

MONTROSE COUNTY ECONOMIC UPDATE



Provided by the Business Department
of Colorado Mesa University

Third Quarter 2018

Economic Summary

- The Montrose County economy is performing well with an unemployment rate of 3.1%. Both the labor force and employment continue to expand.
- The Montrose County real estate market is strong, with rising permit and permit valuation numbers. Home values continue to rise and are up 13.7% since last year.
- Western Colorado drilling permit applications are up. Oil prices continue to move higher pushing gasoline prices higher, but natural gas prices are holding steady.
- The national economy is very strong, with a high growth rate of 4.1%. Unemployment remains low at 3.9%, and investment is high. Slowly rising inflation and interest rates are the only negative news.

The Montrose County Economic Update is provided by the Business Department of Colorado Mesa University and is published quarterly. Please direct all correspondence to Dr. Nathan Perry, Associate Professor of Economics, 970.248.1888, naperry@coloradomesa.edu.

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LOCAL ECONOMIC INDICATORS

	Q2 2018	Q1 2018	Q2 2017	% change since last quarter	% change since last year (comparable quarters)
Local Labor Market					
Unemployment Rate Montrose County-NSA	3.1%	4.2%	3.3%	-1.1%	-0.3%
Unemployment Rate Colorado - NSA	2.7%	3.2%	2.7%	-1.2%	-0.4%
Unemployment Rate U.S. - NSA	3.8%	4.3%	4.2%	-0.2%	0.2%
Labor Force	21,979	21,091	20,629	4.2%	6.5%
Employed	21,307	20,208	19,944	5.4%	6.8%
Unemployed	672	883	685	-23.8%	-1.8%
Business Confidence					
Leeds Colorado Business Confidence Index	59.6	61.3	59.7	-2.8%	-0.2%
Sales/Use Taxes					
City Sales/Use Taxes (Quarterly)	\$4,460,929	\$3,896,286	\$4,037,376	14.5%	10.5%
City Sales/Use Taxes (Cumulative)	\$8,357,215		\$7,641,526		9.4%
County Sales/Use Tax (Quarterly)	\$3,320,637	\$2,899,928	\$3,329,939	14.5%	-0.3%
County Sales/Use Tax (Cumulative)	\$6,220,564		\$5,995,705		3.8%
Montrose City Hotel and Restaurant Tax (Quarterly)	\$139,451	\$111,997	\$130,021	24.5%	7.3%
Montrose City Hotel and Restaurant Tax (Cumulative)	\$251,448		\$237,440		5.9%

Montrose Regional Airport	Q1 2018	Q4 2017	Q1 2017	% change since last quarter	% change since last year
Enplanements	20,241	53,973	18,037	-62.5%	12.2%
Deplanements	20,096	49,890	18,024	-59.7%	11.5%
Local Labor Market Yearly Indicators	2016	2015	2014	% change since 2015	% change from 2014
Median Household Income	\$43,285	\$46,860	\$46,336	-7.6%	-6.6%
	2017	2016	2015	% change since 2016	% change from 2015
Population	41,784	41,160	40,534	1.5%	3.1%

SOURCES IN ORDER OF LISTING: State and Local Unemployment rates: Bureau of Labor Statistics (LAUS); National Unemployment rate: Bureau of Labor Statistics; Labor Force, Employed, and Unemployed: Colorado Department of Labor and Employment; Leeds Colorado Business Confidence Index: Leeds School of Business; Sales/Use Tax information: City of Montrose, Montrose County; Montrose Regional Airport enplanements/deplanements: Montrose Regional Airport; Population: U.S. Census Bureau; Personal income per capita: Bureau of Economic Analysis

The Local Labor Market

Montrose County is performing well with a 3.1% non-seasonally adjusted unemployment rate. Spring, summer and fall have lower unemployment rates due to seasonal hirings, such as agriculture and recreation based jobs. 3.1% is a very low unemployment rate, and is below the national rate of 3.8%. Labor force numbers have also increased, rising 6.9% since Q2 last year from 20,629 to 21,979. Employment has risen 6.8%, while the number of unemployed has fallen slightly. It is important to note that in this report non-seasonally adjusted numbers are reported for comparison purposes. Numbers you hear on the news or in other reports may use seasonally adjusted numbers and may be slightly different. Seasonal adjustments are not made for Montrose County unemployment rates.

Compared to 10, 5, and 1 year ago both the labor force and employment have grown considerably. The labor force has grown much faster than the population, indicating that many people are choosing to work or returning to work to take advantage of low unemployment rates and a strong economy.

