RTD Sales and Use Tax Forecast

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Leeds School of Business
UNIVERSITY OF COLORADO BOULDER
BUSINESS RESEARCH DIVISION

Attachment: RTD_Sales_and_Use_Tax_Forecast_October_2019 Final (3979 : Sales and Use Tax Update)

Presentation Outline

- Economic overview
- Model development
- Uncertainty
- Forecasts and revisions
- Comparison with Colorado Legislative Council and OSPB

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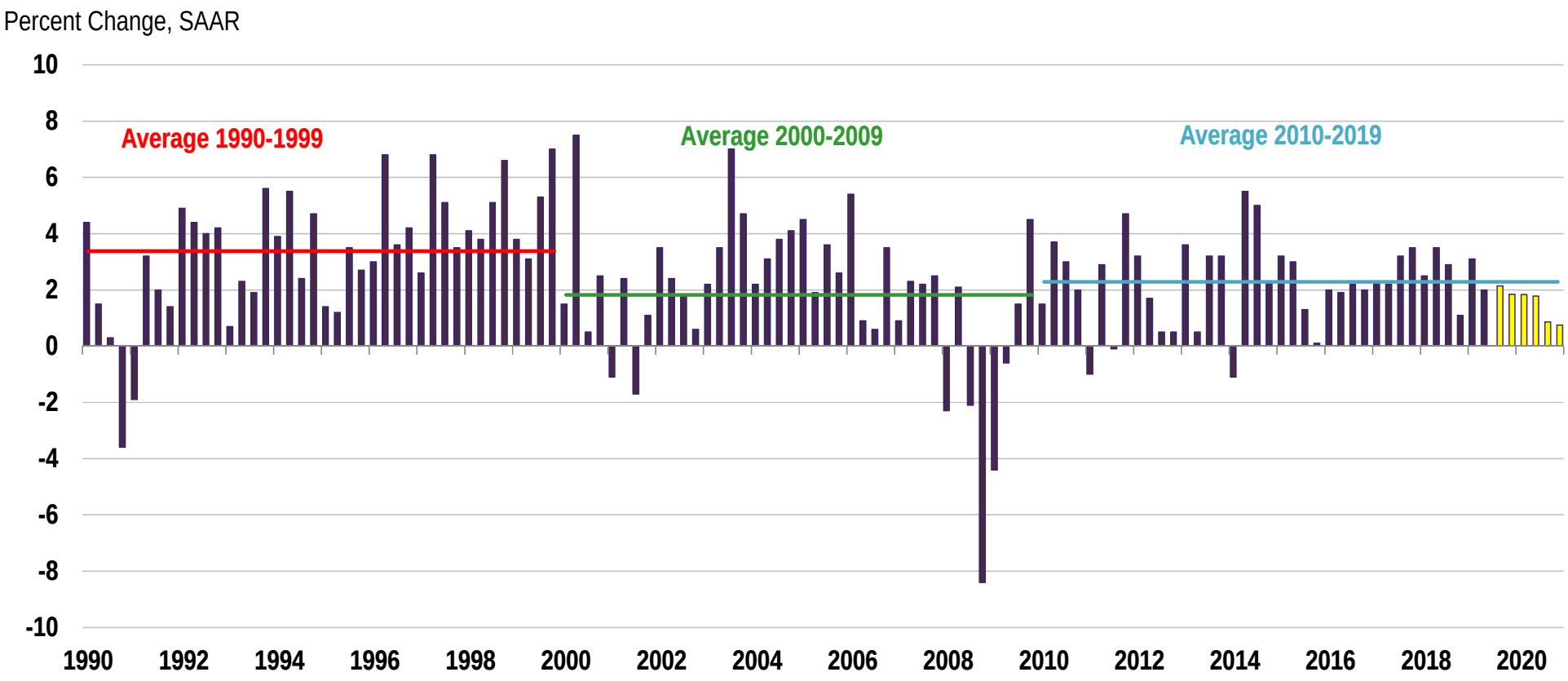
Real GDP Growth



Sources: Bureau of Economic Analysis and Moody's Analytics.

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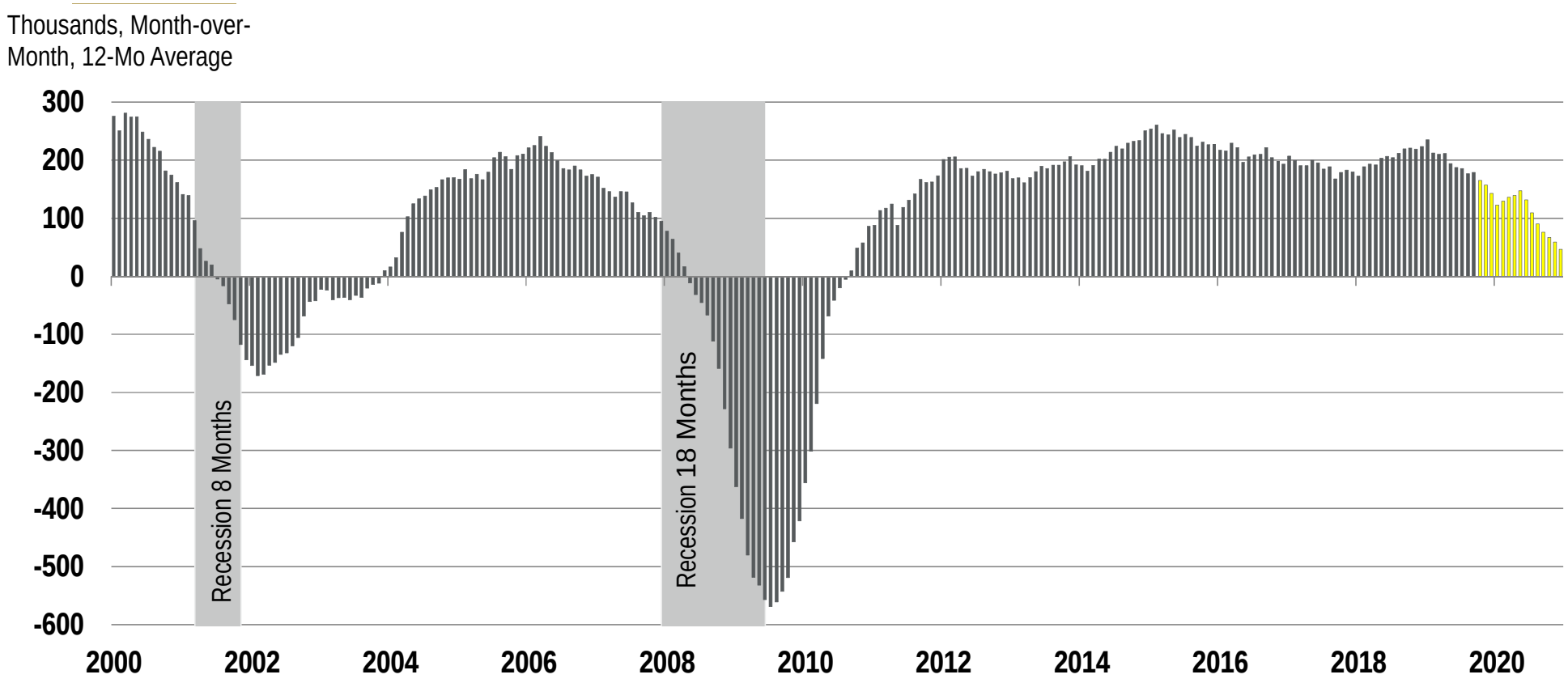
National Employment

