apartments and homes, electricity and natural gas utilities, prepackaged and processed foods, and for eating out at restaurants. However, the amount of these price increases differs across rural and urban places.

## **Rural vs. Urban Differences**

All Americans are affected by rising gasoline, health insurance, and housing costs. To better understand if inflation is making it more or less expensive to live in rural places, we calculate the difference in cost of living gains between rural and urban households (see figure 4). Rural Americans are seeing faster gains in the cost of used cars and trucks than those living in cities, but much of the gains happened between 2020-21. Rural people are also paying more for fuels, especially for motor vehicles and to heat their homes. Fuel price increases have hit rural households hard this past year.

On a smaller scale, it costs a bit more for pet and veterinary services in rural versus urban places. These are essential services in rural areas due to agricultural livestock and equines that are raised to financially support the family.

On the other hand, costs grew slower in rural areas for both owned and rented housing, new vehicle purchases, food away from home in restaurants, and natural gas for home heating. In other words, inflation made living in urban places more expensive due to increased housing costs.

## **Summary and Implications**

The current wave of inflation over the past two years has made rural families more vulnerable than urban ones to rising gasoline prices, higher fuel costs to heat their homes, and their ability to purchase less expensive used cars. Increased transportation costs are especially worrisome. Rural people have longer commutes to work, have to travel farther for daily needs like grocery shopping, and have to drive to larger cities for education and healthcare services. These expenses cannot be avoided, resulting in less discretionary income for rural families.

Overall, rising prices has severely reduced the discretionary incomes of

rural Americans. However, the impact on urban households has been less severe because of higher incomes and faster wage gains. Rural discretionary incomes fell by a staggering -50% since 2020, with most of these losses occurring within the last 12 months. By contrast, urban discretionary incomes took a modest drop of -13% over the past two years.

This means that rural families have less money to pay for unexpected healthcare costs not covered by insurance, putting at risk their health and ability to work. Less money to pay for emergency home repairs that may put them at risk for homelessness. Less money to pay for big-ticket car repairs or needed used car purchases, jeopardizing their ability to work and to obtain essential goods and services like groceries or healthcare. Less ability to save for their retirement or their children's college – both needed for the future economic security of themselves and their children. In short, not having this extra financial cushion puts rural families at greater risk for increased debt, default, and potential bankruptcy.

