

#### Prepared February 28, 2022

In this issue, we consider the extent to which the global economy has recovered from the COVID-19 pandemic, looking especially at labor market conditions, growth in agriculture exports and the impact of supply-chain issues.

Economists with the Business and Technology Strategies Department of the National Rural Electric Cooperative Association (NRECA) examine issues expected to be particularly impactful for rural electric co-ops and likely to play a big role in shaping the economic health of the communities they serve. These insights are paired with a broad view of the health of the U.S. economy overall and portfolio management perspectives from RE Advisers, NRECA's money management subsidiary and the investment advisor for Homestead Funds. In comparing these different vantage points, you'll notice that an economic backdrop of uncertainty or increased volatility may present an opportunity for active money managers with a long-term view.

We produce this report quarterly and offer an NRECA-hosted webinar to dig deeper into the issues of greatest importance to cooperatives. Go to cooperative.com for webinar information and registration.

Created by NRECA, Homestead Funds offers a range of professionally managed strategies cooperatives and individuals can use to help meet their short-, intermediate- and long-term investment needs.

### **Contents**

The State of the U.S. Economy
U.S. Labor Market Shows Strong Momentum Into 2022
Trade Deal With China Falls Short, but Farmers Still Saw Record Year for Exports. 5 The effects of the COVID-19 pandemic will be felt long after the global health emergency has ended, but in some sectors rapid recovery has already shattered previous records.
Supply Chain Disruptions to Continue in 2022 6 Supply chain disruptions continue to create challenges to economic recovery from the effects of the COVID-19 pandemic.

NRECA's Business and Technology Strategies Department offers insights on trends affecting operations, technology, consumer expectations and policy. The team engages directly with internal and external stakeholders and represents cooperative needs in key forums to help ensure the longevity and success of America's electric cooperatives.

### The State of the U.S. Economy

**RE Advisers** 

The U.S. economy continued to expand heading into the new year, but geopolitical tensions have escalated in recent weeks with Russia's invasion of Ukraine. Sharply higher inflation is another threat to the economy's momentum — but also a good sign that the country is emerging from the pandemic. Demand for goods and services is increasing as people resume their pre-COVID-19 activities; however, global supply chains remain disrupted and labor markets are tight, which further contribute to a buildup in pricing pressures.

Moving away from its earlier view that inflation was transitory, the Federal Open Market Committee (the Federal Reserve's policymaking body) put the wheels in motion to normalize monetary policy and raise borrowing rates beginning this year. A 25- to 50-basis-point rise is expected in March.

The news for U.S. companies is generally good, with businesses reporting robust profits over the course of 2021. Relative to the prior year, comparisons appear especially high because 2020 revenues and profits were depressed by lockdowns and restricted consumer activity.

Understandably, people want to know how all of this higher inflation, expectations for rising rates and global uncertainty — might affect their portfolios and whether there is a wise step for them to take now. We caution investors against trying to get into or out of an investment at just the right time to avoid a loss or participate in a rebound. No one can predict the future with certainty. Stocks go up and down all the time, but history shows the chance of incurring a loss declines the longer you remain invested.

We note that we are approaching the one-year anniversary of the Homestead Rural America Growth & Income Fund, which began operations on May 1, 2021. The fund's approach is true to the fund company's roots as investment managers for rural electric cooperatives and their employees and very much aligned with the mission of our parent organization, NRECA.