Month-over-Month Change, 12-Month Average



Sources: Bureau of Labor Statistics (Seasonally Adjusted), Moody's Analytics, and NBER.

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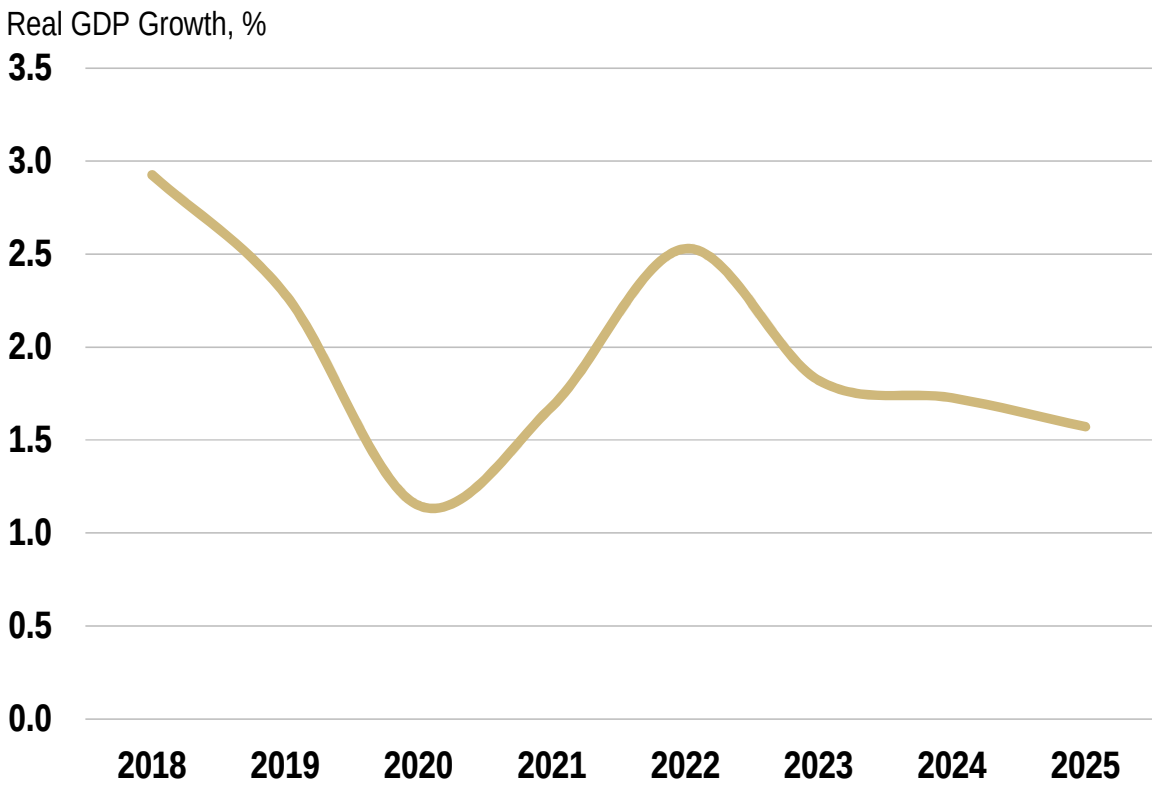
Moody's Baseline Growth Expectations



- Trade policy
- Decreasing confidence
- Deficit-financed tax cuts
- Increased government spending
- Tight labor market
- Stable inflation
- Decreasing manufacturing index

Source: Moody's Analytics.