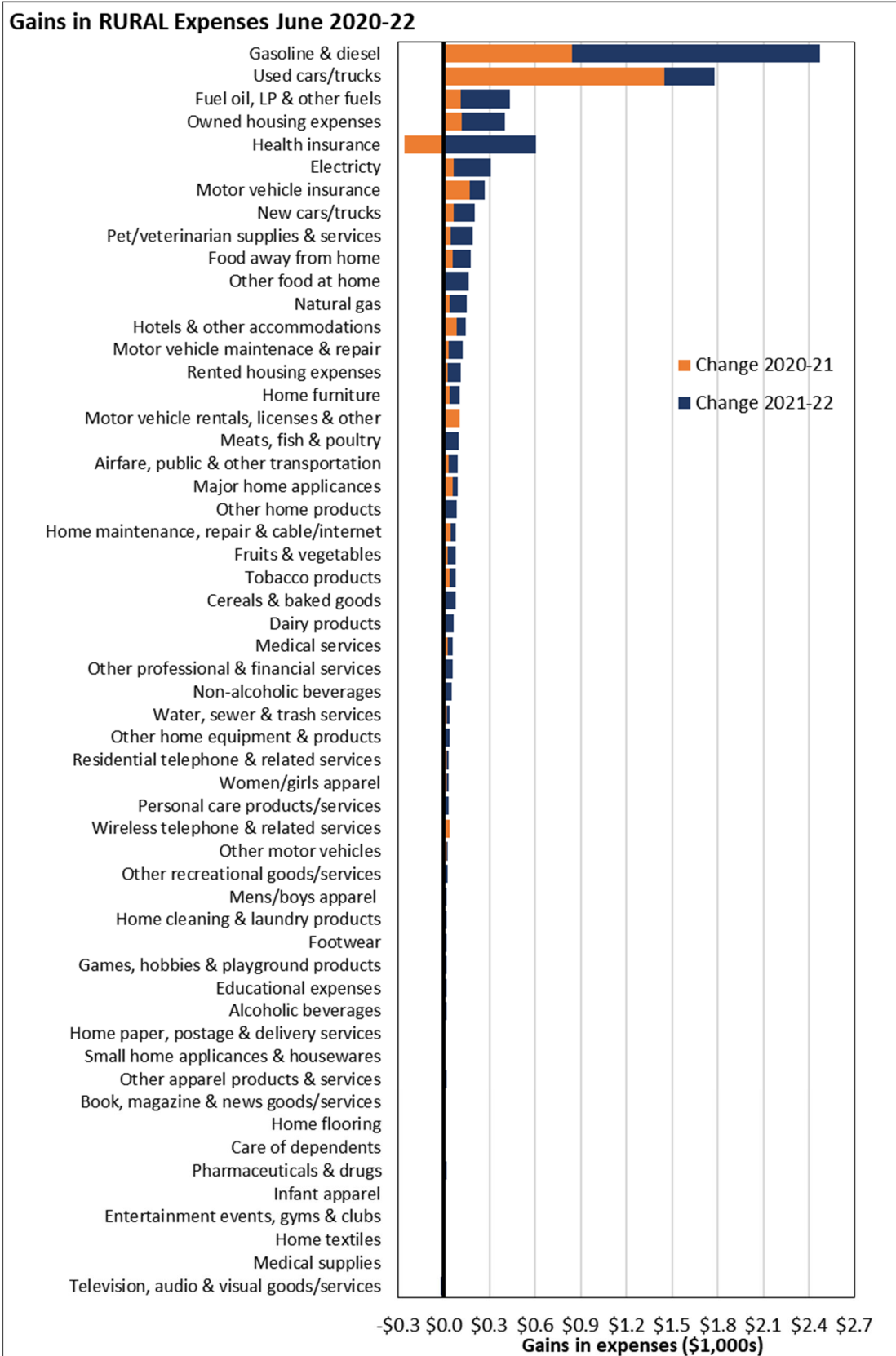


Figure 3. Change in annual expenses for rural households between 2020 and 2022.