On the Relationship Between the Local and National Economy

The perception in the Western Slope is that local economies are completely separate and insulated from the national economy. This is a reasonable conclusion given the distance to the next major economic hubs (SLC, Denver), and the effect of the oil/gas industry on business cycles that other parts of the U.S. don't experience. One way to determine the relationship of economic trends is to run a correlation analysis. Table 2 illustrates the correlation of unemployment between Montrose County, Colorado, and the U.S. since 1990. There is a 84% correlation between the non-seasonally adjusted U.S. unemployment rate and the Montrose County seasonally adjusted unemployment rate. This is a high correlation that shows the local economy almost

Table 1:
1, 5, and 10 year Employment Comparison (Based on Q1, 2018)

	Labor Force	Employed	Unemployed
Annual	1,448	1,422	26
5-Year	2,865	4,114	-1,249
10-Year	1,934	2,286	-351
Annual %	6.9%	7.0%	3.9%
5-Year %	14.7%	23.5%	-64.8%
10-Year %	9.5%	11.8%	-34.1%

Figure 1:
Correlation of Unemployment Rates Since 1990

	Montrose County	Colorado	U.S.
Montrose County	1.00		
Colorado	0.84	1.00	
U.S.	0.84	0.93	1.00

perfectly mimics the unemployment rate trends of the nation. The correlation between Colorado and Montrose County is also 84%. Montrose County actually follows the trends of the U.S. closer than it follows the trends of the state. For comparison purposes, Mesa County has a 94% and 90% correlation to the U.S. and Colorado, respectively. This means that Montrose County, although still strongly correlated to the U.S. and Colorado, is less correlated than Mesa County.

An 84% correlation to the national unemployment rates means that what happens in the U.S. labor market very much impacts what happens in the Montrose labor market. Future versions of the newsletter will look at other data points in an attempt to see what aspects of the local economy are related to the national economy.

Sales and Use Taxes

Montrose City sales and use taxes are up 10.5% from Q2 last year. This is a large increase that reflects the confidence consumers have in spending due to low unemployment rates, rising wages, and increased asset values (called the wealth effect). The Montrose County numbers show a different story, not growing but not falling from last year with a -0.3% change. It is odd that the County numbers would deviate so much from the city numbers, and could potentially be due to delayed remittances. The year to date cumulative numbers are up 3.8%, so unless a trend emerges over the next few quarters there is likely nothing to worry about. Montrose City hotel and restaurant tax collection is up 7.3% year over year. Enplanements and Deplanements at the airport are up approximately 12% from last year.

Figure 2:
Montrose County Labor Force 2008-Present

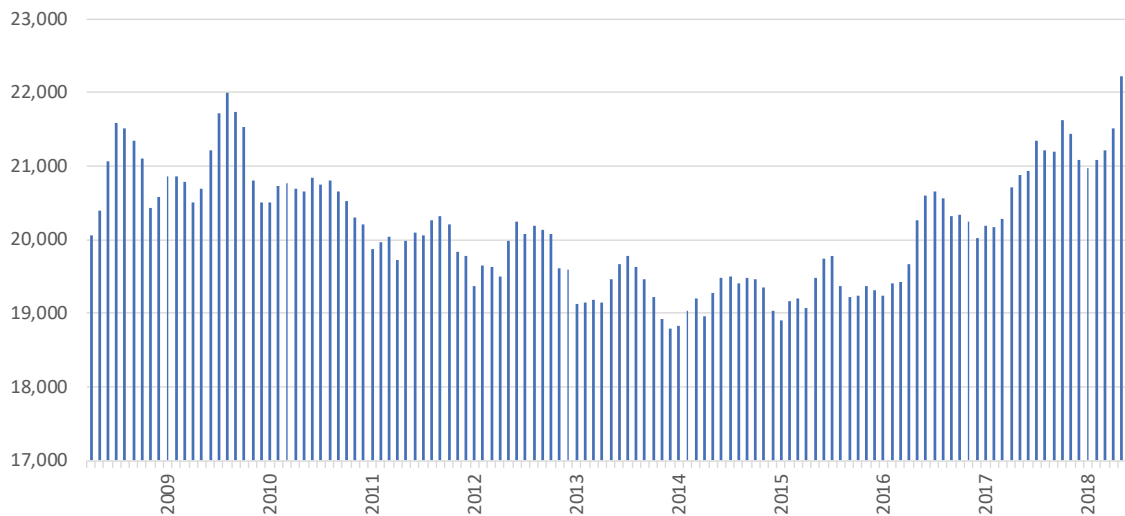
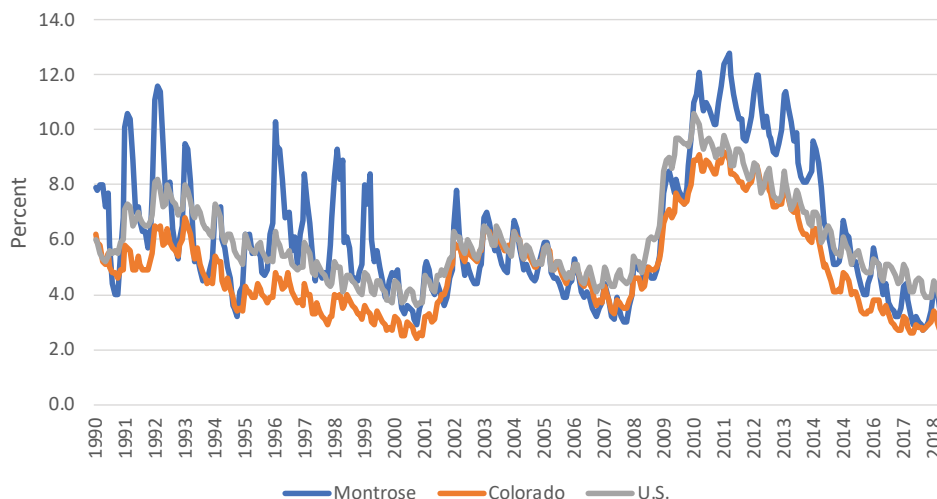


