UNIVERSITY OF COLORADO BOULDER **LEEDS SCHOOL OF BUSINESS**

COLORADO BUSINESS REVIEW

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IN THIS ISSUE

Summary of Forecast

Colorado Economy Will Begin to Mend in 2021

The following observations summarize the thoughts of the Colorado Business Economic Outlook committee members as of early December 2020.

Employment is estimated to close down 5.3%, or 148,800 jobs in 2020, once data revisions take effect in early 2021, illustrating the destructive impact of COVID-19 on jobs. While Colorado will mark job growth in 2021, employment will remain below peak. The recovery, especially for the services industries, is highly dependent on a vaccine. Colorado will add 40,500 workers in 2021, or growth of 1.5%.

In 2021, the two private-sector industries projected to add the most jobs and grow at the fastest pace are Leisure and Hospitality, and Trade, Transportation, and Utilities. These two industries were among the hardest hit by the pandemic-induced recession and are projected to grow from a much smaller base.

Agriculture

While the Agriculture Sector worked to maintain a supply of food for consumers in 2020, the industry faced downstream processing issues, as well as price volatility and poor weather (widespread drought, freezes, and early snow). Net farm income is estimated to fall by $200 million despite additional government assistance. However, gross farm revenue and net farm income are both projected to grow in 2021, with an increase in livestock offsetting a decline in crops.

Natural Resources and Mining

The estimated 40% decline in value of production and 23.9% decline in jobs in 2020 reflect an industry impacted by soft demand, a decrease in prices, and a shift in policy. While output is not projected to grow in 2021, more favorable pricing will help increase the value of production 17%, to nearly $13 billion—still well below

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FROM THE EDITOR

As highlighted at the 56th annual Colorado Business Economic Outlook Forum, 2020 proved to have devastating economic impacts, with some industries and communities more severely impacted than others. Modest employment growth is projected in 2021 with job gains expected in nearly every sector.

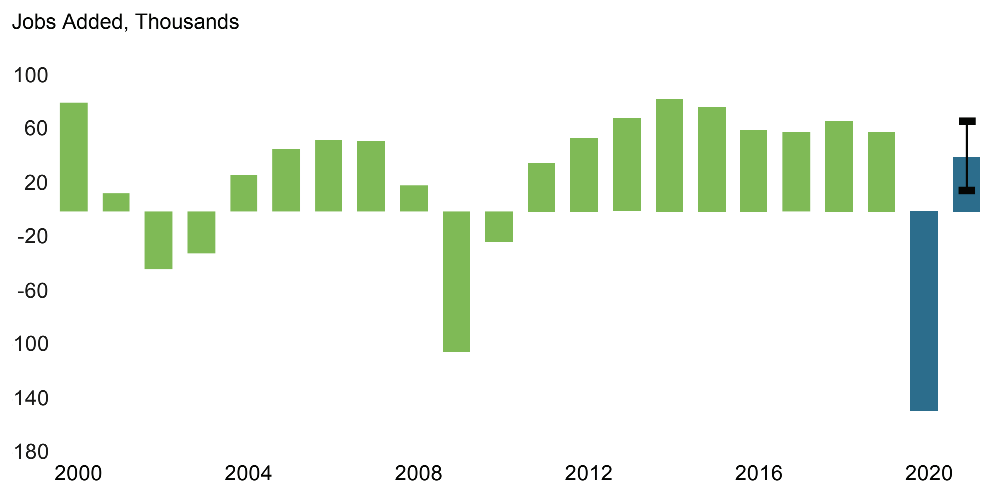
The Forum pivoted online this year with the Leeds School of Business hosting a week-long event. Held virtually from December 7-December 11, the Forum featured an economic forecast, followed by four panel discussions organized by the Leeds' Academic Centers of Excellence. Summaries of the discussions are featured in this issue.

For additional details, visit colorado.edu/business/brd.

Please contact me directly at 303-492-1147 with any comments or questions.

—Richard Wobbekind

COLORADO EMPLOYMENT GROWTH



Sources: Colorado Department of Labor and Employment and the Colorado Business Economic Outlook Committee.

2018 and 2019 values. Colorado ranked fifth in crude oil production, seventh in natural gas, and 13th in coal. Colorado is also a leading producer of renewable energy, including wind, solar, biomass, and hydroelectric energy sources.

Construction

The overall value of construction for residential, nonresidential, and nonbuilding fell an estimated 9.6% in 2020. The demand for housing units remained strong, with residential permits up an estimated 3.3%. However, the supply of new homes and other new construction will decrease in 2021 as COVID-19 has a lagging impact on the industry, with migration slowing, public funding for infrastructure curtailing, and demand for some commercial assets falling.

Manufacturing

Colorado's mix of manufacturing industries has contributed to the sector outperforming national industry growth. Through October 2020, Colorado's average employment year-to-date was down less than 1% compared with a 4.6% national contraction. In 2021, the sector will return to employment levels not seen since 2003, built on industry strengths ranging from food to aerospace.

Trade, Transportation, and Utilities

COVID-19 uniquely impacted the industry, driven in part by a government-mandated shutdown that impacted retail and transportation, changes in consumer behavior shifting purchasing habits to ecommerce, and government stimuli that propped up consumer spending. Industry employment and retail sales are projected to rebound in 2021.

Information

Employment declined in 2020 but has weathered the downturn better than other industries as technology companies have started to resume hiring and see this as an opportunity to invest in new products and innovation. The sudden increase of remote working has skyrocketed demand for connectivity, which has challenged existing infrastructure but also presents an opportunity for more employment. Around 90% of Coloradans have access to broadband at speeds of 100mbps or faster—ranking 25th in the nation—but only 87% of rural residents do, presenting an ongoing challenge for economic development in the state. Whether companies continue to embrace remote work will help determine the sector's performance in 2021, as Colorado has seen an influx of tech workers who can work remotely.

Financial Activities

Despite historical volatility in the capital markets, Colorado banks remain on solid ground and were critical in assisting a path to recovery by administering over 109,000 Paycheck Protection Program (PPP) loans valued at $10.4 billion to Colorado businesses. Employment in Finance and Insurance continued to increase, while Real Estate and Rental and Leasing employment was heavily impacted by the downturn. Record-low interest rates helped sustain and fuel the residential real estate market in the state; however, the changing work environment has brought an abrupt change to the commercial real estate market. The sector's performance in 2021 will be heavily influenced by how the uncertainty around COVID-19 and a possible additional round of fiscal stimulus affects the capital markets, real estate, and consumer behavior.

Professional and Business Services

The sector continues to be a strength within the Colorado economy—it is the largest private sector, with 20% of total employment. The highly skilled and highly educated workforce has allowed the sector's employees to quickly adapt to remote work, mitigating the pandemic's impact. In 2021, a continued pandemic could dampen business services' demand and staffing, which could influence employment, but Colorado's position as one of the most innovative, educated, and entrepreneurial states bodes well for continued growth in the sector.