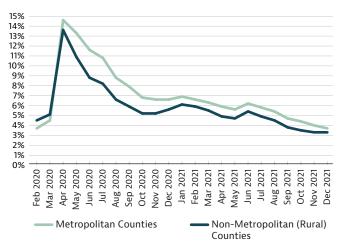
# **U.S. Labor Market Shows Strong Momentum Into 2022**

NRECA

The unemployment rate in both metropolitan and non-metropolitan (rural) counties declined across the second half of 2021. Unemployment remains lower in rural counties, though the gap has shrunk in recent months. In December, unemployment in metropolitan counties fell to 3.7%, about the same rate as in February 2020 just before the COVID-19 pandemic reached the United States. The December unemployment rate in rural counties was 3.3%, essentially flat from November and lower than pre-pandemic levels. The U.S. Bureau of Labor Statistics (BLS) does not seasonally adjust county-level data, so a same-month comparison with December 2019, before the pandemic began, is also useful. The December 2021 unemployment rate was about 0.5% higher in metropolitan counties and about 0.7% lower in rural counties compared with two years earlier.1

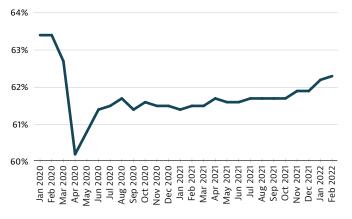
<sup>&</sup>lt;sup>1</sup> Aggregate unemployment rates and labor force statistics for rural and metropolitan counties are calculated by NRECA using county-level unemployment data from the BLS Local Area Unemployment Statistics (LAUS) Program. These rates are not seasonally adjusted (i.e., not adjusted for predictable seasonal patterns) because these adjustments are not applied below the state level. Preliminary county-level data for December 2021 were the latest available as of printing.

### U.S. Unemployment Rate by County Type (Not Seasonally Adjusted)



Sources: NRECA analysis of data from the U.S. Bureau of Labor Statistics and U.S. Census (December 2021 is preliminary)

### Civilian Labor Force Participation Rate (Seasonally Adjusted)



Source: U.S. Bureau of Labor Statistics

Despite the rapid decline in unemployment rates, total U.S. employment in February 2022 was still about 1.14 million, or 0.7%, lower than in February 2020.2 Lower total employment despite low unemployment rates can be explained by a decline in the civilian labor force participation rate.3 This stood at 63.4% in February 2020 and plummeted to 60.2% in April 2020 before bouncing back in May and June. It remained fairly flat throughout the rest of 2020 and trended upward in 2021, with notable growth in November and again in January 2022. In February 2022, the participation rate rose to 62.3%, its highest point since the start of the pandemic.4 Participation still remains somewhat below pre-pandemic levels.

According to Brookings, at least half of the enduring decline in labor force participation is driven by workers 55 and older, including many who have retired early. Less educated prime-age (25-54) workers have also experienced increased churn, with higher-than-normal workforce exits and entrances, and some unemployed people are leaving the workforce entirely despite large numbers of job openings. Finally, prime-age women have faced additional challenges and rejoined the workforce more unevenly, though the reopening of schools in 2021 has led to accelerated growth in their participation as childcare needs are met.5

The pandemic has also caused major challenges for the government collection and estimation of monthly labor data, prompting major revisions that can greatly change the perception of the labor market by policymakers, journalists and the public.6 In February 2022, BLS released revised monthly estimates7 of total nonfarm employment for 2021 showing that the U.S. added 6.665 million jobs in 2021, the largest single-year gain by a significant margin.8 Across the year, these adjusted estimates are a net 1.334 million higher than the more widely reported initial estimates.9

Unemployment remains lower in rural counties, though the gap has shrunk in recent months.

<sup>&</sup>lt;sup>2</sup> U.S. Bureau of Labor Statistics, Civilian employment.

<sup>&</sup>lt;sup>3</sup>The civilian labor force participation rate is the number of people 16 or older either working or actively looking for work. It excludes people who are institutionalized or on active military duty.

<sup>&</sup>lt;sup>4</sup>U.S. Bureau of Labor Statistics, Civilian Labor Force Participation Rate.

Lauren Bauer and Wendy Edelberg, "Labor market exits and entrances are elevated: Who is coming back?", Brookings, December 14, 2021.