Figure 3:
Unemployment Rates (NSA) 1990-Present



SOURCE: Figure 1: Colorado Department of Labor and Employment. Figure 2: Bureau of Labor Statistics

Montrose County Employment Trends

Table 2 illustrates average employment, total quarterly wages, and average weekly wage for all major industries in Montrose County. The QCEW data utilizes employment insurance information to collect its data. This has a tendency to exclude many agricultural workers (migrant work, family workers, H1B1 Visas), as well as sole proprietors. Despite this, the QCEW data is one of the best sources for changes in industry employment and wages. For Q1 2017 (the most recent data available as of the writing of this report) construction (21.96%) and manufacturing (14.02%) lead the way in employment gains, while wholesale trade and "other services" saw the largest losses. Wage gains came from mining oil and gas (29.74%) utilities (10.87%), other services (16.72%), and agriculture and forestry (15.31%). Note that a different estimate of agricultural employment is in table 3 below, showing 1,275 agricultural workers in 2016.

Table 2:
Quarterly Census of Employment and Wages for Q1 2018

Sector	Average Employment 1st Quarter 2018	Total Quarterly Wages	Average Weekly Wage	Annual Percent Change in Employment (Compared to Q1 2017)	Annual Percent Change in Average Weekly Wages (Compared to Q1 2017)
Total	14,880	\$142,930,368	\$739	3.19%	2.92%
Government Total	3,128	\$38,000,827	\$935	0.58%	0.75%
Total Private	11,752	\$104,929,541	\$687	3.90%	4.09%
Health Care and Social Assistance	2,123	\$18,396,640	\$667	2.81%	6.04%
Retail Trade	2,055	\$15,635,107	\$585	2.14%	4.84%
Construction	1,133	\$12,146,089	\$825	21.96%	3.90%
Manufacturing	1,350	\$11,892,166	\$678	14.02%	-3.83%
Accommodation and Food Services	1,298	\$5,584,165	\$331	2.93%	2.48%
Professional and Technical Services	439	\$5,578,970	\$978	2.33%	-0.91%
Wholesale Trade	437	\$5,258,520	\$926	-10.45%	8.69%
Utilities	212	\$4,497,745	\$1,632	-1.85%	10.87%
Transportation and Warehousing	543	\$4,488,282	\$636	5.23%	3.41%
Finance and Insurance	308	\$4,273,986	\$1,067	1.99%	-2.11%
Other Services, Ex. Public Admin	357	\$3,662,314	\$789	-18.86%	16.72%
Administrative and Waste Services	458	\$3,536,922	\$594	1.10%	0.51%
Real Estate and Rental and Leasing	326	\$3,000,242	\$708	4.49%	8.26%
Management of Companies and Enterprises	106	\$1,981,985	\$1,438	2.91%	3.23%
Agriculture, Forestry, Fishing & Hunting	225	\$1,695,980	\$580	-1.32%	15.31%
Information	158	\$1,482,757	\$722	-0.63%	1.26%
Mining, Oil, and Gas Extraction	48	\$1,126,837	\$1,806	-4.00%	29.74%
Arts, Entertainment, and Recreation	149	\$641,143	\$331	18.25%	-4.06%

Table 3:
Farm Employment

Agriculture	2016	2015	2014	% change since 2015	% change from 2014
Farm Employment Estimate	1,275	1,273	1,296	0.2%	-1.6%

SOURCE: Table 2: Colorado Department of Labor and Employment (QCEW). Table 3: Bureau of Economic Analysis

LOCAL REAL ESTATE

	Q2 2018	Q2 2017	% change since last year
Real Estate			
Current Residential Listings	645	731	-11.8%
Sold Residential Listings	245	250	-2.0%
Days on Market	53	58	-8.6%
Median Sales Price	\$244,500.00	\$215,000.00	13.7%
Single Family Home Sales	245	245	0.0%
Total Building Permits	142	180	-21.1%
Total Building Permit Valuation	\$26,875,069	\$24,065,436	11.7%
Single Family Home Permits	65	75	-13.3%
Single Family Home Permit Valuation	\$10,238,307	\$12,257,860	-16.5%
Foreclosures			
Foreclosure Filings	18	16	12.5%
Foreclosure Sales	4	9	-55.6%
Mortgage Rates			
30 Year Mortgage Rate	4.0%	3.2%	0.8%
15 year Mortgage Rate	4.5%	4.0%	0.6%

SOURCES IN ORDER OF LISTING: Sources in order of listing: Current and Sold Residential Listings, Absorption rate, Median Sales Price, Single Family Home Sales: Atha Real Estate Team (from MLS); Building Permits and Valuation: Montrose County and Montrose City; Foreclosure Filings and Sales: Montrose County; Mortgage rates: Freddie Mac.