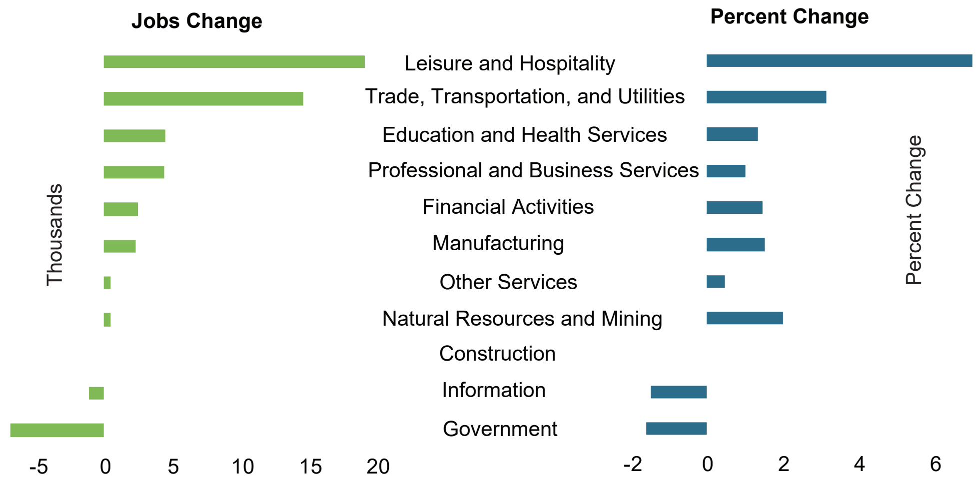
Education and Health Services

Employment in Education and Health Services observed a large shock from the pandemic, as education institutions were forced to operate online, and health care providers stopped performing non-emergency procedures. Growth in private education services in the year ahead will be influenced by the ability of schools to adjust to the changing demands of online learning and closures related to legal and financial difficulties. Another apparent wave of COVID-19 cases threatens to shut down medical services again, which could force another decline in health care employment in 2021.

Leisure and Hospitality

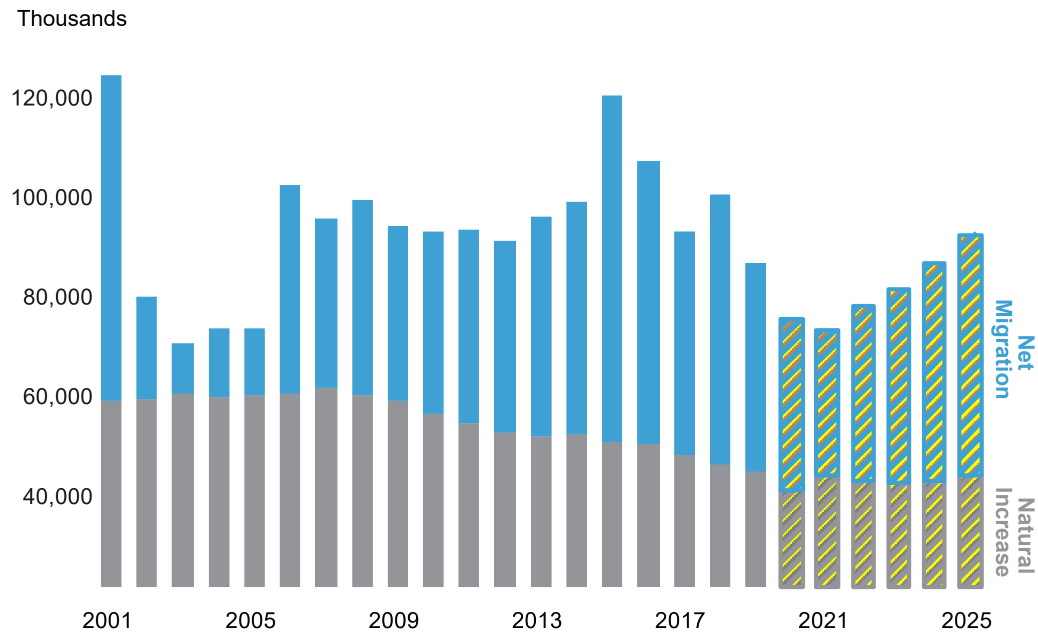
The industry was one of the hardest hit from the COVID-19 pandemic, as service-based businesses were forced to shut down and fear of the virus muted consumer activity. Colorado's travel spending since March was down over 50% in October, DEN passenger traffic was down 53% in September year-to-date, restaurant sales were down an average 40% statewide in October, hotel occupancy rates were down 34.3 percentage points from 2019 in September, and over 500 conventions were canceled. These large declines in activity are expected to bring job losses in the sector to 71,200 in 2020. While industry employment is expected to post gains in 2021, Colorado's tourism industry isn't expected to fully recover for years, with continued consumer caution

COLORADO 2021 EMPLOYMENT CHANGE



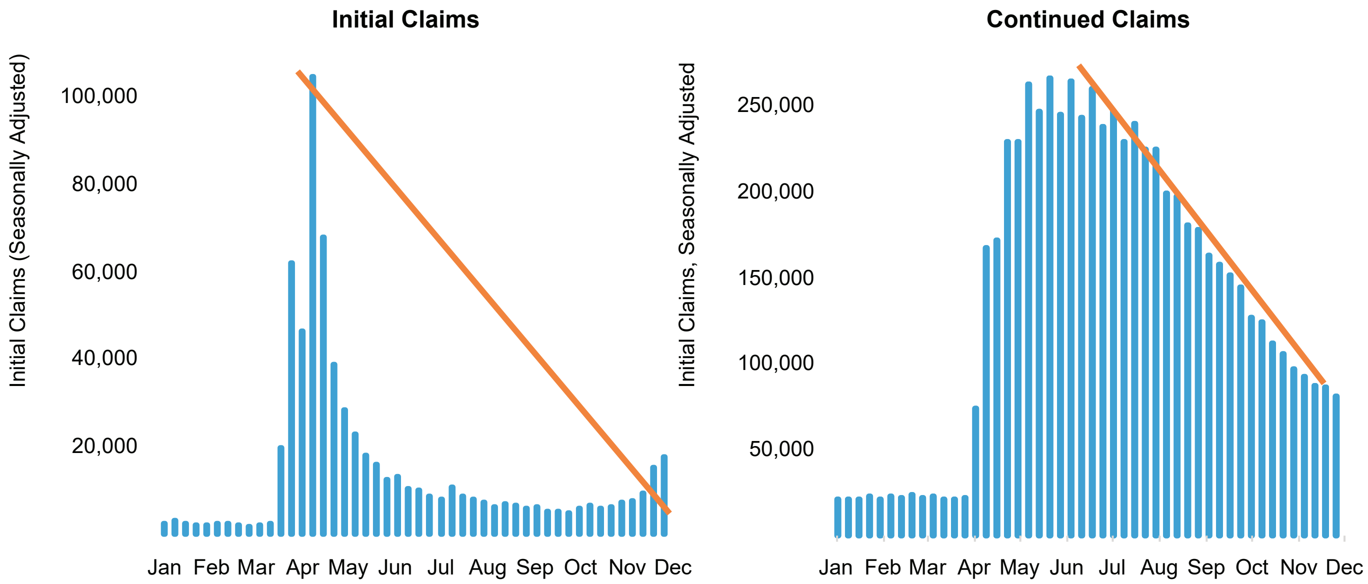
Sources: Colorado Department of Labor and Employment and Colorado Business Economic Outlook Committee.

COLORADO CHANGE IN POPULATION



Sources: Colorado Demography Office and the U.S. Census Bureau.

JOBLESS CLAIMS COLORADO



Sources: United States Department of Labor Employment & Training Administration, Unemployment Insurance Weekly Claims (Seasonally Adjusted); and the National Bureau of Economic Research.

hindering the sector.

Other Services

Another hard-hit industry because of the person-to-person interactions (e.g., hair and nail care, religious organizations), this industry will face a bumpy road to recovery with each opening and closing of the economy.

Government

State and local government were negatively impacted by the decrease in tax revenue that occurred in most, but not all jurisdictions. Public education faced additional costs to make COVID-19 accommodations, while also facing shifts in enrollment. The budget impact will carry through 2021.