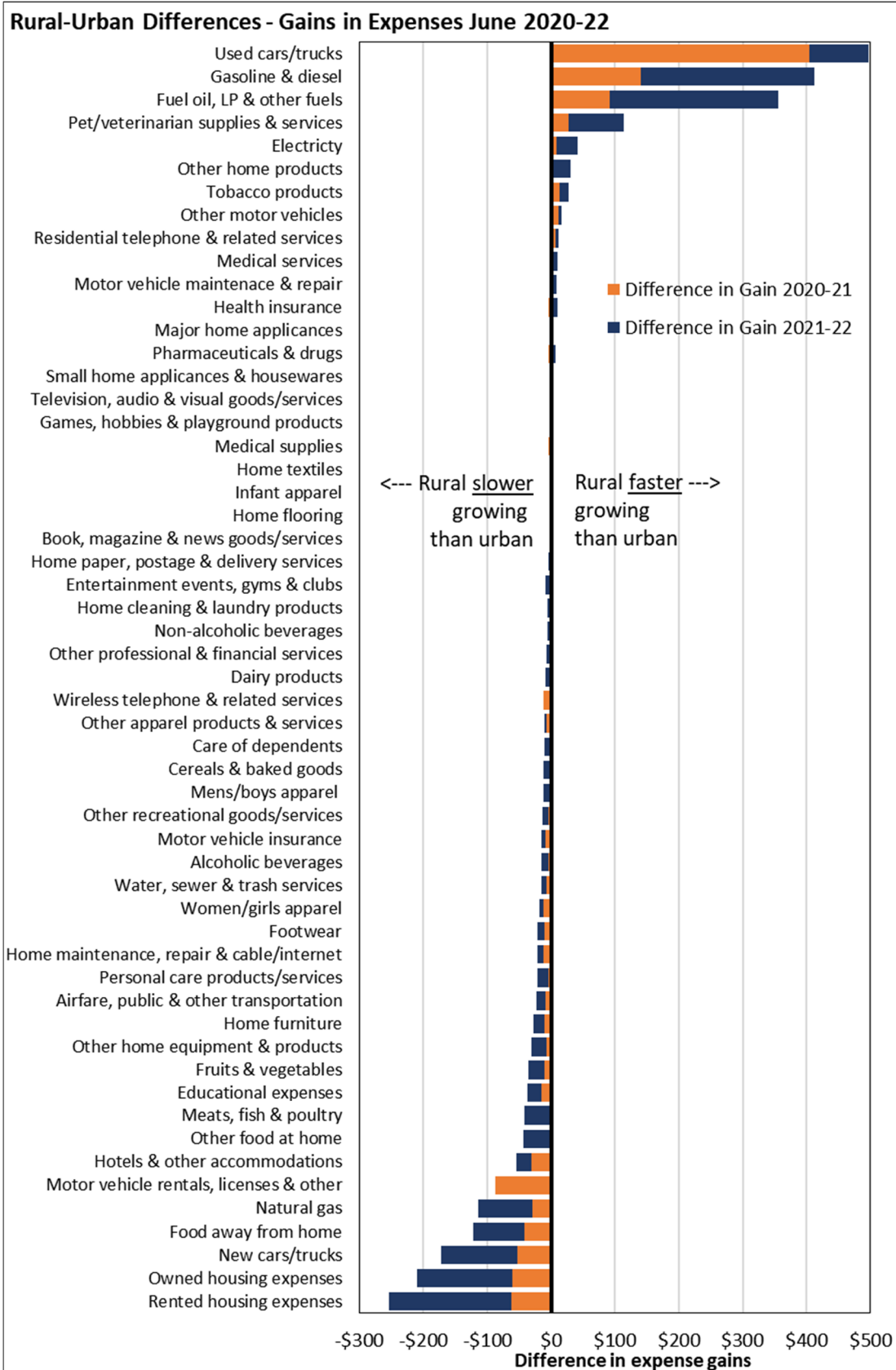


Figure 4. Rural-urban differences in change of annual household expenses between 2020 and 2022.

## References

<sup>1</sup> “Here’s What You Need to Know About America’s Super-Hot Inflation”. *New York Times*, 6/11/2022. <https://www.nytimes.com/article/inflation-us-prices.html>

## Contributors

Authored by David J. Peters, Professor and Extension Rural Sociologist.

For more information, contact Dr. Peters by email: [dpeters@iastate.edu](mailto:dpeters@iastate.edu) or telephone 515-294-6303.

This work was supported by the Iowa Agriculture and Home Economics Experiment Station, supported by the State of Iowa and the U.S. Department of Agriculture.

## IOWA STATE UNIVERSITY Extension and Outreach

In accordance with Federal law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, disability, and reprisal or retaliation for prior civil rights activity. (Not all prohibited bases apply to all programs.) Program information may be made available in languages other than English. Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, and American Sign Language) should contact the responsible State or local Agency that administers the program or USDA’s TARGET Center at 202-720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at 800-877-8339. To file a program discrimination complaint, a complainant should complete a Form AD-3027, USDA Program Discrimination Complaint Form, which can be obtained online at <https://www.ocio.usda.gov/document/ad-3027>, from any USDA office, by calling 866-632-9992, or by writing a letter addressed to USDA. The letter must contain the complainant’s name, address, telephone number, and a written description of the alleged discriminatory action in sufficient detail to inform the Assistant Secretary for Civil Rights (ASCR) about the nature and date of an alleged civil rights violation. The completed AD-3027 form or letter must be submitted to USDA by: (1) Mail: U.S. Department of Agriculture Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW Washington, D.C. 20250-9410; or (2) Fax: 833-256-1665 or 202-690-7442; or (3) Email: [program.intake@usda.gov](mailto:program.intake@usda.gov). This institution is an equal opportunity provider.

For the full non-discrimination statement or accommodation inquiries, go to [www.extension.iastate.edu/diversity/ext](http://www.extension.iastate.edu/diversity/ext).