Local Real Estate Indicators

The Montrose County real estate market continues its upward pace with median sales prices increasing 13.7% year over year. Current residential listings fell 11.8%, and the average days on market to sell a home have fallen from 58 to 53. Single family home sales have not changed, and sold residential listings are slowing. Building permit applications have fallen (-21.1%), and single family home permit applications have also fallen (-13.3%). This is likely the effect of a recent building boom and overextension of the construction industry. Some national markets have seen prices begin to stagnate and inventory begin to build, specifically on the coasts. Montrose does not seem to be at that point yet, as the key data point is home prices. Foreclosure filings are up slightly, but there is no trend and it is of no concern yet. Mortgage rates continue to slowly creep up, but not as high as many have predicted. The Federal Reserve expects to raise rates in September, which may lead to a small increase in mortgage rates. One development that could push Montrose real estate prices higher is the new economic opportunity zone which will bring a large amount of money into the county. There will likely be a lot of commercial and even residential real estate purchased as investors take advantage of the tax savings and invest in economic opportunity zones. The impact this has will be closely tracked in this newsletter.

Figure 5:
City and County Building Permits

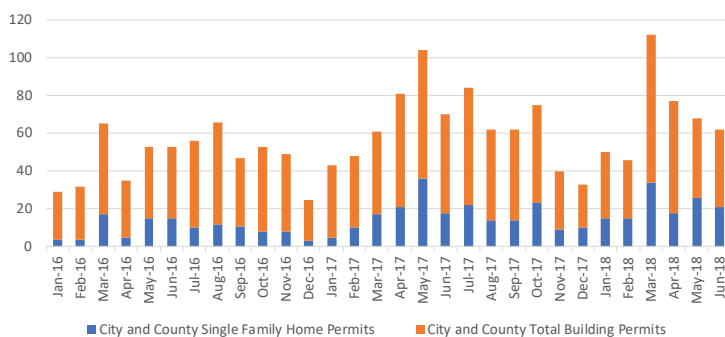


Figure 6:
30 year Mortgage Rate 2000-Present



Western Slope Real Estate Research

In 2017 a CMU research team led by myself (Nathan Perry) conducted a study sponsored by the Bureau of Land Management and the Grand Junction Area Realtor Association. The research was directed at Mesa County and investigated the impact on home values of the proximity to natural amenities. Many people move to the Western Slope to be near trails and public lands, and people are willing to pay to be in close proximity to biking and hiking. Although this is a Mesa County study, I wanted to share it with the Montrose readers because the results are indicative of the type of living that people are moving to the Western Slope for and can inform the real estate community and city planners of likely impacts on home values in Montrose, as often times these effects are similar even on the national level. The study used three different multiple regression models, including a panel regression and a spatial regression model to understand the impact of natural amenities on home values controlling for all other characteristics of the home (such as square feet, number of bedrooms, lots size, etc), socioeconomic characteristics of the neighborhood, and disamenities. The study results are summarized below. If you are interested in the full report you can download it here at the following link: <https://www.coloradomesa.edu/natural-resource-center/> under research reports, socioeconomic studies, find the report titled "Mesa County Hedonic House Price Study."

Figure 4:

Natural Amenity Distance Comparisons (Percentages)

Natural Amenity	250 meters (820 feet)	500 meters (1,640 feet)	1000 meters (3,280 feet)
Trail	4.54***	3.26***	0.24
BLM	-0.20	9.07***	4.85*
Golf course	12.70***	8.45***	7.67*
Public park	-0.51	-1.51*	-5.52***
River	0.00	-5.90***	-5.80***
Colorado National Monument	12.90***	9.93***	13.80***

*** Indicates significance at the 99% level, ** Indicates significance at the 95% level, *Indicates significance at the 90% level