National and International Summary

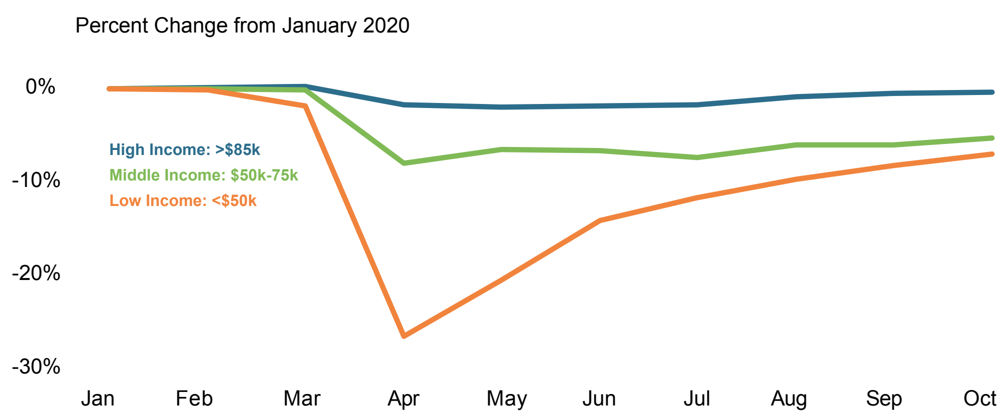
- U.S. output will record strong growth in 2021, but real GDP growth of 3.8% will keep the economy below the pre-recession peak.
- Personal consumption and investment are expected to post moderate gains as the economy heals.
- Colorado's goods imports were down 10% in September year-to-date; however, Colorado's goods exports were up 1%. Record-low interest rates and fluctuating prices of currencies and commodities will continue to bring large uncertainty to International Trade in the year ahead.

Colorado Summary

- Colorado will likely fall out of the top 10 states for employment growth in 2020 and 2021 given the services sector impact.
- Employment growth is projected in nine of the 11 industries in 2021.
- Changing consumer preferences, from housing to shopping, will continue to have disparate impacts on Colorado communities.
- Work-from-home behaviors will impact commercial real estate, transportation, retail sales, and workplace dynamics.
- Population in 2021 will grow by the lowest number since 2003. The state will still add an estimated 53,300 people, with just 35,100 coming from net in-migration according to the State Demography Office.

For more information on each industry sector, visit colorado.edu/business/brd.

COLORADO EMPLOYMENT BY WAGE GROUP



Source: Bureau of Labor Statistics CES (Seasonally Adjusted).
Note: Wage terciles are determined by calculating the average annual wage for each industry as of Q1 2020 and grouping each industry's total employment a tercile.

Center for Ethics and Social Responsibility Panel

The Future of Diversity, Equity, and Inclusion in Business

Tiffany Harbrecht

The increased attention to racial justice in 2020 has highlighted why increasing diversity, equity, and inclusion (DE&I) is good business—and good for business.

Research shows that diverse organizations are more successful. A recent study by McKinsey & Company shows not only a direct correlation between diversity at large companies and profitability, but also that diversity in leadership roles matter. No longer can organizations remain complicit to inequities within their organizations if they want to attract and retain diverse talent.

The Center for Ethics and Social Responsibility's (CESR) panel on the future of DE&I in business explored how companies can make changes today to improve their DE&I efforts and why now is the time to make those changes.

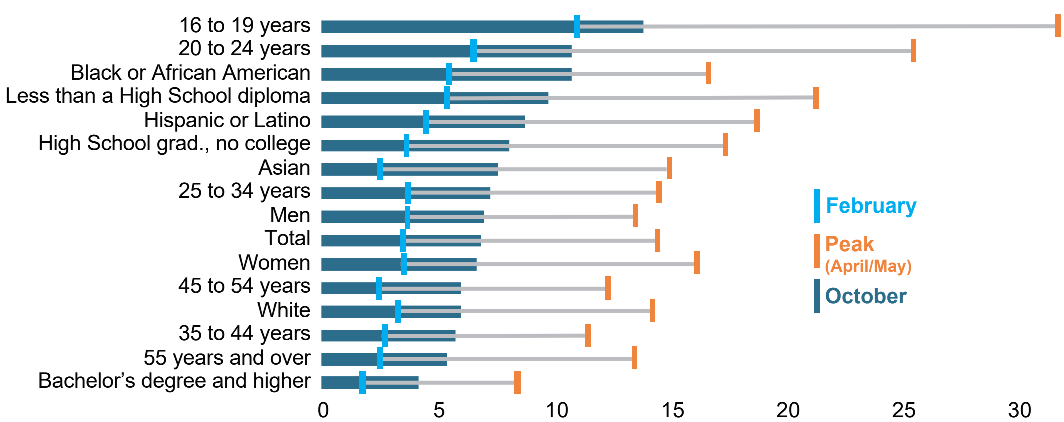
To intentionally situate the conversation in context of inclusion, Diane Solinger, people manager at Google and CU alumna who moderated the panel, took a moment to recognize the tribal lands where the University of Colorado Boulder is located as well as the tribes who previously occupied her location in Oregon.

"It's important to acknowledge where we come from before discussing where we're going," said Solinger.

Panelists included practitioners who are working to create and implement stronger DE&I programs: Demesha Hill, head of diversity and community relations for Janus Henderson Investors; Ellen Balaguer, Chair of the Leeds School of Business Advisory Board; Ryan Baca, Associate Principal for Appficiency; and Leeds Associate Professor and author of Inclusify, Dr. Stefanie K. Johnson, whose research has proven ways to effectively increase performance through uniqueness and belonging.

The group discussed how the collective experience of the pandemic has helped us understand how it feels to be oppressed and have our freedoms taken

NATIONAL UNEMPLOYMENT RATE



Source: Bureau of Labor Statistics.

away. Now that we see these inequities and have this awareness, where business and society go from here matters.

Hill explained that from a DE&I standpoint, businesses need to understand the changing demographic of the clients and who they are recruiting. From an employer standpoint, she says, policies that do not promote inclusion also need to be reevaluated.

Johnson suggested that hiring managers include a question that would allow applicants to explain what they have done recently to promote equity and justice.

A Pipeline Problem?

What happens when there is a "pipeline problem" or lack of diverse talent pool for companies to hire from?

Baca disagreed with this premise. "We need to challenge the idea of a 'pipeline' of talent," he says.

Instead, he suggests organizations need to expand their "network" of potential talent by exploring new ways they can recruit diverse candidates, such as hiring an outside firm to help with a talent search.

Balaguer offered that the problem of a lack of a diverse pipeline is an issue that needs to be addressed from the inside, both individually and at the organizational level.

Start by bringing in an expert, like Dr. Johnson, says Balaguer. "Take a long hard look at all things you're doing to create a diverse, inclusive, and equity ecosystem, and start there."

Johnson says dismissing a lack of diverse talent as a pipeline problem is a scapegoat because it's hard to do this work. The good news is there are many search firms that can help, allowing organizations to outsource if they don't have time to expand their job candidate diversity themselves.

Microaggressions in the Workplace

The conversation turned to the impact of microaggressions in organizations. Microaggressions are the everyday slights, indignities, and insults—statements, actions, environments—made against marginalized groups.

Often unconscious and unintentional, microaggressions express an attitude of discrimination which, according to Hill, prevents people from feeling like they are able to be their unique selves.