**Table 1. Inflation rates, expenses, and changes in expenses between June 2021 and 2022.**

EXPENSE	CPI % Change	Urban Households			Rural Households		
		2021	2022	Change	2021	2022	Change
Cereals & baked goods	13.8	\$625	\$712	\$86	\$543	\$618	\$75
Meats, fish & poultry	11.7	\$1,131	\$1,263	\$132	\$794	\$886	\$93
Dairy products	13.5	\$503	\$571	\$68	\$447	\$507	\$60
Fruits & vegetables	8.1	\$1,030	\$1,113	\$83	\$712	\$770	\$58
Non-alcoholic beverages	11.9	\$438	\$490	\$52	\$395	\$442	\$47
Other food at home	14.4	\$1,377	\$1,576	\$198	\$1,088	\$1,245	\$157
Food away from home	7.7	\$2,534	\$2,729	\$195	\$1,489	\$1,604	\$115
Alcoholic beverages	4.0	\$508	\$529	\$20	\$251	\$261	\$10
Owned housing expenses	5.5	\$7,847	\$8,279	\$432	\$5,142	\$5,424	\$283
Rented housing expenses	5.8	\$4,766	\$5,042	\$276	\$1,456	\$1,541	\$84
Hotels & other accommodations	10.0	\$861	\$947	\$86	\$624	\$686	\$62
Natural gas	38.4	\$505	\$699	\$194	\$284	\$394	\$109
Electricity	13.7	\$1,554	\$1,767	\$213	\$1,790	\$2,035	\$245
Fuel oil, LP & other fuels	70.4	\$82	\$140	\$58	\$457	\$779	\$322
Residential telephone & related services	4.0	\$199	\$207	\$8	\$315	\$328	\$13
Wireless telephone & related services	-0.9	\$1,296	\$1,284	-\$12	\$973	\$964	-\$9
Water, sewer & trash services	4.4	\$711	\$742	\$31	\$511	\$533	\$22
Care of dependents	3.3	\$379	\$392	\$13	\$150	\$155	\$5
Home maintenance, repair, cable/internet	3.9	\$1,178	\$1,224	\$46	\$931	\$967	\$36
Home cleaning & laundry products	11.3	\$189	\$211	\$21	\$150	\$167	\$17
Other home products	10.4	\$498	\$550	\$52	\$786	\$868	\$82
Home paper, postage & delivery services	10.3	\$129	\$142	\$13	\$102	\$113	\$11
Home textiles	4.7	\$122	\$128	\$6	\$97	\$102	\$5
Home furniture	13.1	\$609	\$689	\$80	\$481	\$544	\$63
Home flooring	8.8	\$65	\$71	\$6	\$52	\$56	\$5
Major home appliances	7.5	\$425	\$457	\$32	\$448	\$482	\$34
Small home appliances & housewares	6.7	\$127	\$135	\$8	\$150	\$160	\$10
Other home equipment & products	4.1	\$1,265	\$1,316	\$52	\$700	\$728	\$29
Mens/boys apparel	8.1	\$319	\$345	\$26	\$202	\$218	\$16
Women/girls apparel	3.2	\$591	\$610	\$19	\$363	\$375	\$12
Infant apparel	10.0	\$62	\$68	\$6	\$49	\$54	\$5
Footwear	5.8	\$332	\$352	\$19	\$158	\$167	\$9
Other apparel products & services	2.5	\$204	\$209	\$5	\$108	\$111	\$3
New cars/trucks	11.4	\$2,299	\$2,561	\$262	\$1,246	\$1,388	\$142
Used cars/trucks	7.1	\$3,351	\$3,589	\$238	\$4,651	\$4,981	\$330

Other motor vehicles	3.6	\$67	\$69	\$2	\$213	\$221	\$8
Gasoline & diesel	60.2	\$2,257	\$3,616	\$1,359	\$2,711	\$4,342	\$1,632
Motor vehicle maintenance & repair	10.0	\$901	\$991	\$90	\$966	\$1,062	\$96
Motor vehicle rentals, licenses & other	-0.7	\$1,002	\$996	-\$7	\$547	\$544	-\$4
Motor vehicle insurance	6.0	\$1,735	\$1,839	\$104	\$1,645	\$1,744	\$99
Airfare, public & other transportation	23.7	\$292	\$361	\$69	\$231	\$286	\$55
Health insurance	17.3	\$3,426	\$4,019	\$593	\$3,487	\$4,090	\$603
Medical services	3.2	\$895	\$923	\$28	\$1,061	\$1,095	\$33
Pharmaceuticals & drugs	3.1	\$428	\$442	\$13	\$628	\$648	\$19
Medical supplies	5.9	\$175	\$186	\$10	\$231	\$244	\$14
Entertainment events, gyms & clubs	3.6	\$430	\$446	\$16	\$194	\$201	\$7
Television, audio & visual goods/services	-2.2	\$1,067	\$1,043	-\$24	\$991	\$969	-\$22
Pet/veterinarian supplies & services	8.8	\$642	\$699	\$57	\$1,623	\$1,766	\$143
Games, hobbies & playground products	4.6	\$193	\$202	\$9	\$204	\$213	\$9
Other recreational goods/services	4.2	\$633	\$660	\$27	\$400	\$417	\$17
Personal care products/services	5.8	\$697	\$738	\$41	\$400	\$424	\$23
Book, magazine & news goods/services	7.4	\$126	\$135	\$9	\$100	\$107	\$7
Educational expenses	2.3	\$1,393	\$1,425	\$32	\$400	\$409	\$9
Tobacco products	7.9	\$334	\$360	\$26	\$528	\$569	\$42
Other professional & financial services	6.2	\$941	\$1,000	\$59	\$844	\$896	\$53

Notes: 2021 and 2022 numbers are total annual expenses. Change is annual gain or loss.