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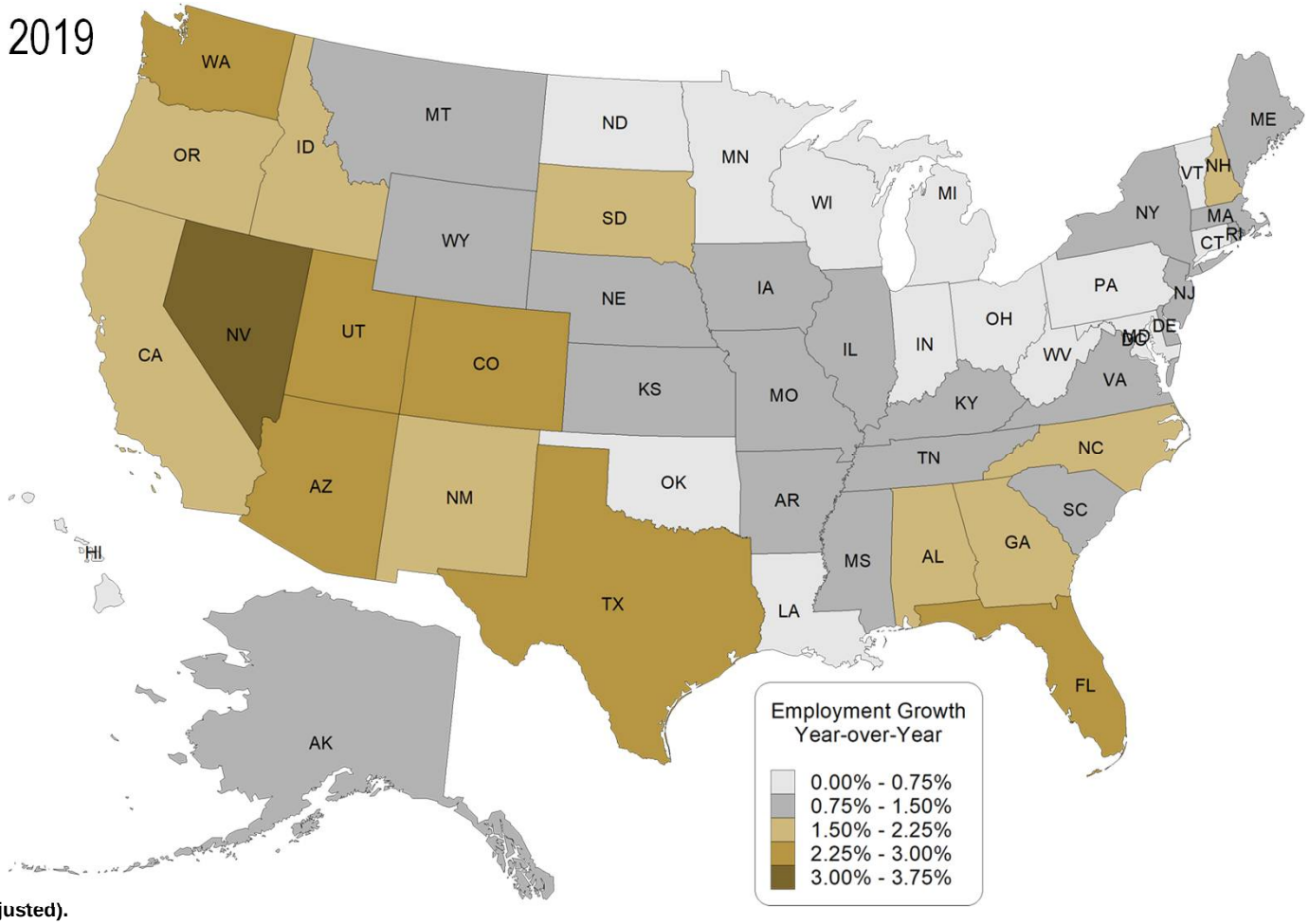
State Employment Growth

Year-over-Year August 2019



Source: Bureau of Labor Statistics (Seasonally Adjusted).

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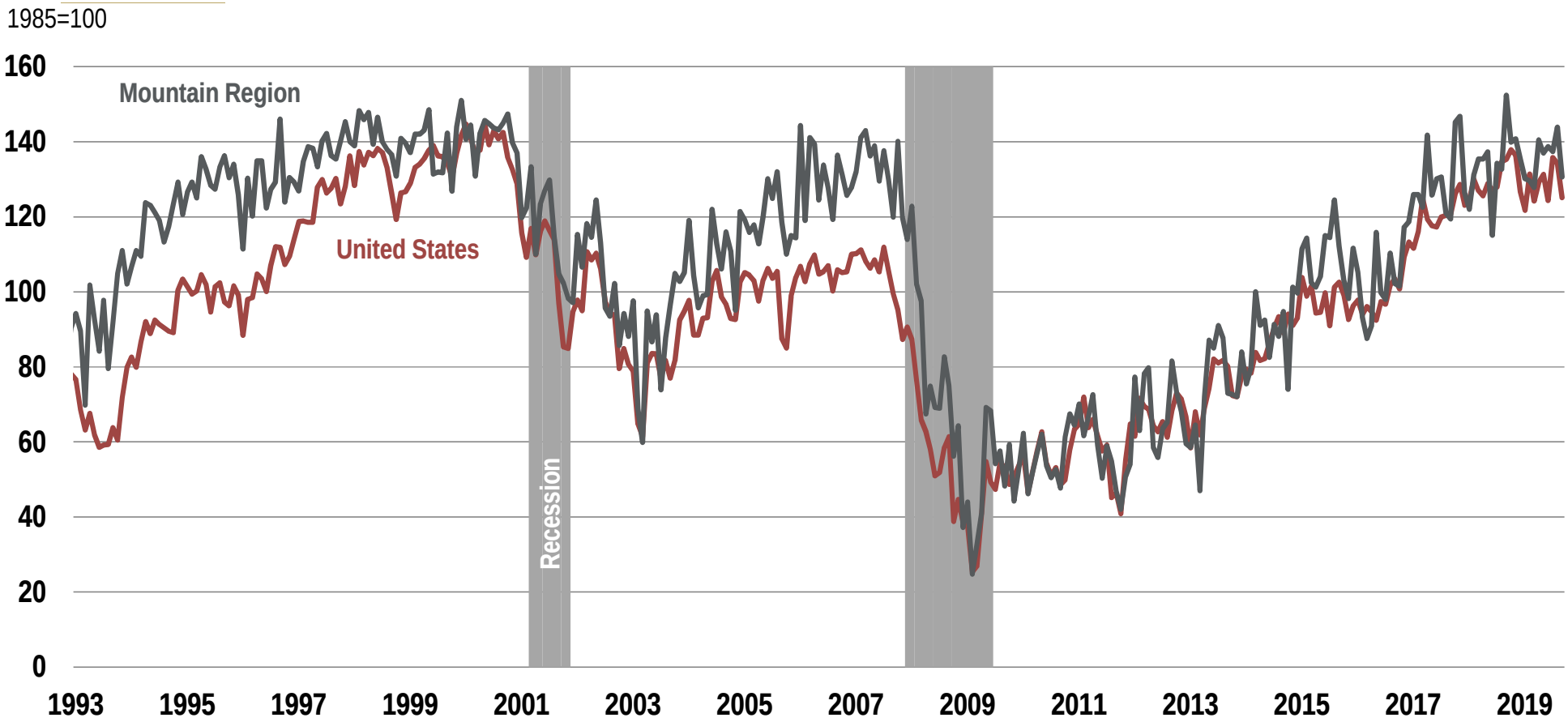
Index of Consumer Confidence