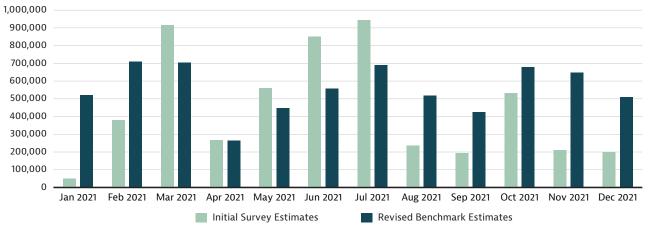
<sup>6</sup> Colby Smith and Christine Zhang, "US struggles to measure jobs growth as pandemic distorts labour market data," The Financial Times, Dec. 31, 2021.

<sup>&</sup>lt;sup>7</sup>These numbers are the result of an annual benchmarking process that uses more comprehensive March data, primarily from the unemployment insurance tax system, to adjust the previous year's data. Updated seasonal adjustment modeling is also applied as part of this process.

<sup>8</sup> Jeff Cox, "Payrolls show surprisingly powerful gain of 467,000 in January despite omicron surge," CNBC, Feb. 4, 2022.

<sup>9</sup>U.S. Bureau of Labor Statistics, Nonfarm Payroll Employment: Revisions between over-the-month estimates, 2021 (seasonally adjusted).

### U.S. Jobs Added per Month, Initial and Benchmarked (Seasonally Adjusted)



Source: U.S. Bureau of Labor Statistics

As an example of this challenge, initial job growth estimates of 210,000 in November and 199,000 in December were widely reported as disappointing and indicative of slowing employment growth, but these were revised upward to a very robust 647,000 and 510,000, respectively.10 The benchmarking process also revised some months downward, notably June and July, generally smoothing out the wild fluctuations seen in the initial numbers and earlier revisions in 2021. While revisions are generally not as widely reported as initial estimates, they do paint a picture of stronger and more steady job growth across 2021.11

Strong employment growth has continued into the new year. The latest data shows 488,000 jobs added in January and 678,000 in February, with national unemployment falling to 3.8%. This is despite concerns about the omicron variant, which caused a lot of workers to be out sick but does not appear to have negatively affected employment. While leisure and hospitality showed the largest growth, job gains were broad-based across economic sectors. With COVID-19 infection rates falling nationwide, the labor market begins 2022 with continuing momentum.<sup>12</sup>

There are still significant challenges, however. Job openings remain near record levels, showing that skill mismatches and difficulties in recruiting for certain types of jobs remain, though labor shortages do appear to be easing since late 2021.13 While earnings were up 5.7% for the 12 months through January 2022, this strong wage growth was still not fast enough to keep up with inflation, which was running at about 7% in December.14 With continued progress in employment, the Federal Reserve expected to

implement a series of interest rate increases across the year to bring inflation under control. Many economists expect that the Russian invasion of Ukraine will lead to smaller rate hikes than expected, and Fed Chair Jerome Powell has acknowledged the uncertainty caused by the crisis and the need to be "nimble" in responding to inflation in case economic growth slows.15

### **Higher Wages, But Even Higher Household Expenses.**

Wages in rural America have grown faster than wages in urban areas since the pandemic started. Recent data from the Congressional Budget Office estimates annualized wage growth in rural areas averaged 6.3%, compared to 5.7% in urban areas, between 2019 and 2021.16

However, the recent surge in prices since then could be hitting rural households harder than urban counterparts. That's because rural household expenses are skewed more toward food, energy, and transportation — the goods that have seen the biggest price increases. A recent study from Bank of America shows that a typical rural household spends more than 8% of their budget on energy costs, compared with 5.6% for an urban household, and spends about 10% on new and used cars, compared with 5.8% for urban residents.17

Even though wage gains have been strong, increasing prices do eat away at purchasing power. These trends could mean that rural America has less money month-to-month for savings and spending on discretionary items.

- RE Advisers

<sup>&</sup>lt;sup>10</sup> U.S. Bureau of Labor Statistics, *The Employment Situαtion — January 2022*, Feb. 4, 2022.