- Homes located within 250 meters of a trail sell for 4.45% more, while homes located within 500 meters of a trail sell for 3.26% more. For the average home value of \$208,602, this equates to \$9,470 added value at a distance of 250 meters and \$6,800 for homes within 500 meters of a trail. If the distance is expanded to 1000 meters the result becomes statistically insignificant.
- Homes located within 500 meters of BLM land sell for 9.07% more, or \$18,920 for the average home. Homes within 1000 meters of BLM land sell for 4.85% more, or \$10,117 for the average home.
- Homes located within 250 meters of a golf course sell for 12.70% more (\$26,492), and homes located within 500 meters of a golf course sell for 8.45% more (\$17,626). Homes within 1000 meters of a golf course sell for 7.67% more (\$16,000).
- Homes located within 250 meters of the Colorado National Monument sell for 12.90% more (\$26,909). Living within 500 meters of the Colorado National Monument increases home values by 9.93% (\$20,714). Homes within 1000 meters of the Colorado National Monument sell for 13.80% more (\$28,787).
- Homes located within 500 meters of public parks sell for 1.4% less, indicating that home buyers find close proximity to public parks as a negative characteristic.
- Each additional bathroom adds 5.5% to the value of the home, equating to \$11,473 per bathroom.
- Given the same characteristics of a single family residential home, a condo sells for 52.50% less than a single family home, while townhomes sell for 23.50% less.
- Homes in Palisade sell for 13.60% more than homes in Grand Junction, while homes in Fruita have a statistically insignificant difference compared to homes in Grand Junction.
- Quarter 3 is the top selling quarter, and homes sold in quarter 1 sold for 6% less than homes sold in quarter 3. Homes sold in quarter 2 and 4 are not statistically different than those sold in quarter 3.
- The value of a home decreases by -0.40% each year, equating to approximately \$834 less per year (age) for the average home.

REGIONAL ENERGY

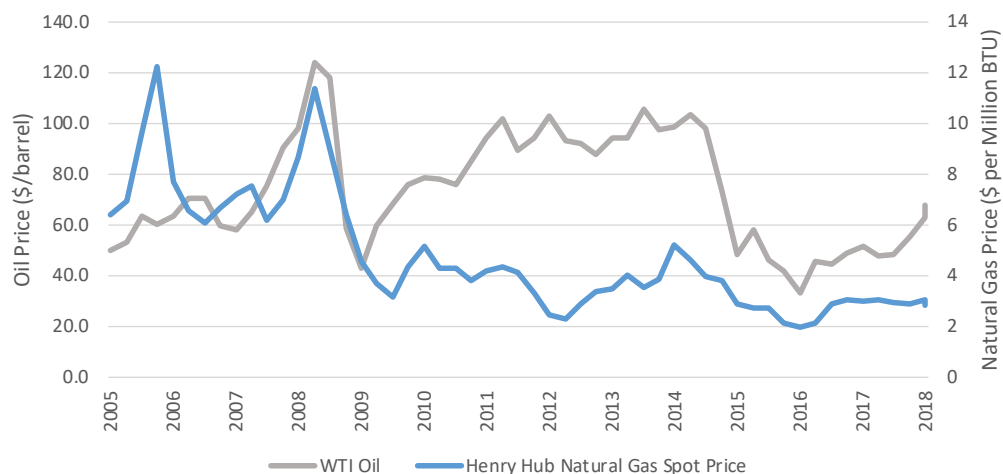
	Q2 2018	Q1 2018	Q2 2017	% change since last quarter	% change since last year (comparable quarters)
Energy Prices					
WTI Crude Oil	\$68.1	\$62.9	\$48.1	8.2%	41.5%
Henry Hub Natural gas	\$2.9	\$3.1	\$3.1	-7.1%	-7.1%
National Retail Gasoline Price	\$2.8	\$2.5	\$2.3	11.0%	19.7%

Drilling Permits	2018 YTD (as of June 1st)	2017 YTD (as of June 1st)	2017 Total	% Change since same time last year
Drilling Permits (Mesa County)	24	110	215	-78.2%
Drilling Permits (Rio Blanco County)	56	31	118	80.6%
Drilling Permits (Garfield County)	250	164	612	52.4%
Drilling Permits (Moffat County)	2	3	5	-33.3%
Total Permits (Mesa, Rio Blanco, Garfield, Moffat)	332	308	950	7.8%
Total Permits (Colorado)	1,389	1,565	3,909	-11.2%

Local Rig Count	Aug-18	May-18
Rig Count for Western Colorado (Mesa, Rio Blanco, Garfield, Moffat)	7	7

SOURCES IN ORDER OF LISTING: All energy prices: Energy Information Agency; All permit data from Colorado Oil and Gas Conservation Commission (COGCC); Local Rig Count: Baker Hughes Rig Count as of February 25th, 2018.

Figure 4:
Oil and Natural Gas Prices



SOURCE: Energy Information Agency

Natural Gas Prices

Natural gas prices fell in Q2 2018 to \$2.9/MMBtu from \$3.1/MMBtu. This decrease in price happened despite higher than average temperatures. Large natural gas supply injections have largely offset the increase in demand caused from warmer weather. Despite high natural gas demand and low natural gas inventories, prices have not risen due to the constant flow of natural gas production that is hitting the market. The EIA estimates that production is now at 81.8 Bcf, an 11% increase from last year. March through July saw the largest production increases in history, largely due to drilling productivity increases. EIA forecasts that production will continue to increase reaching 84.3 Bcf/d by 2019. EIA also forecasts an average price of \$2.96/MMBtu for natural gas through 2018, and a small increase to \$3.10/MMBtu for 2019.