Sources: The Conference Board and National Bureau of Economic Research.

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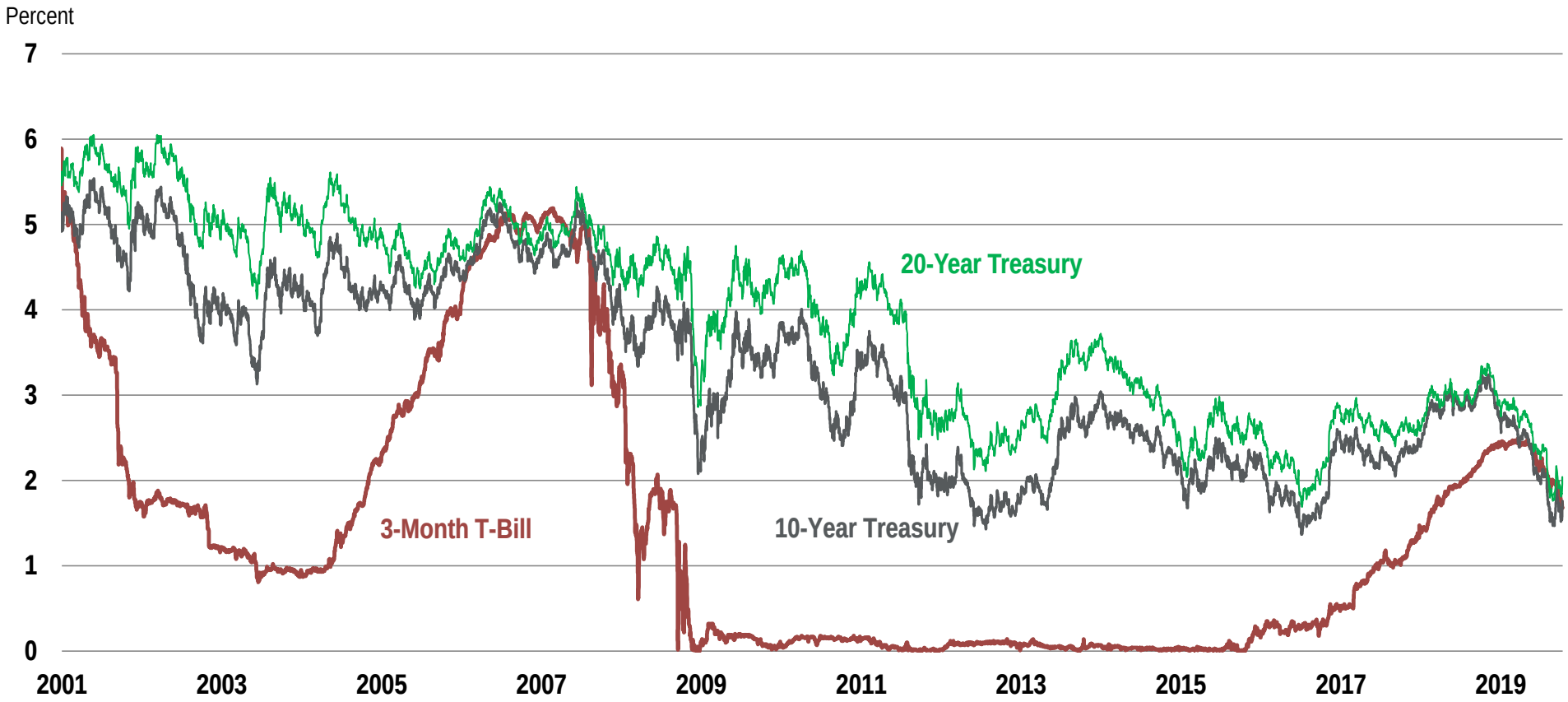
Interest Rates



Sources: Federal Reserve.