<sup>&</sup>lt;sup>11</sup> Joseph Zeballos-Roig and Madison Hoff, "The last few months looked like a dismal slowdown in the economic recovery, but the newest jobs report showed they were a whole lot better than we thought," Insider, Feb. 4, 2022.

<sup>&</sup>lt;sup>12</sup> Jeff Cox, "February jobs rose a surprisingly strong 678,000, unemployment edged lower while wages were flat," CNBC, March. 4, 2022.

<sup>13</sup> Richard Kestenbaum, "The Labor Shortage is Easing," Forbes, Feb. 17, 2022.

<sup>14</sup> Jeff Cox, CNBC, Feb. 4, 2022.

<sup>15</sup> Steve Matthews and Kyungjin Yoo, "Fed Seen Being Cautious in Rate Path Amid Ukraine Uncertainty," Bloomberg, March 11, 2022.

<sup>&</sup>lt;sup>16</sup> Congressional Budget Office, Price and Wage Growth in Rural Areas, January 31, 2022.

<sup>&</sup>lt;sup>17</sup> Irina Ivanova, "Inflation is hurting rural Americans more than city folk — here's why," CBS News, December 2, 2021.

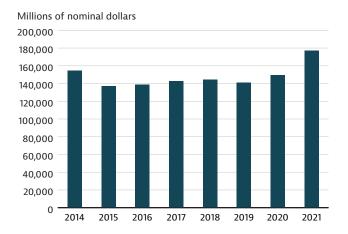
# Trade Deal With China Falls Short, but Farmers Still Saw **Record Year for Exports**

NRECA

The effects of the COVID-19 pandemic will be felt long after the global health emergency has ended, but in some sectors rapid recovery has already shattered previous records as well.

Data from the U.S. Department of Commerce show that U.S. exports of farm and food products totaled \$177 billion in 2021, rising 18% above 2020 levels and breaking the previous record, set in 2014, by 14.6%.18 U.S. Secretary of Agriculture Tom Vilsack noted that these numbers are a boon for rural America, where agricultural exports contribute to local economies and support over 1.3 million jobs on farms and in related industries, including food processing and transportation.<sup>19</sup>

#### Total Value of U.S. Agricultural Exports (2014-2021)



Source: U.S. Department of Agriculture

This rebound, as well as increased exports to other markets, helped bolster the impressive growth in export income.

These positive numbers are in contrast with the reported lack of success made toward meeting the targets set in the U.S.-China Phase One trade deal. Under the terms of the deal, which expired at the end of 2021, China agreed to increase purchases of specific U.S. goods and services by \$200 billion over 2017 levels in 2020 and 2021.20 According to analysis by the Peterson Institute of International Economics, by the end of 2021 China had only purchased \$288.8 billion, or 57%, of the agreed upon \$502.4 billion two-year target under the trade agreement.21

Nevertheless, while falling short of the targets, U.S. exports to China still increased by 21.4% in 2021.22 In the farm and food products industry alone, exports to China in 2021 grew 25% over 2020 numbers. This rebound, as well as increased exports to other markets, helped bolster the impressive growth in export income. Six of the top 10 export markets surpassed previous records, including Mexico, which edged out Canada as the second largest export market.23

The strong recovery for the agriculture sector can also be seen in net farm income, which is a broad measure of profits. According to data from the U.S. Department of Agriculture, net farm income was up 25.1% from 2020<sup>24</sup> due in large part to higher commodity prices for agricultural goods such as corn, soybeans and hogs.<sup>25</sup>

As the sector looks to 2022, there is still a lot of uncertainty due to a myriad of factors, such as inflation, supply chain issues, ramping up supply to meet demand, hiring and the potential for other COVID-19 variants. Additionally, the drought in the U.S. plains has depressed wheat supplies.<sup>26</sup> With demand high for agriculture commodities coupled with higher costs for farming resources, prices for consumers will remain elevated for the foreseeable future.