A few common examples of microaggressions Hill hears in the workplace are: "You don't look like you have a disability," and "You don't sound like you're Black."

Microaggressions also happen to men with snubs like "man up" and "don't be so sensitive."

Using more inclusive language that does not "other" people can reduce this. An example is saying, "Thanks, everyone," to a group instead of, "Thanks, guys." Or it may be referring to someone's significant other as "partner" rather than saying "husband" or "wife."

If you can "walk a mile in another's shoes," you may begin to understand how that would feel if someone said something like that to you and change your behavior.

Tactics to Employ Now

Panelists recommend leaders use data to drive home the business case for DE&I. Prioritizing these efforts will positively impact their organizations' clients and will ultimately benefit the business itself.

Leaders should create SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) goals to approach DE&I efforts and think of how they can make decisions that are a "win-win" for everyone involved.

Companies that are operating globally can better reflect and respect the cultural values of the local populations where they are operating and make changes so they are not violating norms, customs, and more importantly, human rights.

As companies make a shift to a majority remote workforce in the future, Johnson says organizations can then shift to hiring from outside of the company's area to broaden their diversity.

If companies can leverage employees as local cultural guides, says Hill, that can help with hiring and retaining talent. By sharing these resources with new employees, it can make them feel more included from day one.

This is the time for organizations to do something, and it starts by taking one step.

Tiffany Harbrecht is a writer for Marketing and Communications at the Leeds School of Business. She may be contacted at tiffany.harbrecht@colorado.edu.

Burridge Center for Finance Panel

The Fed, The Market, The Disconnect

Rachel Long and Max Olson

During the 56th Annual Colorado Business Economic Outlook held in December, a panel of leaders in the financial sector discussed their views on the capital markets. Moderated by Dave Gross, Senior Instructor and the Associate Chair of the Finance Division at the Leeds School of Business, the discussion centered around the perceived disconnect between markets and the economy. Joining Gross were Ed Van Wesep, Associate Professor and Finance Ph.D. Program Director at the Leeds School of Business; Nancy Davis, Founder and Managing Partner at Quadratic Capital Management; and Gibson Smith, CIO and Founder of Smith Capital Investors. The panel opened with a simple question: Is there a disconnect between the market and the economy?

Davis kicked off the discussion by addressing rosy expectations for vaccine approval (which was approved on December 11) and reminded the audience that the pandemic is more of a health shock than it is an economic one. She remarked that expectations of a vaccine and communities achieving herd immunity instill investor optimism, abated by uncertainty of the pandemic's effects throughout the winter resulting in hospitals becoming overwhelmed and continued shutdowns. Volatility varies by asset class, Davis continued, and is elevated in equity, credit, and commodities markets. Implied volatility trades are expensive. In the rates market, volatility is near historic lows as popular sentiment among bondholders assumes the Fed is in control of markets and that inflation risk is low.

Smith's view is equity markets are anticipating a more robust global economy than seen in the past nine months. Since markets are a function of supply and demand, Smith continued, investors "are working in many ways in artificial markets that are being highly influenced by central banks." The question Smith posed for investors then is, "how much longer will this go on?"

Smith, who has years of experience in the fixed income markets, believes that historically low interest rates, a flat yield curve, and treasuries yielding inside of 1% are fueling investors to seek out higher returns in equity or real estate markets.

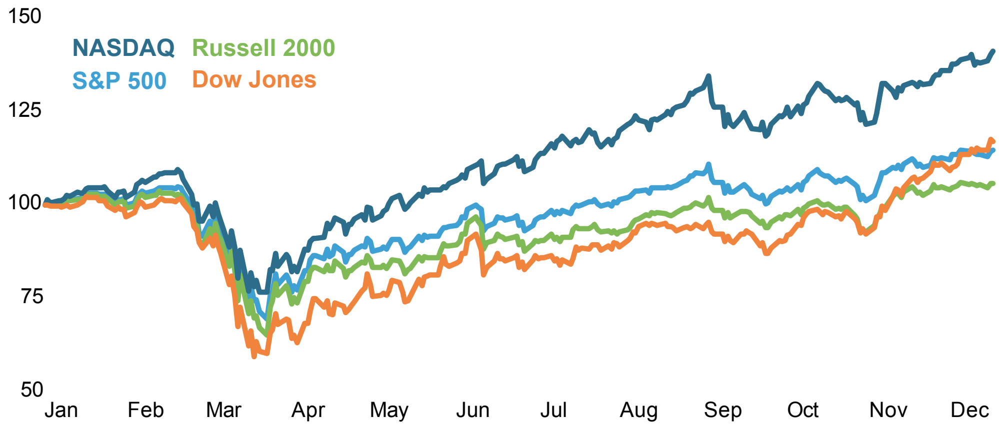
Smith noted the similarities between the market now and in the 1990s, when in 1999 investors saw a parabolic jump in the market and the Nasdaq rose 70% in a year, only to crash with the tech bubble in 2000 and 2001. Today, Smith warned, the market may be on the cusp of another parabolic or reflective move as investors engage in exuberant risk taking, valuations grow, and securities trade over 100% higher in the days following their IPO. These factors warrant caution and close attention from market players. Van Wesep discussed trailing price-to-earnings as the major predictor for aggregate market performance in the long run. Because rates of return set by the market are presently low, small changes in interest rates spur larger changes in valuations. From Van Wesep's view, investors should expect, "a moderately worse-than-normal performance."

The panel discussion then moved to risks in the economy and stock market in 2021, including low rates, demand, and the yield curve. Davis began, highlighting rates and inflation as a major risk going forward. While investors largely anticipate rates to stay low for the next few years, inflation is a large risk; in order to curb inflation, the Fed may have to tighten monetary policy, derailing the credit and equity rally and possibly fueling a bond sell off.

Smith stated that risk in the market going forward is a function of low rates, demand, and the supply chain. In the near term, Smith believes that vaccine risk is most pressing, with markets hinging on the success or failure of inoculation and distribution. He is optimistic, however, and is expecting four to six quarters of global growth

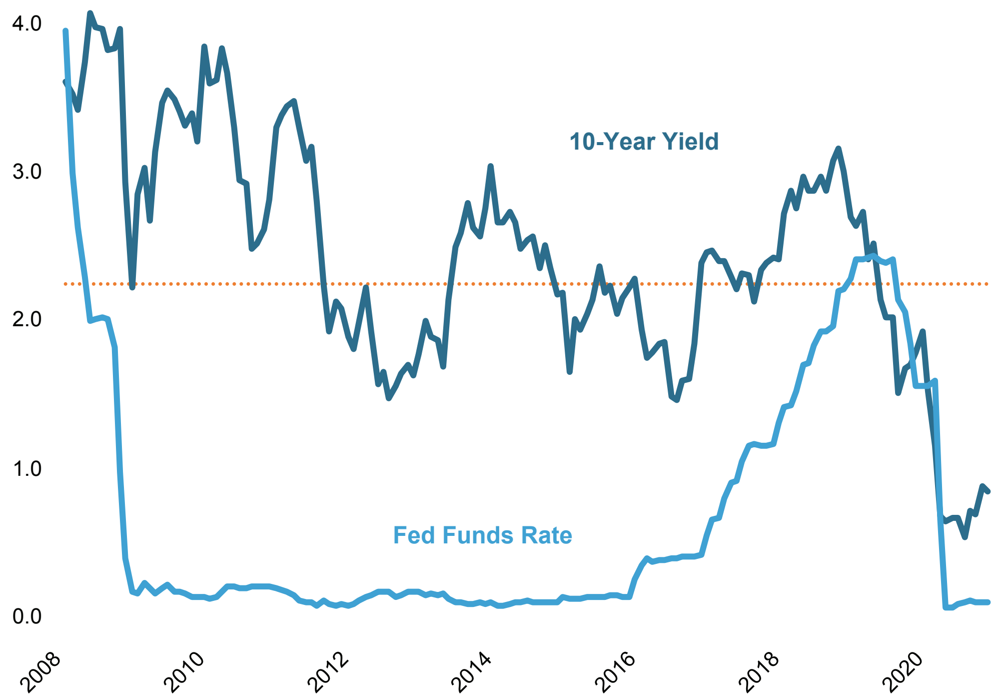
2020 SECURITIES TRENDS

Indexed, January 2, 2020=100



Source: Yahoo! Finance.