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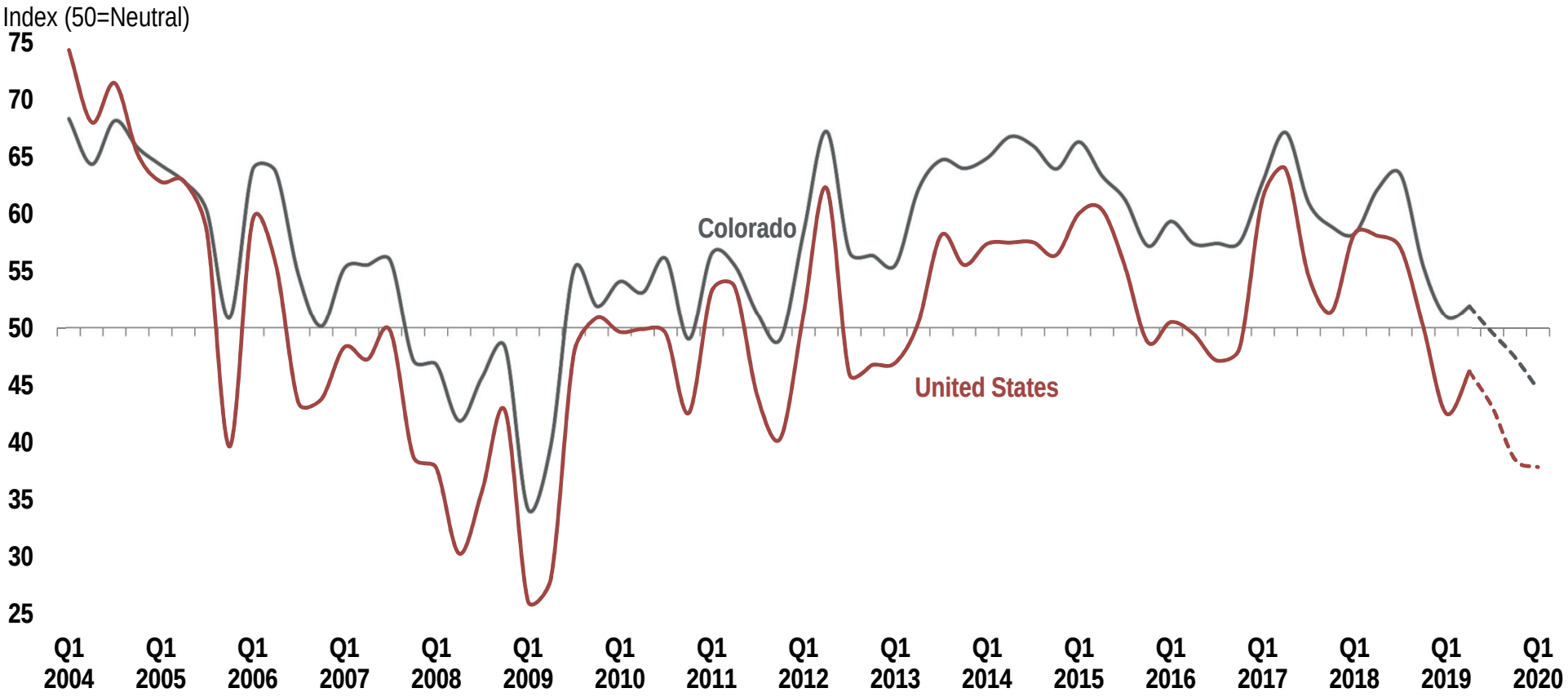
Leeds Business Confidence Index



Source: Business Research Division.

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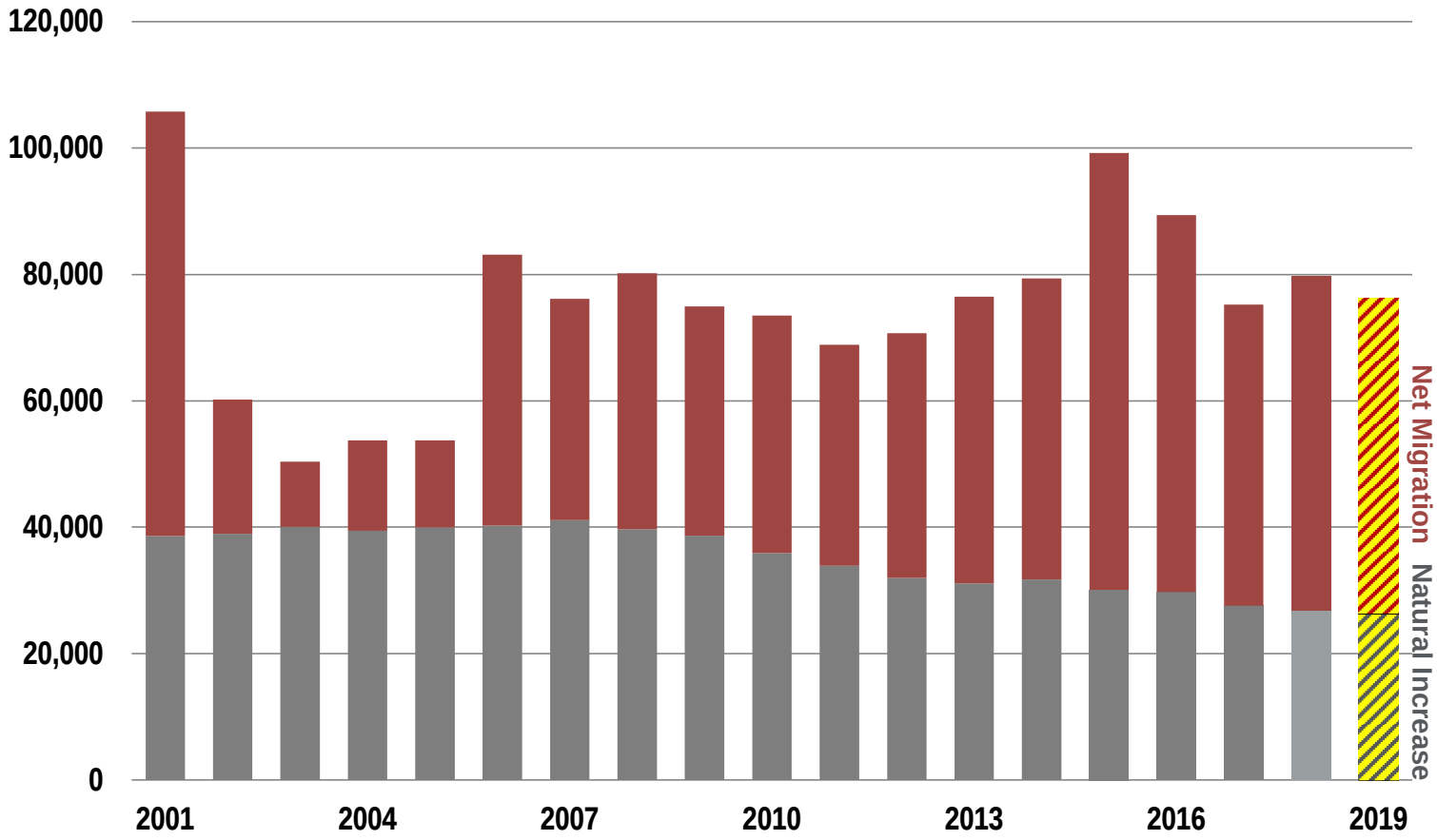
Colorado Change in Population