Source: <https://www.eia.gov/outlooks/steo/marketreview/natgas.php>

Oil and Gasoline Prices

Oil prices have risen 8.2% since last quarter, and a whopping 41.5% since the same time last year. West Texas Intermediate (WTI) prices now stand at \$68.10 for Q2. Prices could have risen higher, but higher OPEC and Russia production, and the return of Libyan oil to the oil market have kept oil below \$70. There are an assortment of current geo-political risks that are being priced into oil, including Iranian threats to block the Strait of Hormuz, and some oil supply shipments being halted due to the Saudi Arabia-Yemen conflict.

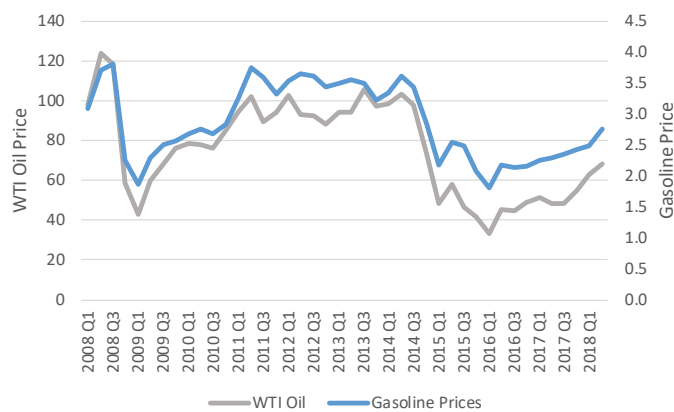
Gasoline prices are up 11.7% since Q1 and almost 20% since last year. Summer months generally have higher gasoline prices, and the EIA believes that gasoline prices peaked in Q2 of 2018 for the year. As of August 26th, 2018, Gasbuddy.com lists the average gas price in Montrose County between \$2.98 and \$3.13 per gallon. The EIA expects gasoline prices to average \$2.76 in 2019. Figure 5 illustrates the relationship between crude oil prices and gasoline prices. In the event of international turmoil it is likely that gasoline prices would rise with crude oil values.

Source: <https://www.eia.gov/outlooks/steo/marketreview/crude.php>

Western Slope Drilling Activity

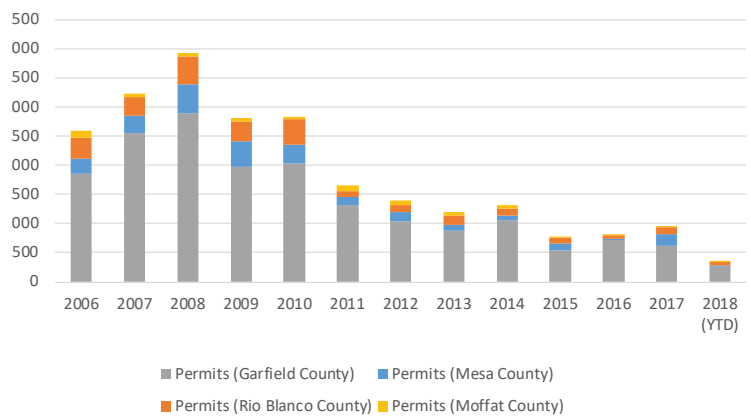
Western slope drilling activity in Q2 of 2018 is unchanged from Q1 staying at 7 rigs. All rigs in the Piceance are currently engaged in natural gas drilling. Drilling permits for the first quarter were down considerably, but in Q2 total Western Slope drilling permit applications are up from Q2 last year, rising 7.8%. Drilling permits for Mesa County are down considerably from last year but Garfield and Rio Blanco both have more drilling permits than last year, pushing the total Western Slope numbers higher than 2017. Low natural gas prices and growing national supply will likely cap drilling potential in the Western Slope in the near term.

Figure 5:
Oil and Gasoline Prices



SOURCE: Energy Information Agency

Figure 6:
Drilling Permits: Western Slope



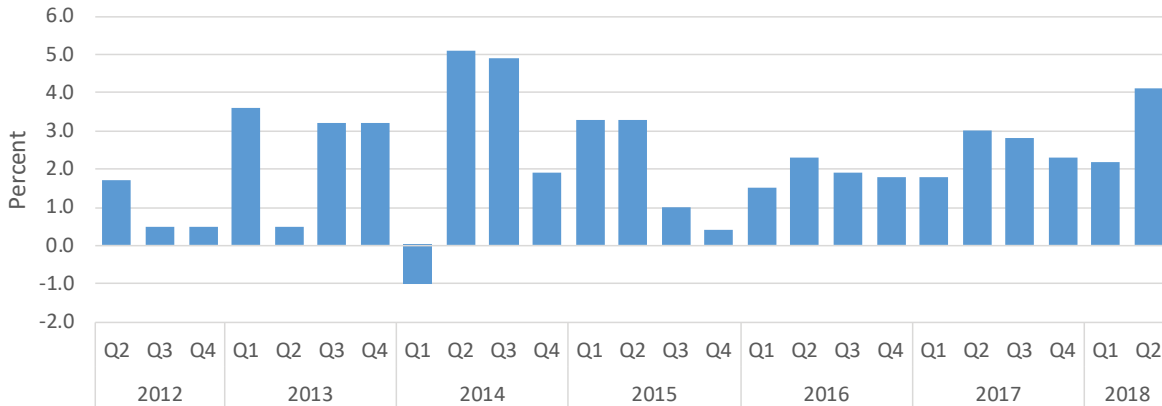
SOURCE: Colorado Oil and Gas Conservation Commission