INTEREST RATES



Source: Bloomberg.

as a result. In conjunction with Davis, Smith also noted changes in inflation expectations as a risk for rates and equity markets. Smith described investors as more vulnerable today than they were three months ago and that they should evaluate the positions they have the highest conviction in and not get drawn into the bond and equity rally.

Van Wesep cited long-run damage to the economy from the pandemic as the biggest risk going forward, and uncertainty about when a vaccine will be widely available. The consumers' response will cause major question marks for spending on restaurants and travel. He also raised concerns over the trillion-dollar hole in state and local budgets; as these budgets are required to balance, state and local governments will need to raise taxes or cut spending to fund themselves. He continued, saying the responsibility to balance these budgets should fall on the federal government, and it must intervene to ensure substantial demand downfalls are averted. Sustained low demand and low incomes are part of a self-fulfilling cycle, and stimulus must make up for income shortfalls that do not relate to the long-term viability of a business or worker.

A question from the audience steered the conversation to the current role of the dollar as the global currency, and whether polarization in the U.S. may impact this situation. The panelists agreed that, at least in the short term, the dollar will remain a safe haven for foreign investment on account of the size, scale, and flexibility of the U.S. economy. Smith reiterated that money flows to countries where yield and returns are available; positive yields in the U.S. and China should continue to attract foreign investment into 2022. Davis added the importance of maintaining diplomatic relations with major holders of U.S. debt (e.g., China and Japan) and a return to a global mindset as factors that may secure the dollar's role as the global currency in the long term.

The discussion then shifted to the prospect of a second federal economic stimulus—what it should look like, who it should go to, and how it can fuel a strong recovery and long-run growth. Smith set the stage by describing the market's current behavior, stating, "we have become so addicted to stimulus whether it be monetary policy stimulus or fiscal stimulus that the market just begs for more." Smith's recommendation for policy makers was to use a smaller stimulus package as fuel for structural policy changes surrounding infrastructure, small businesses, and education. That, he argued, encourages long-term economic growth instead of unsustainable, "sugar high" growth. Van Wesep expanded on that idea by asserting that Congress must target areas of the economy with considerable slack. Slack is a term that describes idle resources in the economy, usually caused by a lack of demand relative to what the economy can produce. Moreover, stimulating demand in these areas increases the amount of economic activity without having inflationary consequences. Van Wesep emphasized that the areas with the most slack at the moment are goods and services demanded by state and local governments, and therefore, the stimulus should be directed toward them.

Davis went on to introduce concerns she had with fiscal stimulus, while acknowledging without it, there could be disastrous consequences. According to the Congressional Budget Office, the debt to GDP ratio is projected to be 107% by 2023, the highest percentage in the country's history. Davis argued this debt burden is simply being shifted to future generations and that without inflation, massive amounts of debt are nearly impossible to eliminate. Van Wesep countered that while he is no advocate for modern monetary theory, a large amount of public debt is not necessarily a bad thing. Referencing the burden on future generations he said, "we are mostly borrowing from ourselves, and so it is true that taxpayers have to pay interest on that debt, but they are paying interest to taxpayers." Smith added public debt is an issue that we should not be complacent about. However, sustained economic growth is a powerful thing and that if we can get it going, there will be opportunities to deleverage.

Davis also brought up problems in the corporate debt market. She said, "We have a corporate debt problem and it mostly, in my opinion, exists in the private credit markets because there is so much capital that is going out of government bonds because of the low yield and the low potential return and flooding into private credit." She added, "Debt's not a problem until it is, but so many companies are so incredibly levered." Smith added onto this point by positively highlighting that in many sectors, operating leverage has improved as companies have cut costs and improved productivity.

The conversation then shifted to the topic of interest rates and the banking system, with Davis acknowledging that while credit and equity markets are acting euphoric, the rates market is nowhere near pre-pandemic levels. The average yield on 10-Year U.S. Treasuries in November 2020 was 0.87%, nearly 100 basis points lower than 1.81% recorded a year prior. Davis argued that currently, banks do not have a strong incentive to lend with such low rates, so having a steeper yield curve would be an indicator of a healthy recovery. Van Wesep gave further evidence, introducing the concept of the monetary base, which is the total amount of currency circulating in the public plus the currency that is physically held in the vaults of commercial banks. Van Wesep showed that when the Fed

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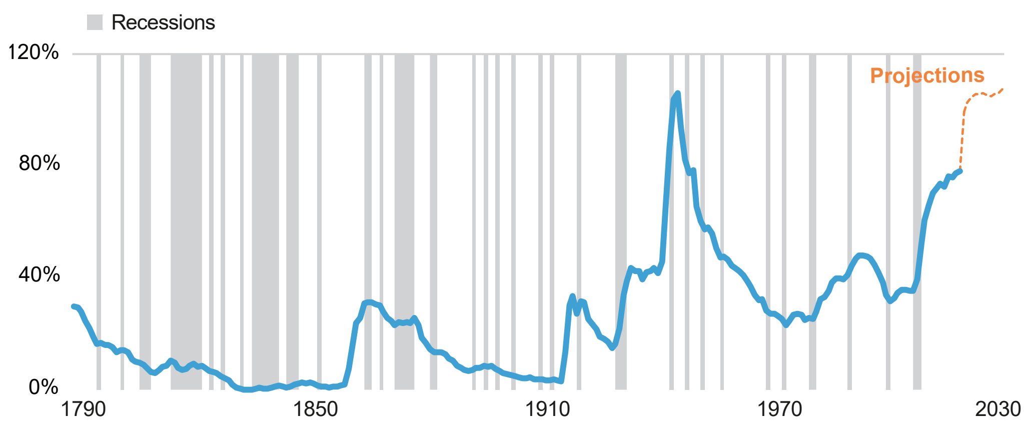
U.S. FEDERAL DEBT AS A PERCENTAGE OF GDP
1790 - 2030



Sources: Congressional Budget Office and the National Bureau of Economic Research.