<sup>18</sup> United States Department of Agriculture, February 8, 2021, (USDA Press Release).

<sup>&</sup>lt;sup>20</sup> Brown, Chad, "China bought none of the extra \$200 billion of US exports in Trump's trade deal," Peterson Institute for International Economics, February 2022.

<sup>&</sup>lt;sup>22</sup> Swanson, Ana, "China fell far short of promises it made to purchase American goods," New York Times, February 2022.

<sup>&</sup>lt;sup>24</sup> U.S. Department of Agriculture, Economic Research Service. Farm Sector Income & Finances: Farm Sector Income Forecast, February 4, 2022.

<sup>&</sup>lt;sup>25</sup> Abbott, Chuck, "Highest Farm Income in Eight Years, But One-Third Comes From Government, Successful Farming, September 2021.

<sup>&</sup>lt;sup>26</sup> "Gro's 2022 Watchlist: 9 Major Themes for Agriculture in the Year Ahead," Gro Intelligence.

Some analysts do not see a decrease in farm costs until the third quarter of 2022, after most crop costs have been booked.27

According to the American Farm Bureau Federation: "While a majority of the 2022 net farm income is expected to be produced by crop and livestock cash receipts, an increase in production costs and a decrease in ad hoc government support results in an overall reduction of forecasted net farm income."28 Even with so much uncertainty with costs and other drivers, the agriculture industry seems positioned to be able to sustain the progress it has made since the downturn caused by the COVID-19 pandemic.

### For Farm-Equipment Manufacturers, a Strong Cycle.

Rising crop prices could be a boon to agriculture machinery companies, as farmers have the incentive to invest in capital equipment to drive up production. Higher crop prices are a function of global supply and demand. Crop supply is likely to face continued constraints, thanks to a combination of droughts, weather disruption and geopolitical issues. Farmers are facing higher input costs as well, but their current and forecasted income remains robust — and their equipment is getting old. Meanwhile, the farm-equipment market is facing the same dynamics as the auto market. Dealer inventories are at historic lows; used equipment prices are at multiyear highs, and supply-chain challenges linger. Farm equipment manufacturers are reporting completely full order books for 2022. We expect "precision ag" technologies, including Deere's new See and Spray sprayers and recently announced autonomous tractor, will also help bolster pricing and profitability for manufacturers. As investors in these businesses, we believe the conditions are prime to support an elongated upcycle for years to come.

- RE Advisers

## **Supply Chain Disruptions to Continue in 2022**

NRFCA

Supply chain disruptions continue to create challenges to economic recovery from the effects of the COVID-19 pandemic. Most economic sectors are seeing increasing backlogs, with multiple and interconnected root causes. Shortages of labor, freight infrastructure and raw materials have all contributed to bottlenecks and dislocations, and these issues are both domestic and international. Issues are expected to persist well into 2022, with some sectors not expecting relief until at least 2023; however, many industries are exploring ways to improve supply chain efficiencies.

The omicron variant of COVID-19 caused surges of illness starting in December 2021, reaching its peak in the first months of 2022. While employment levels overall increased modestly, case rates disrupted production at many work sites. Coupled with labor shortages, particularly of those skilled in advanced machinery, this has contributed to long lead times and loss of production capacity. As companies try to ramp up production, machinery failures are on the rise. Without available parts or skilled machinists, the lead times on production have increased.

A long-standing labor issue causing poor truck driver retention<sup>29</sup> has collided with the protracted semiconductor shortfall leading to an exacerbation of delivery times. Trucking companies are looking to increase capacity but are having difficulties in expanding their fleet due to both truck and chassis shortages as well as poor retention of drivers. In addition to interstate trucking deficits, this has also led to worsening port congestion.30 Similar to trucking, U.S. freight rail has experienced pandemic-related labor issues exacerbating a longer-term trend of workforce reductions over several years.31,32

Ports are still running over capacity with staffing shortfalls and increased imports, along with a shortage of warehouse space, and transportation equipment movement in and out of ports remains sluggish.33 Slow unloading times of inbound containers as well as many outbound containers leaving ports empty have affected movement of agricultural goods. In January, the USDA

<sup>&</sup>lt;sup>27</sup> Fox, Rob, "Increased Costs and Trade Battle with China to Tighten Farm Margins in 2022," CoBank Knowledge Center.