NATIONAL ECONOMIC INDICATORS

	Q2 2018	Q1 2018	Q2 2017	% change since last period	% change since last year (comparable quarters)
Business Cycle Indicators					
Real GDP	4.1%	2.2%	3.0%	1.9%	1.1%
Real Personal Consumption Expenditures (PCE)	2.7%	2.4%	2.5%	0.3%	0.2%
Private Fixed Investment	8.0%	7.7%	5.8%	0.3%	2.2%
National Consumer Confidence	98.3	98.9	96.4	-0.6%	2.0%
Industrial Production Index	107.5	105.9	103.7	1.5%	3.6%
Initial Weekly Unemployment Claims (4 week MA)	223,288	230,096	244,058	-3.0%	-8.5%
Non Farm Payroll Change (in thousands)	2,389	2,215	2,347	7.9%	1.8%
Unemployment					
Unemployment Rate-U3-SA	3.9%	4.1%	4.3%	-0.2%	-0.4%
Unemployment Rate-U6-SA	7.7%	8.1%	8.5%	-0.4%	-0.8%
Interest Rates					
Federal Funds Rate	1.7%	1.4%	0.9%	0.3%	0.8%
10 Year U.S. Treasury	2.9%	2.8%	2.3%	0.2%	0.7%
30 Year U.S. Treasury	3.1%	3.0%	2.9%	0.1%	0.2%
Inflation Measures					
Inflation Rate (CPI)	2.6%	2.3%	1.9%	0.4%	0.7%
Core Inflation Rate (All Items Less Food and Energy)	2.2%	1.9%	1.8%	0.2%	0.4%
Inflation Rate (Shelter)	3.4%	3.2%	3.4%	0.2%	0.1%
Producer Price Index (PPI)	4.8%	3.9%	4.2%	0.9%	0.6%
Employment Cost Index	2.8%	2.7%	2.4%	0.1%	0.4%
Stock Prices					
S&P 500	2,703	2,733	2,398	-1.1%	12.7%
Dow Jones Industrial Average	24,556	25,127	20,994	-2.3%	17.0%

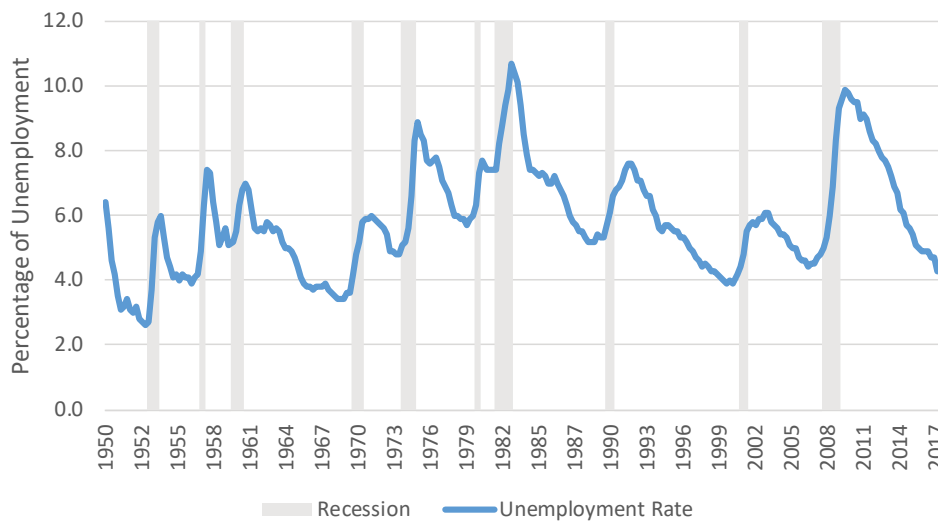
SOURCES IN ORDER OF LISTING: GDP, Consumption, and Investment: Bureau of Economic Analysis; Industrial Production: Board of Governors of the Federal Reserve System; Consumer Expectations: University of Michigan; Weekly Unemployment Claims: U.S. Employment and Training Administration. Non-Farm Payroll, Unemployment Rates, Inflation Measures: Bureau of Labor Statistics; Stock Prices: S&P Dow Jones Indices, LLC.