Deming Center for Entrepreneurship Panel

How Entrepreneurial Innovation & Disruption Will Move Us Forward

Anna Sernka

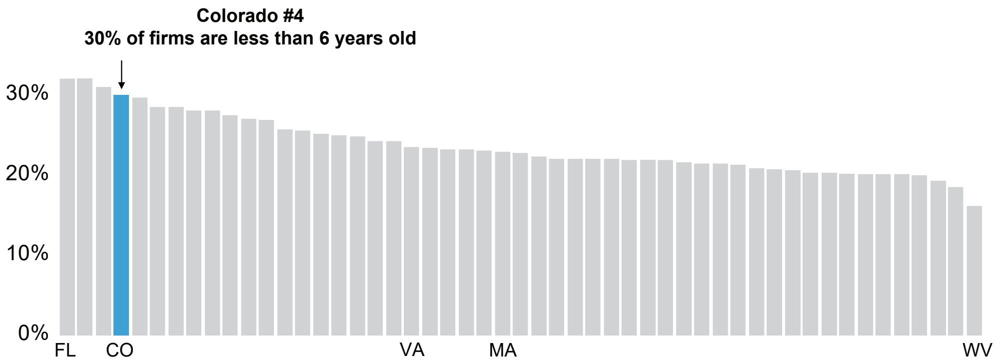
Colorado is uniquely well positioned to recover from the pandemic due to its strong entrepreneurial environment and economic conditions pre-crisis, according to the entrepreneurship panel during the 2021 Colorado Business Economic Outlook. Panelists, including Delaney Keating, Executive Director of Startup Colorado; Adrian Tuck, CEO of Uplight; and Jeff York, Associate Professor and Research Director at Leeds School, discussed the former and future state of entrepreneurship in Colorado. Moderator Erick Mueller, Executive Director of the Deming Center for Entrepreneurship, utilized the different backgrounds of the panelists to incorporate research, practitioner, and eco-policy views in the discussion.

According to Bloomberg's 2020 U.S. State Innovation Index, Colorado is ranked as the 10th-most innovative state. Furthermore, Colorado ranks sixth in the number of awards provided by the Small Business Innovation Research and second in the percentage of bachelor's degrees in the population of people age 25 and over. Colorado also has the fourth-highest proportion of new and young businesses. These attributes helped Colorado recover from the Great Recession, and panelists believe they will once again catalyze the recovery from the COVID-19 pandemic and recession. A recent Small Business Association study found that a majority of new jobs are created through entrepreneurship, further evidence that entrepreneurial innovation and disruption must be a priority in Colorado's recovery.

Leisure and Hospitality was a particular area of focus in York's conversation

ESTABLISHMENT AGE BY STATE

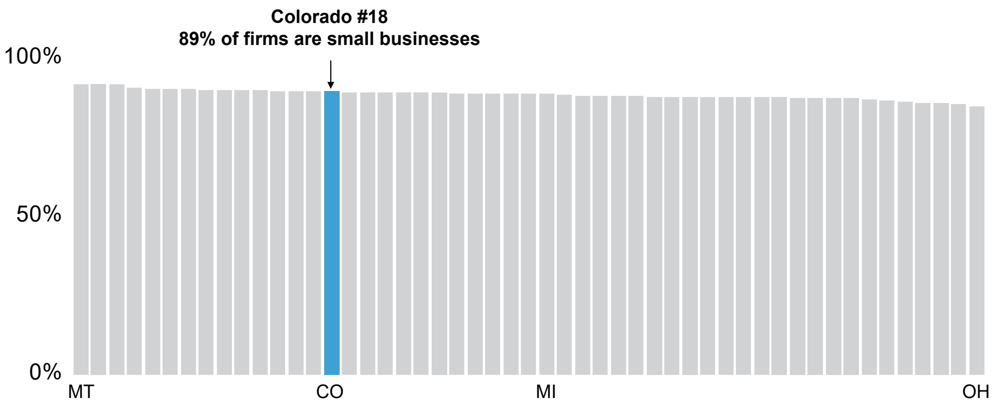
Percent of Establishments with Firm Age Less than 6 Years



Source: Bureau of Labor Statistics, QCEW.

PERCENT OF SMALL BUSINESS ESTABLISHMENTS

Percent of Establishments with Fewer Than 20 Employees



Source: Bureau of Labor Statistics, QCEW.

on economic recovery. During the April lockdown, employment in this industry was down nearly 50% year-over-year in Colorado, on par with national trends. Colorado, however, has the potential to be an outlier in the recovery. While interest in outdoor recreation was popular prior to this year, the pandemic has accelerated this movement. The "experience economy" is also taking off, as younger generations are less interested in owning physical possessions. Colorado's vast wilderness and ample outdoor recreation activities are perfectly poised to meet these outdoor experience demands.

As the Executive Director of Startup Colorado, an organization serving rural Colorado, Keating had unique insights on how entrepreneurship can thrive away from urban business centers.

Ventures with fewer than 20 employees make up 89% of companies in the United States, and many of these small businesses are located in rural areas. Rural entrepreneurs have a unique commitment to their local communities, but they are often more vulnerable to crises like COVID-19. Because there is no modern precedent for how rural communities can recover from a pandemic, researchers are forced to be creative. Using examples such as tornadoes devastating communities in the Midwest as the closest case study to rural entrepreneurship resilience, evidence suggests that communities bounce back the quickest when surviving businesses provide mentorship to create a vibrant economic ecosystem and fight the tendency to become clannish. Colorado's agriculture industry is another relevant case study, as farmers face uncertainty every year among unpredictable snow, drought, and wildfires but manage to adapt. While the pandemic brought yet another source of uncertainty to rural communities, their ability to deliver on the experience economy led to record-breaking tourism last summer, particularly on the Western Slope. Rural communities may forever be changed by the pandemic, as Tuck predicts a "ruralification" of the employee base. If offices shift to being centers for collaboration instead of day-to-day work, high-paying jobs may move out of cities as employees gain more flexibility.

Because the pandemic is an ongoing crisis, it is difficult to look backward and evaluate the success of particular businesses or communities. Based on their first-hand experience with entrepreneurship during the pandemic, however, panelists were able to share some lessons learned. As CEO of a growing company, Tuck explained his strategy of triaging threats and adapting accordingly. Uncertainty is different from risk because there is no data to assist in the decision-making process. Instead of analyzing data to make predictions in times of uncertainty, Tuck encourages business owners to think about what they can do now. Rather than trying to get the answer exactly right, thinking in terms of rapid cycles and quick tests with minimal investment can move the business forward. Tuck also believes the success of his company is dependent on the trust his team creates when discussing risk and bad news. Entrepreneurs are by nature optimistic, but these pitfall conversations are key to weathering unlikely, but highly impactful threats, such as a pandemic. As climate changes bring the potential of a continuous state of crisis, the ability to maneuver low data, high impact environments will become increasingly important.

York also shared some of his research, which included the need to think more like a startup than an established business in times of crisis. Whiskey distillers adopted this mindset by pivoting to make hand sanitizer and provide off-premise experiences. In addition, the pandemic provides a potential solution to the Innovator's Dilemma, which is the difficulty entrepreneurs face when attempting to change a population's behavior. As people have had to change everything about their routine because of the pandemic, now could be the optimal time to introduce new habits.

The last segment of the discussion focused on what Colorado could do as a state to encourage entrepreneurship. Attracting great talent was at the top of the list for the panelists, meaning Colorado should invest in all of the things that would make it easy for someone to decide to stay or move here. This includes, to name a few, plentiful and affordable housing, good schools, opportunities for entertainment and recreation, and efficient infrastructure and public transportation. In addition, panelists expressed how Colorado should restructure its thinking around size to adapt to entrepreneurship in rural areas. By shifting the policy lens to the micro level, infrastructure could be better equipped to support community banks and businesses.

While 2020 has provided unprecedented challenges, it has also brought new opportunities to fruition. In a poll at the end of the discussion, 83% of attendees believed that the new normal will be better than the old normal. This optimism, combined with entrepreneurial adaptability, will certainly help fuel Colorado's recovery.