Source: Calculations using BLS Consumer Price Index and Consumer Expenditure Survey data.

**Table 2. Inflation rates, expenses, and changes in expenses between June 2020 and 2022.**

EXPENSE	CPI % Change	Urban Households			Rural Households		
		2020	2022	Change	2020	2022	Change
Cereals & baked goods	14.0	\$624	\$712	\$88	\$542	\$618	\$76
Meats, fish & poultry	12.5	\$1,123	\$1,263	\$140	\$788	\$886	\$98
Dairy products	14.4	\$499	\$571	\$72	\$443	\$507	\$64
Fruits & vegetables	11.6	\$998	\$1,113	\$115	\$690	\$770	\$80
Non-alcoholic beverages	12.1	\$437	\$490	\$53	\$394	\$442	\$48
Other food at home	14.9	\$1,372	\$1,576	\$204	\$1,084	\$1,245	\$161
Food away from home	12.2	\$2,432	\$2,729	\$297	\$1,429	\$1,604	\$175
Alcoholic beverages	6.0	\$499	\$529	\$30	\$246	\$261	\$15
Owned housing expenses	7.9	\$7,671	\$8,279	\$608	\$5,026	\$5,424	\$398
Rented housing expenses	7.8	\$4,677	\$5,042	\$365	\$1,429	\$1,541	\$112
Hotels & other accommodations	26.6	\$748	\$947	\$199	\$542	\$686	\$144
Natural gas	60.0	\$437	\$699	\$262	\$246	\$394	\$148
Electricity	18.0	\$1,497	\$1,767	\$270	\$1,724	\$2,035	\$311
Fuel oil, LP & other fuels	125.8	\$62	\$140	\$78	\$345	\$779	\$434
Residential telephone & related services	10.7	\$187	\$207	\$20	\$296	\$328	\$32
Wireless telephone & related services	3.0	\$1,247	\$1,284	\$37	\$936	\$964	\$28
Water, sewer & trash services	8.2	\$686	\$742	\$56	\$493	\$533	\$40
Care of dependents	4.8	\$374	\$392	\$18	\$148	\$155	\$7
Home maintenance, repair, cable/internet	9.0	\$1,123	\$1,224	\$101	\$887	\$967	\$80
Home cleaning & laundry products	12.7	\$187	\$211	\$24	\$148	\$167	\$19
Other home products	10.2	\$499	\$550	\$51	\$788	\$868	\$80
Home paper, postage & delivery services	13.9	\$125	\$142	\$17	\$99	\$113	\$14
Home textiles	2.6	\$125	\$128	\$3	\$99	\$102	\$3
Home furniture	22.8	\$561	\$689	\$128	\$443	\$544	\$101
Home flooring	14.6	\$62	\$71	\$9	\$49	\$56	\$7
Major home appliances	22.2	\$374	\$457	\$83	\$394	\$482	\$88
Small home appliances & housewares	8.2	\$125	\$135	\$10	\$148	\$160	\$12
Other home equipment & products	5.6	\$1,247	\$1,316	\$69	\$690	\$728	\$38
Mens/boys apparel	10.6	\$312	\$345	\$33	\$197	\$218	\$21
Women/girls apparel	8.7	\$561	\$610	\$49	\$345	\$375	\$30
Infant apparel	9.4	\$62	\$68	\$6	\$49	\$54	\$5
Footwear	12.7	\$312	\$352	\$40	\$148	\$167	\$19
Other apparel products & services	11.9	\$187	\$209	\$22	\$99	\$111	\$12
New cars/trucks	17.3	\$2,183	\$2,561	\$378	\$1,183	\$1,388	\$205
Used cars/trucks	55.5	\$2,308	\$3,589	\$1,281	\$3,203	\$4,981	\$1,778