Colorado's population increases

- 79,800 in 2018
- 76,300 in 2019

7th-fastest state for percentage growth

8th-fastest state for absolute growth

88% of growth along Fron Range

Continued net migration into the state

Sources: Colorado Demography Office, U.S. Census Bureau, and the Business Research Division.

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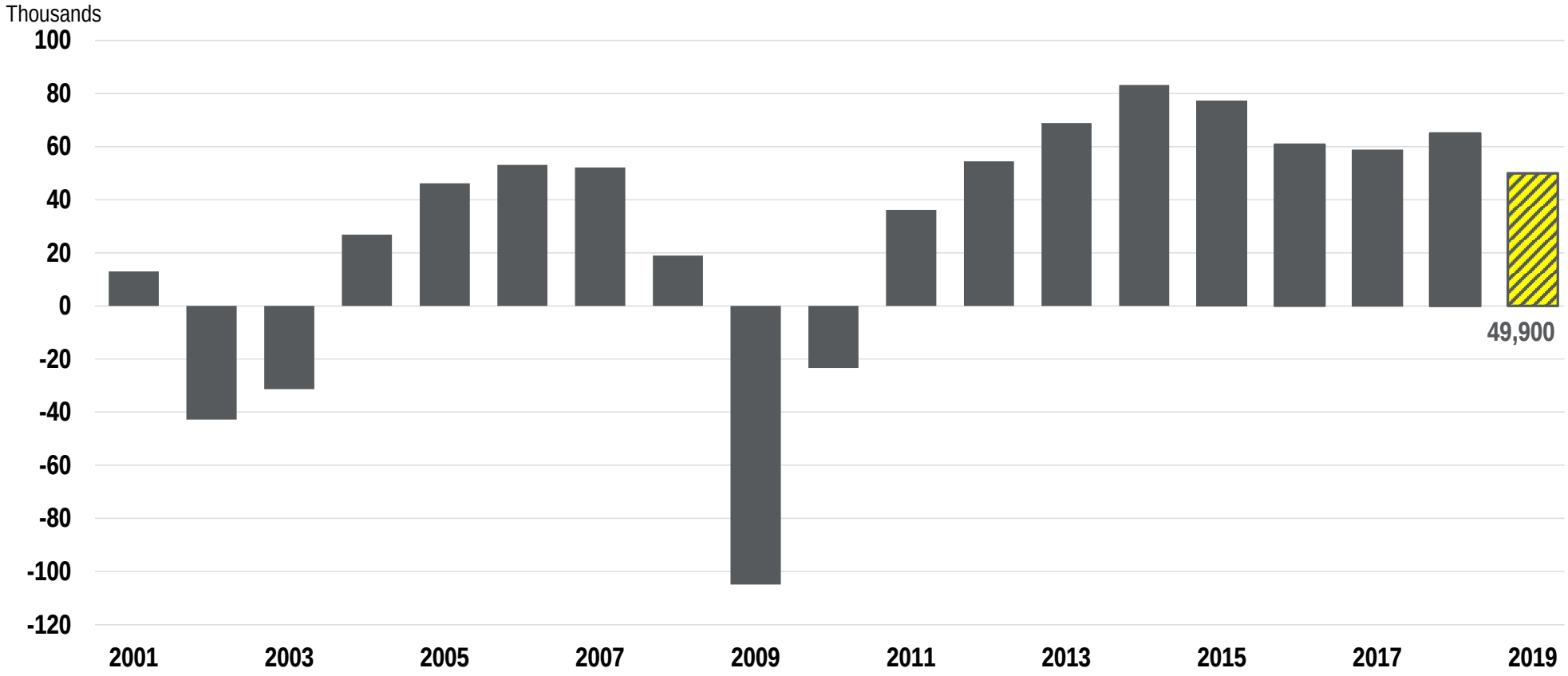
Colorado Employment Growth