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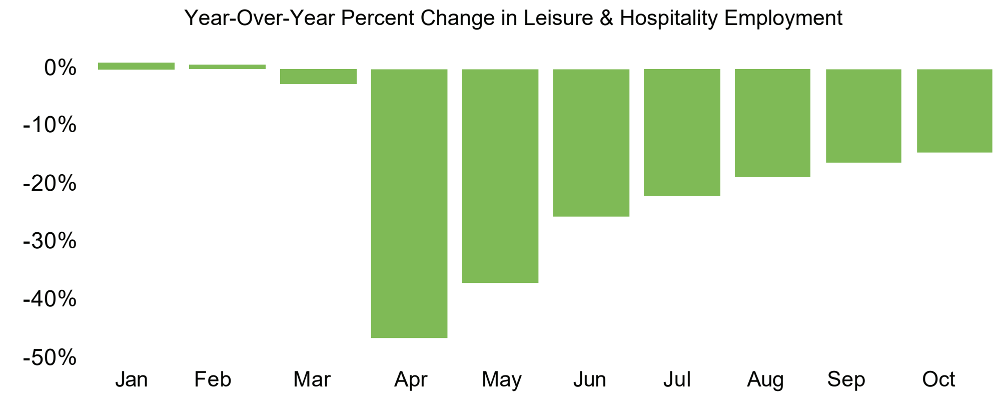
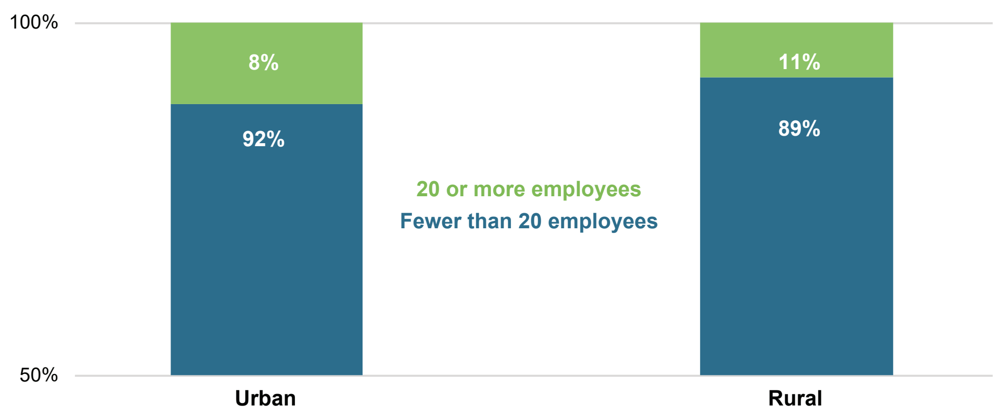
LEISURE & HOSPITALITY EMPLOYMENT



Source: Bureau of Labor Statistics, CES.

ESTABLISHMENT BREAKDOWN BY REGION, Q1 2020



Source: Bureau of Labor Statistics, QCEW.

CU Real Estate Center Panel

A Tale of Two Cities: Real Estate's Winners and Losers Amidst the Year of the Coronavirus

James Donahue

The disruptive and ever-changing economic environment of 2020 has led to a "K" type shift in real estate markets, resulting in a substantial divergence in performance between the market's various subsectors: office, retail, industrial, and residential real estate. The 2021 Colorado Business Economic Outlook Real Estate Panel, featuring Mike Kercheval, Executive Director of the CU Real Estate Center; Paul Books, President and Founder of Palisade Partners; Chad Brue, CEO & Founder of Brue Baukol Capital Partners; Jessica Ostermick, Director at CBRE; and Darren Powderly, Co-Founder of CrowdStreet, Inc., tackled head-on the nuances of the dynamic shifts driving the future of the real estate industry.

Employees, particularly those in the Professional and Business Services sector, found themselves working from home by mid-March. The precipitous fall in office occupancy caused commercial vacancy rates to soar to as high as 15% in the Denver office market, the highest in eight years. That said, cultural forces may serve as a boon to the commercial space; Ostermick was the first to bring up that "working moms, with kids who are being virtually home-schooled" may likely want to get back to the office. Moreover, not all markets are experiencing a dim outlook; with lower vacancy rates, suburban offices appear to be gaining traction given the spacial accommodations they can offer relative to their urban counterparts. Brue noted the similarities in urban flight to that which followed the 9/11 terrorist attacks, though he recounted that those same urban real estate markets recovered after only two years. Kercheval parsed this further by stating that 16 million people have left large cities during the pandemic, with 14.2 million of the 16 million filing a permanent address change.

WeWork emerged opportunistically out of the financial crisis, offering a substitute to the traditional office workspace. While a maelstrom of litigation, corporate gaffes, and public market concerns hindered what was a prolific rise in the second half of last decade, "WeWork should be credited for reimagining the office environment and the concept of flexible workspace," Powderly said, adding that "the pandemic jumpstarted a serious reconsideration of space sharing." Brue echoed this sentiment in stating that "there will be a hybrid [workspace] going forward and co-working spaces will be the net beneficiaries of that."

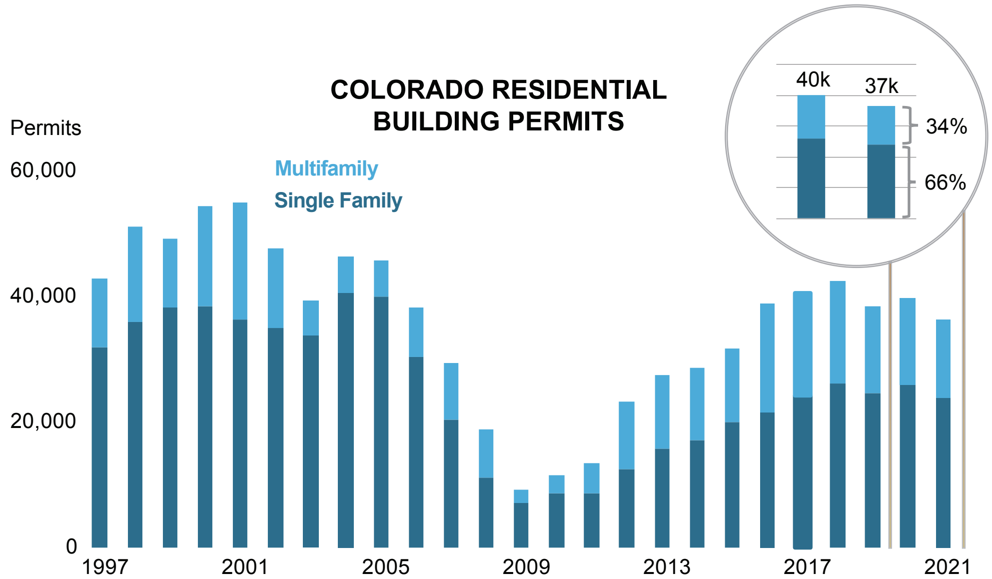
Industrial real estate, which includes warehouses and distribution centers, reaped ample rewards as consumers rapidly shifted to e-commerce shopping platforms over the course of the pandemic. In Colorado, the impacts from trends in consumer behavior are further reinforced by a growth in statewide population and a strategic shift from just-in-time inventory management in favor of safety-stock warehousing. Ostermick made note of Amazon's expansion in Colorado—the company doubled their logistical outposts in the state over the last few years alone. "National industrial real estate prices have increased 7% over the last year," Powderly added, "compared to national retail real estate [prices] experiencing a 5.2% decline over the same period." Such has been the tale of the real estate sector, where the winners have won spectacularly and the losers have experienced mounting difficulties. Adding to existing challenges is the fact that it will be some time before consumers feel comfortable shopping in a traditional retail environment again, and it will be nearly impossible to totally divorce consumers from the ease and convenience of online shopping.