Figure 7:
Real GDP



Source: Bureau of Economic Analysis

Figure 8:
U.S. Unemployment: 1950-2018



Source: Bureau of Labor Statistics

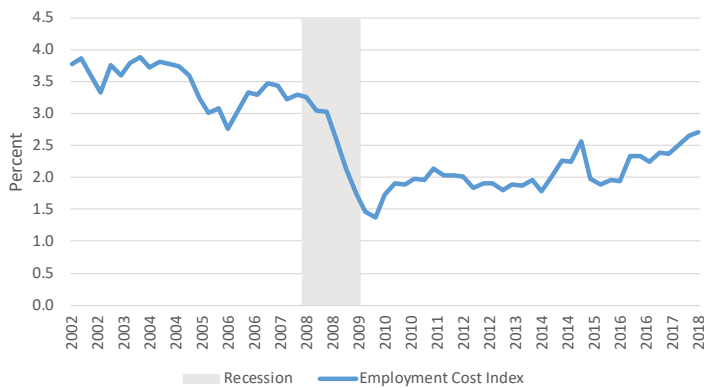
National Economic Performance

National economic growth registered at a very strong 4.1% (figure 7). The U.S. has not seen 4% growth since 2014. The economy is strong and this high growth rate confirms it. Consumption growth remains positive, as consumers continue to spend in good economic times. Investment numbers helped drive the high GDP numbers, with an 8% fixed private investment rate. Investment has a tendency to be volatile and can push business cycles higher or lower very quickly. National consumer confidence remains steady, while industrial production is up 3.6% since last year.

Unemployment remains historically very low at 3.9%. The U-6 measure of unemployment is also low at 7.7%. U-6 counts discouraged workers and is always higher than the standard unemployment rate of U-3.

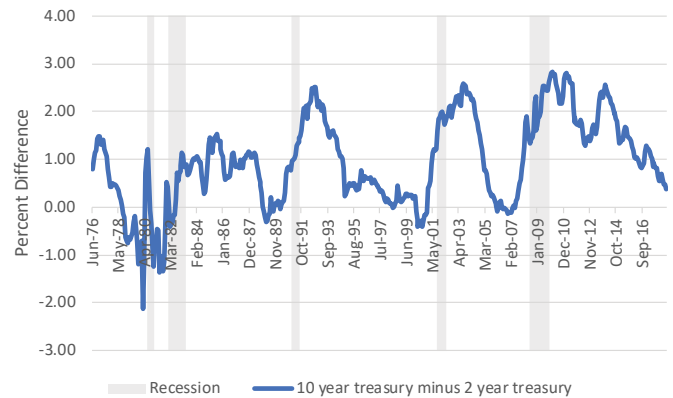
Inflation is creeping up at 2.6%, increasing from 2.3% last quarter and 1.9% last year. 2.6% inflation is still not considered high, especially historically. In fact, for how well the economy is doing, it is surprisingly low. Generally speaking at this point in the business cycle inflation is much higher. Between tariffs and the small trade war that is ensuing, slightly rising wages, and a booming economy, 2.6% inflation is surprisingly low. These factors have most economists convinced that inflation will continue to creep up. Rising wages will especially put upward pressure on inflation. The strong U.S. dollar is likely hiding much of the inflationary pressure in the economy. One measure of wages, the employment cost index, is rising very slowly, showing small wage gains at 2.8%, which is again very low for this point in the business cycle. The producer price index (PPI) is creeping up at 4.8%. The PPI represents costs to suppliers and can be a leading indicator of future inflation.

Figure 9:
Employment Cost Index



Source: Bureau of Labor Statistics

Figure 10:
10 Year Treasury Yield Minus the Two Year Treasury Yield



Source: Federal Reserve

National Economic Performance Continued

The 10 year treasury bond is inching up and is now at 2.9%. The Federal Reserve continues to increase the Federal Funds rate, and plans another rate increase in September. As the 10 year treasury increases, mortgage rates may also increase.

Recession Signals

In May of 2018, the Wall Street Journal took a poll of economists regarding when they thought the next recession would be. Six out of ten said the year 2020. The question for economists is what are signals to look for to know when there is a shift in the business cycle. Research titled "Recession Signals: The Yield Curve vs. Unemployment Rate Troughs" by Kevin Kliesen at the Federal Reserve Bank of St. Louis focused on two recessionary indicators to watch for: A trough in the unemployment rate and an inverted yield curve. Figure 8 illustrates the historical unemployment rate, and it is clear to see that after a trough forms that a recession shortly follows. In fact on average since 1969, it takes 9 months after the unemployment trough forms for the recession to begin. We are currently at 3.9% unemployment, and a trough as of yet has not formed. The other indicator is an inverted yield curve. When short term yields (say the 2 year treasury) rise higher than long term yields (the 10 year treasury), then the yield curve becomes inverted. Short term yields are supposed to be lower than long term yields. On average after the yield curve inverts, recession occurs 10 months after. Figure 10 illustrates the difference between the 10 year treasury bond and the 2 year treasury bond. When the difference falls below zero it means the yield curve has inverted. The yield curve has not inverted yet but has become more flat. Federal Reserve interest rate increases are expected to potentially flatten the yield curve more.

To be clear there are no current signs of recession. All signs point to strong continued economic growth in the short term. As business cycle indicators change they will be pointed out in this newsletter.



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