<sup>&</sup>lt;sup>28</sup> Munch, Daniel, "2022 Farm Profitability Outlook: Production Expenses Up, Net Farm Income Down," The American Farm Bureau Federation, February 2022.

<sup>&</sup>lt;sup>29</sup> U.S. Bureau of Labor Statistics, Is the U.S. labor market for truck drivers broken?, March 2019.

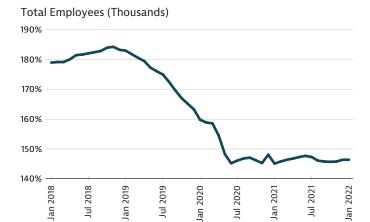
<sup>&</sup>lt;sup>30</sup> U.S. Federal Reserve, The Beige Book: Summary of Commentary on Current Conditions, December 1, 2021.

<sup>&</sup>lt;sup>31</sup> U.S. Bureau of Labor Statistics, Databases, Tables & Calculators by Subject, retrieved February 28, 2022.

<sup>&</sup>lt;sup>32</sup> Zimmerman, Sarah, "Rail volumes decline as omicron causes staffing problems," Supply Chain Dive, January 28, 2022.

<sup>33</sup> Goodman, Peter S., "A Normal Supply Chain? It's 'Unlikely' in 2022," February 1, 2022, New York Times.

### Total Employment, Rail Transportation



Source: U.S. Bureau of Labor Statistics

announced efforts to improve conditions at the Port of Oakland, California. Beginning in March, a 25-acre site will be dedicated to allowing agricultural companies and cooperatives to fill shipping containers bound for export.34

At the intersection of trucking and automotive supply issues were the three weeklong protests across three U.S.-Canada border crossings in early 2022. The intermittent bridge blockades by protesters led to a reduction in automobile production and reduced trade across the border. The Canadian government was able to shut down the protests, but further protests have been planned in the U.S. and may lead to further economic impacts.35

Supply chain issues are likely to remain for some time, but manufacturers and retailers are looking for ways to improve operations within the constraints of the current delays. There is some turning away from just-in-time manufacturing, with some companies attempting to hold safety stocks of supplies, though continued freight disruptions create challenges here as well. In addition to changes in warehousing, there has been a slight shift away from over-land transportation to air freight, a move that has increased shipping costs. Labor shortages are being addressed by increases in automation where applicable.

Small improvements are on the way, but global uncertainty around COVID-19 means that long lead times on most goods are here to stay through 2022.

Supply chain issues are likely to remain for some time, but manufacturers and retailers are looking for ways to improve operations within the constraints of the current delays.

#### All Supply-Chain Roads Lead to Rural America.

Higher prices can come from more buyers (demand) or from fewer goods (supply) — and in the current environment, we are facing both.

In the early days of the pandemic, supply chains around the globe were hit by COVID-19 shutdowns, but demand for many goods was also depressed — at first. An index that measures supply-chain stresses, the Global Supply Chain Pressure Index (GSCPI), shot higher through mid-2020 but then settled back into a normal zone. The world was coping, for a time, with fewer goods.

But then the economic recovery began to gather steam, and spending returned to more normal levels — and even higher than normal for things like home goods. As a result, demand shot back up — but supply was still constrained. The Pressure Index rocketed higher again in late 2020 and has stayed high ever since. This story continues to play out as supply-chain backlogs compound through new rounds of COVID-19 variants and now, geopolitical stresses.