Jobs Added



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

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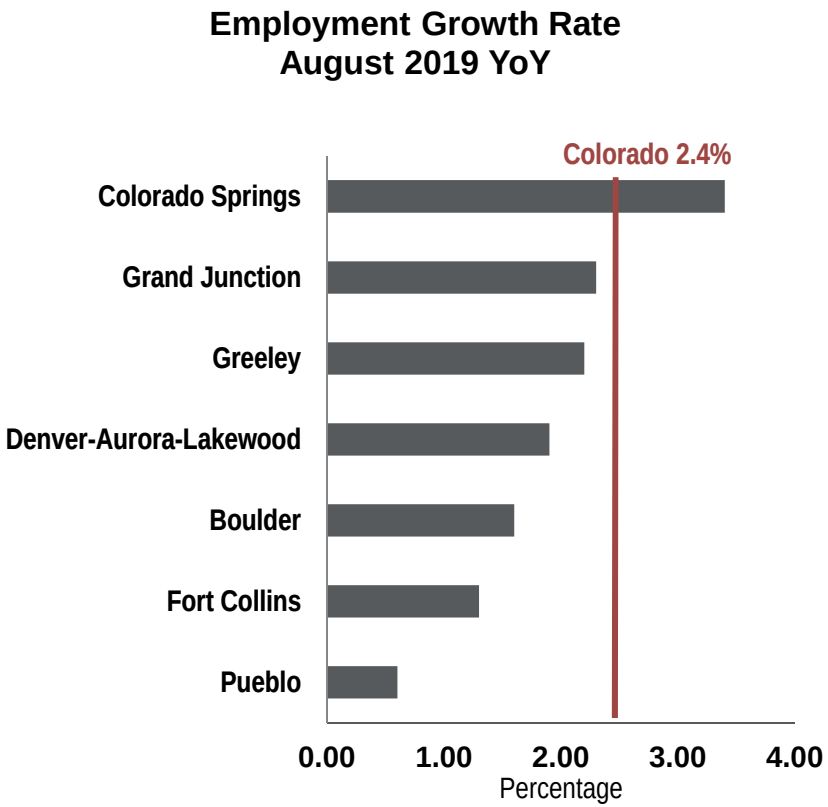
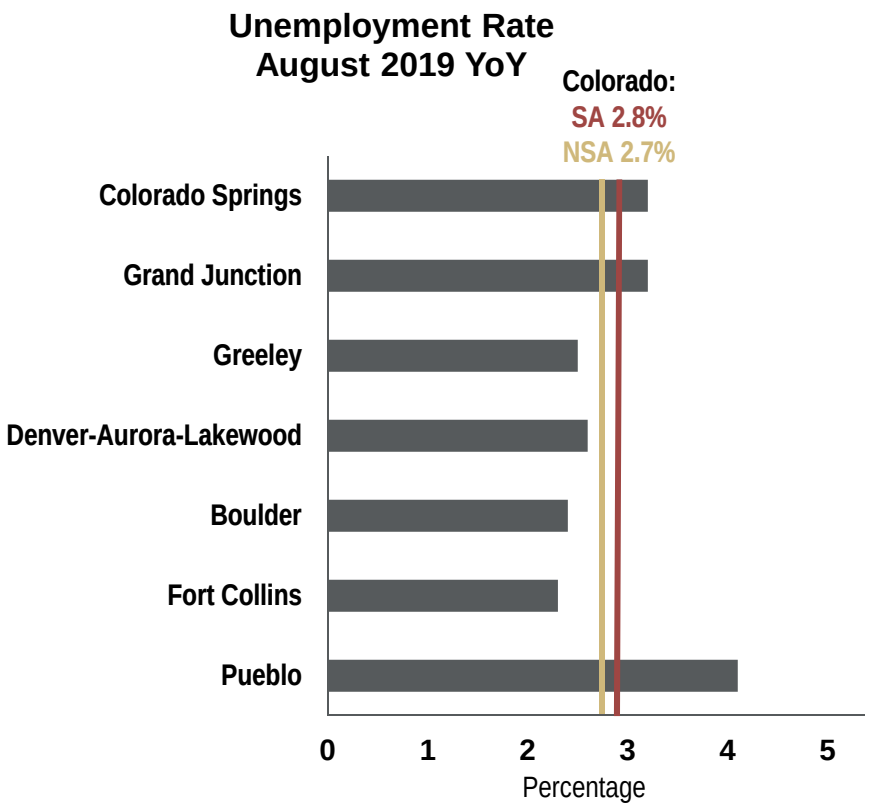
Regional Employment Growth and Unemployment





Sources: CES (Not Seasonally Adjusted) and LAUS (Not Seasonally Adjusted).