Residential real estate, particularly in Denver suburbs and popular Colorado mountain towns, experienced a windfall in light of an exodus of sorts from large coastal cities. A three-part synthesis of companies expanding their Colorado operations (e.g., Amazon and Charles Schwab), firms relocating their headquarters to Colorado (e.g., VF Corp and Palantir), and a proliferation of mass work-from-home practices fueled the Colorado residential market in the second half of 2020. The median price of a single-family home in Denver increased 8.3% year-over-year in 2020, aided by low interest rates powering an already robust pre-pandemic market.

Books noted that there are two "flights" occurring—one from large coastal cities to smaller cities, and one from all urban environments to the surrounding suburban cities. Home ownership went from 65.3% in Q1 2020 to 67.9% in Q2 2020, a massive one-quarter shift. Books witnessed this firsthand; many urban apartment leases in Denver shifted to month-to-month as a number as a number of tenants "waited for their homes to close." With respect to the inflow of new residents into the Denver suburbs and mountain towns, Brue added that individuals in large cities were willing to sacrifice proximity to sporting events and amenities for "more space and breathing room." Ostermick noted that secondary markets like Colorado Springs, Pueblo, and Greeley have benefited as well, with demographics playing a factor as Colorado's aging population has flocked to suburban or rural markets.

Psychological forces have supported the departure from urban environments,

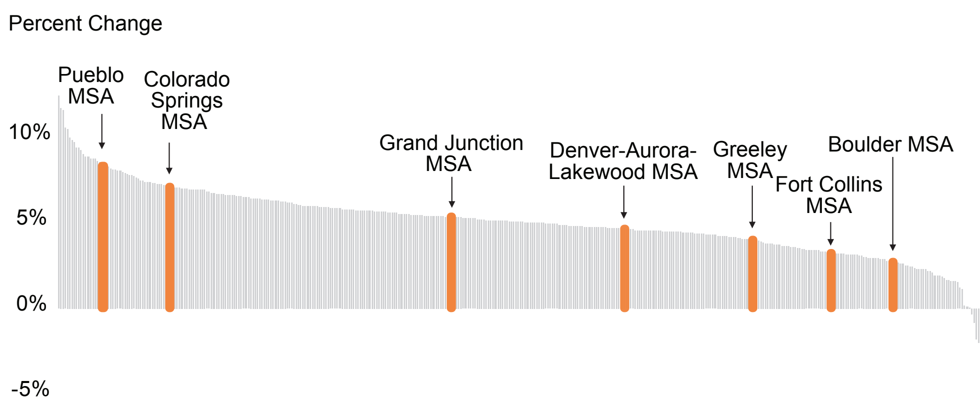
COLORADO RESIDENTIAL BUILDING PERMITS



Sources: U.S. Census Bureau and the Colorado Business Economic Outlook Committee.

FHFA HOME PRICE INDEX BY MSA

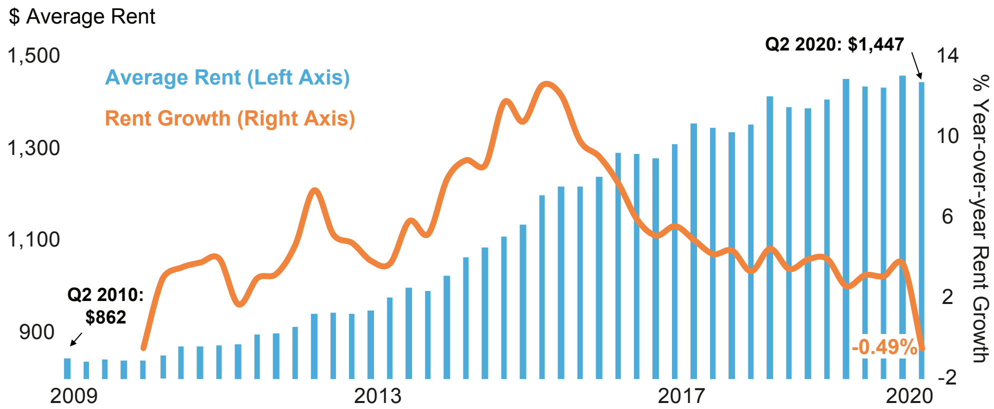
1-Year Home Price Change, Q3 2020



Source: Federal Housing Finance Agency, All Transactions Index (Not Seasonally Adjusted).

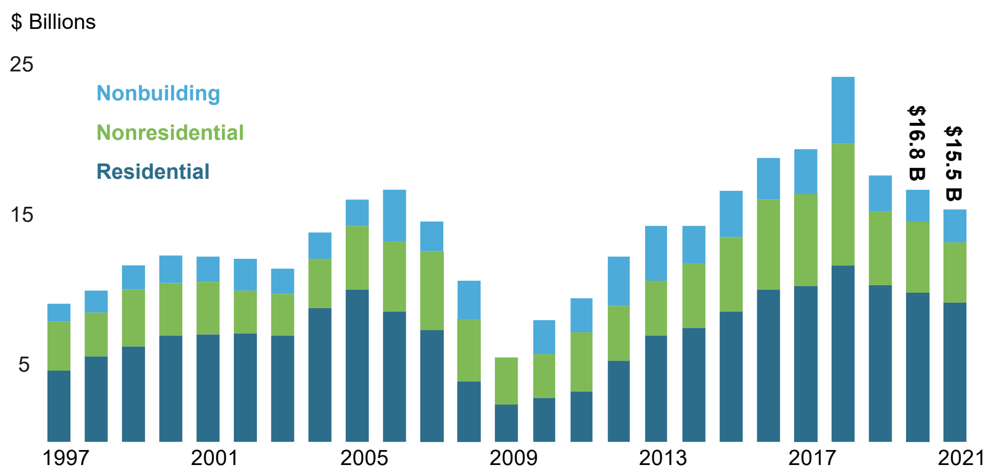
AVERAGE RENT

Colorado Multifamily Housing



Source: Colorado Department of Local Affairs (DOLA), Statewide Multifamily Housing Vacancy and Rent Survey.

COLORADO TOTAL VALUE OF CONSTRUCTION



Sources: McGraw-Hill Construction Dodge Research and Analytics and the Colorado Business Economic Outlook Committee.

with unrest, homelessness, and an increase in crime contributing to the exodus. The surge in demand for mountain residential real estate makes the outlook for Colorado's Leisure and Hospitality Sector even more vague. At a minimum, the migration to mountain real estate will offset some local budget woes as property taxes benefit from rising home values. But increased strains on mountain infrastructure, along with lower sales tax revenues from traditional dining and retail hit hard by the pandemic, may temper some of the growing demand for mountain housing.

The real estate panel painted a picture of contrasting real estate markets. Urban real estate markets, across commercial and residential subsets, have faced mounting challenges over the last year. Industrial, suburban residential, and mountain residential real estate markets have emerged from a chaotic and dynamic environment as clear winners. Shifts in consumer behavior have fueled demand for both e-commerce and different types of physical space. Whether or not those shifts impacting real estate are permanent remains an open question.

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engages in quantitative easing (i.e., purchasing bonds and other financial assets to inject money and stimulate the economy), there are large upswings in the monetary base. From February to May, the monetary base increased 49.1%; however, Van Wesep asserted that with low interest rates, that stimulus just sits as cash in bank vaults.

The panel ended on a cautiously optimistic note, with Smith saying that with the stimulus in the system and the unconventional monetary policy, he is excited about the prospects for growth both domestically and globally. He urged, however, that interest rates and debt are big issues that we will need to face in the future.

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