Rural America is right at the heart of these pressures. The roads, highways and railways of rural America are primary pathways for goods, and those routes are long overdue for maintenance and investment. Given their importance to the national supply chain, especially to the food and medicine distribution network, the supply chain can only be improved as long as infrastructure investment supports these routes.

– RE Advisers

<sup>34</sup> U.S. Department of Agriculture, USDA Announces Partnership to Ease Port Congestion and Restore Disrupted Shipping Services to U.S. Grown Agricultural Commodities, January 31, 2022.

as Platt, Brian and Josh Wingrove, "How Trucker Protests Shut the Canadian Border and Rocked the Economy," Bloomberg.com, February 10, 2022.

### **Contributors**



Mauricio Agudelo, CFA® Head of Fixed-Income Investments Mauricio Agudelo co-manages RE Advisers' fixed-income strategies.



Prabha Carpenter, CFA®
Senior Equity Portfolio Manager
Prabha Carpenter co-manages RE Advisers' large- and small-cap value strategies.



Joe Goodenbery
Lead Economist
Joe Goodenbery is the lead economist at NRECA
where he provides economic modeling and analysis
of issues that affect electric cooperatives.



Mark long, CFA®
Equity Portfolio Manager
Mark long co-manages the Rural America Growth &
Income Fund and supports the equity strategies.



Lauren Khair

Director, Business Transformation

Lauren Khair is a director at NRECA where she provides analysis of business and data trends affecting electric cooperatives and their consumer-members.



Michael Leitman
Director, System Optimization
Michael Leitman is a director at NRECA where he provides analysis of economic, business and demographic trends affecting electric cooperatives and their consumer-members.



Katherine Loving
Program Manager, Geographic Information Systems
Katherine Loving is the program manager for geographic information systems at NRECA working on cartographic visualizations and spatial data analysis.



Ivan Naranjo, CFA®, FRM®
Fixed-Income Portfolio Manager
Ivan Naranjo co-manages RE Advisers' fixed-income strategies.



Jim Polk, CFA®
Head of Equity Investments
Jim Polk co-manages RE Advisers' large- and small-cap value strategies.



Mark Santero
Director, President and CEO of Homestead Funds
Mark Santero directs the business activities of
Homestead Funds and its related money management
entity, RE Advisers. He oversees portfolio management,
operations, client services, marketing and sales.

Investing in mutual funds involves risk, including the possible loss of principal. Past performance does not guarantee future results.

Investors should carefully consider fund objectives, risks, charges and expenses before investing. The prospectus contains this and other information about the funds and should be read carefully before investing. To obtain a prospectus, call 800.258.3030 or visit homesteadfunds.com.

Debt securities are subject to interest rate risk, credit risk, extension risk, income risk, issuer risk and market risk. The value of U.S. government securities can decrease due to changes in interest rates or changes to the financial condition or credit rating of the U.S. government. Investments in asset-backed and mortgage-backed securities are also subject to prepayment risk as well as increased susceptibility to adverse economic developments. High-yield, lower-rated securities involve greater risk than higher-rated securities. Loans are subject to risks involving the enforceability of security interests and loan transactions, inadequate collateral, liabilities relating to collateral securing obligations and the liquidity of the loans. Equity securities generally have greater price volatility than fixed-income securities and are subject to issuer risk and market risk.

The Global Supply Chain Pressure Index is intended to provide a comprehensive summary of potential disruptions affecting global supply chains.

The views expressed are those of the individuals as of February 28, 2022, and may have changed since that date. The opinions stated may contain forward-looking statements and may discuss the impact of domestic and foreign markets, industry and economic trends, and governmental regulations of the funds and their holdings. Such statements are subject to uncertainty, and the impact on the funds might be materially different from what is described here.

Homestead Funds' investment advisor and/or administrator, RE Advisers Corporation, and distributor, RE Investment Corporation, are indirect wholly owned subsidiaries of NRECA. RE Investment Corporation, Distributor 3/22