Other motor vehicles	12.0	\$62	\$69	\$7	\$197	\$221	\$24
Gasoline & diesel	132.0	\$1,559	\$3,616	\$2,057	\$1,872	\$4,342	\$2,470
Motor vehicle maintenance & repair	13.5	\$873	\$991	\$118	\$936	\$1,062	\$126
Motor vehicle rentals, licenses & other	22.8	\$811	\$996	\$185	\$443	\$544	\$101
Motor vehicle insurance	18.0	\$1,559	\$1,839	\$280	\$1,478	\$1,744	\$266
Airfare, public & other transportation	45.1	\$249	\$361	\$112	\$197	\$286	\$89
Health insurance	9.2	\$3,680	\$4,019	\$339	\$3,745	\$4,090	\$345
Medical services	5.8	\$873	\$923	\$50	\$1,035	\$1,095	\$60
Pharmaceuticals & drugs	1.0	\$437	\$442	\$5	\$641	\$648	\$7
Medical supplies	-0.8	\$187	\$186	-\$1	\$246	\$244	-\$2
Entertainment events, gyms & clubs	2.0	\$437	\$446	\$9	\$197	\$201	\$4
Television, audio & visual goods/services	-1.6	\$1,060	\$1,043	-\$17	\$985	\$969	-\$16
Pet/veterinarian supplies & services	12.0	\$624	\$699	\$75	\$1,577	\$1,766	\$189
Games, hobbies & playground products	8.1	\$187	\$202	\$15	\$197	\$213	\$16
Other recreational goods/services	5.8	\$624	\$660	\$36	\$394	\$417	\$23
Personal care products/services	7.5	\$686	\$738	\$52	\$394	\$424	\$30
Book, magazine & news goods/services	8.2	\$125	\$135	\$10	\$99	\$107	\$8
Educational expenses	3.8	\$1,372	\$1,425	\$53	\$394	\$409	\$15
Tobacco products	15.5	\$312	\$360	\$48	\$493	\$569	\$76
Other professional & financial services	6.9	\$935	\$1,000	\$65	\$838	\$896	\$58

Notes: 2020 and 2022 numbers are total annual expenses. Change is annual gain or loss. CPI change is estimated.

Source: Calculations using BLS Consumer Price Index and Consumer Expenditure Survey data.

# Appendix

Inflation rates are taken from the Bureau of Labor Statistics (BLS) Consumer Price Index for urban consumers (CPI-U) between June 2020 and June 2022, the most current estimates at time of publication. CPI-U tables include detailed expenses and regional rates. We assume regional and rural-urban inflation rates are similar to national rates, since BLS does not report these figures on a monthly basis.

Household spending patterns are taken from the BLS Consumer Expenditure Survey (CEX) for urban and rural consumers in 2020 (table 1720), again the most current data as of publication. To account for increases in earnings (wages, salaries, self-employment) between 2020 to 2022, we use data from the BLS Current Employment Survey (CES), which tracks wages and salaries on a monthly basis (table B-3). To adjust for rural and urban differences in earnings growth rates, we use data from the American Community Survey, U.S. Census Bureau.

We match CPI inflation rates to CEX spending patterns by detailed goods and services. The categories across the data programs are not always identical. When specific matches are not possible, we either use the aggregated category or combine CPI rates (we compute weighted averages using CPI's importance factors). Expense categories used in this report account for 98% of household expenses reported by CEX. Excluded expenses include state and federal taxes and mandatory contributions to pensions and personal insurance.

Findings from this report should be considered preliminary estimates, as BLS will provide final numbers in 2023.

BLS CPI table: <https://www.bls.gov/bls/newsrels.htm>

BLS CEX table 1720: <https://www.bls.gov/cex/tables.htm#crosstab>

BLS CES table B-3: <https://www.bls.gov/ces/data/employment-situation-table-download.htm>

## **About Rural Sociology at Iowa State University**

Rural Sociology at Iowa State University has a long history, being one of the first programs in the nation. The first rural sociologist was hired at Iowa State in 1913. The research and extension programs were established in 1915 and 1922, respectively, in the College of Agriculture. The Bachelor of Science degree in rural sociology was established in 1919, the Master of Science in 1920, and the Ph.D. in 1940. At present, there are four rural sociology faculty members, along with two non-tenure staff, who engage in teaching, research, and extension activities in the sociology of agriculture, rural communities, and population studies. Long-term research and extension projects in rural sociology include the Iowa Farm and Rural Life Poll since 1982; and Iowa Small Towns Poll since 1994.