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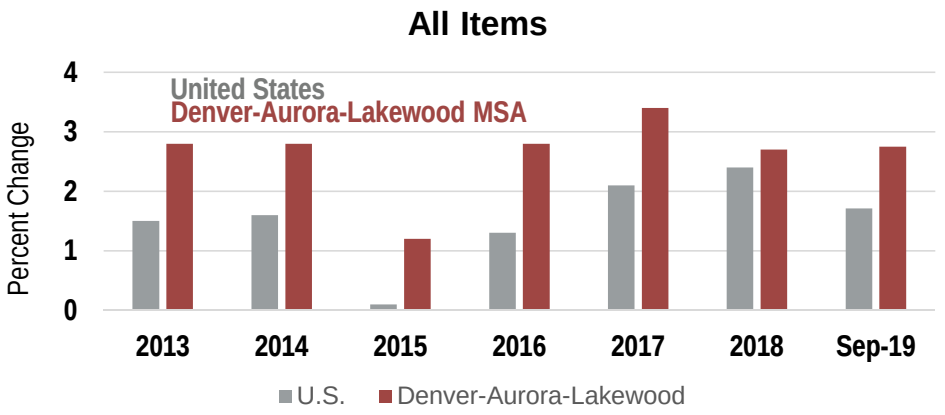
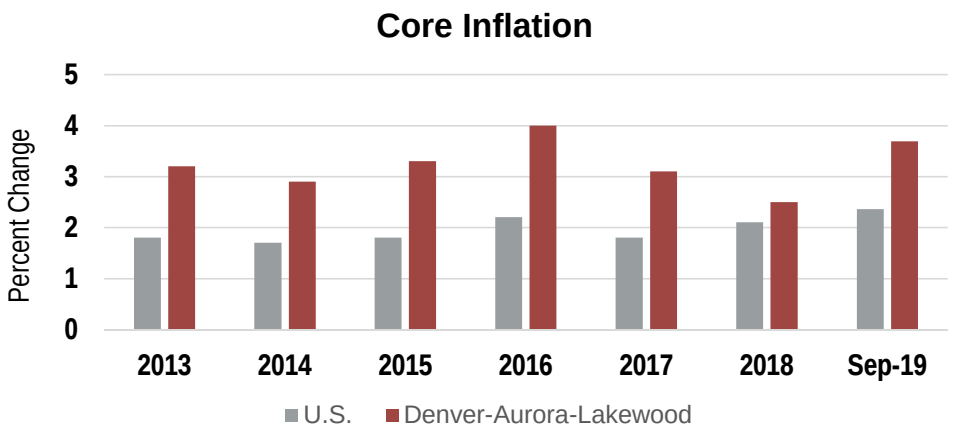
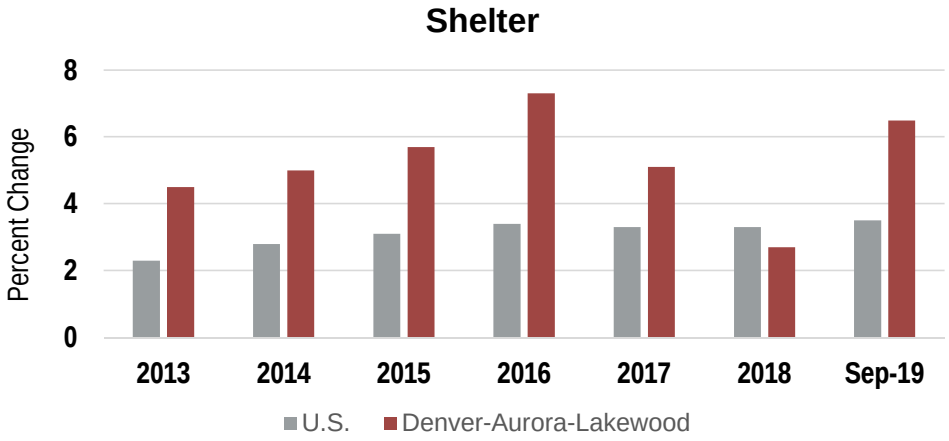
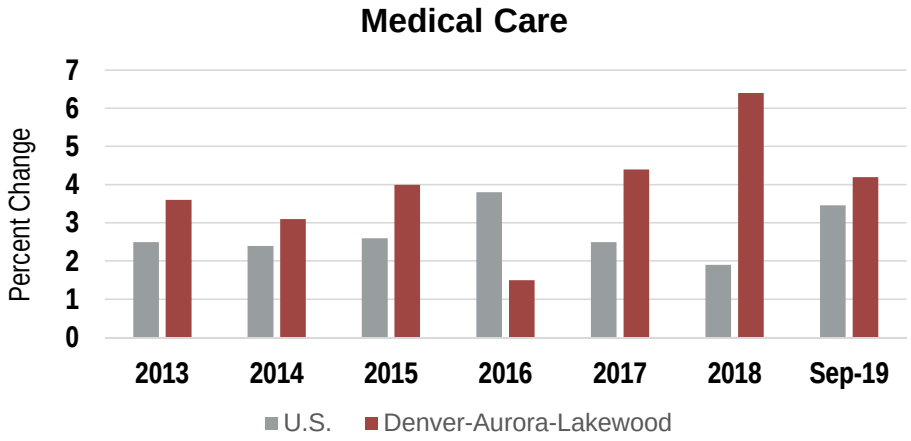
Inflation









Source: Bureau of Labor Statistics (NSA).

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Colorado Ranking Among Other States

Metric	1-Year	3-Year	5-Year	10-Year
Real GDP Growth	6	3	5	6
Employment Growth	7	6	7	4
Population Growth	8	7	5	3
Personal Income Growth	4	1	9	2
PCPI Growth	10	2	18	NA
PCPI	11	15	13	NA
Average Annual Pay % Growth	5	5	8	13
Average Annual Pay	9	11	13	11
Unemployment Rate	6	4	9	28
Labor Force % Growth	17	2	3	3
LFPR	4	2	9	11
FHFA Home Price Index Growth	16	5	2	2

Data Sources: Bureau of Economic Analysis (2018), Bureau of Labor Statistics (01/19), U.S. Census Bureau (2018), Bureau of Labor Statistics (2019), Bureau Federa Housing Finance Agency All Transactions Index (Q1 2019), BRD calculations. Note: 3-year, 5-year, and 10-year are based on the compound annual growth rate.

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Potential Headwinds for 2020

International/National
- Global growth
- Value of the dollar
- Trade/Tariffs
- Politics

State
- Commodity prices/cycle
- Housing affordability
- Talent shortage
- Energy market

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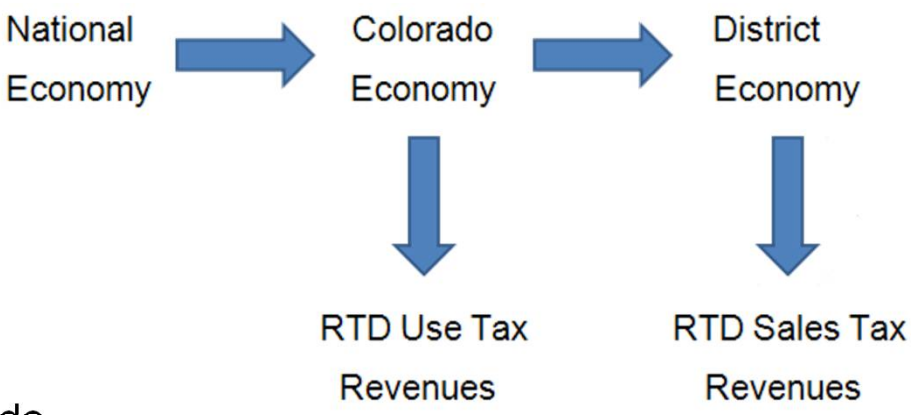
Model Development: Key Economic Drivers



Short-term and medium-term forecasts

- Employment: U.S. and Colorado
- Real gross domestic product: U.S.
- Personal income: Colorado
- Retail sales and taxable sales: U.S. and Colorado

Long-term forecasts

- Population projections from U.S. Census and State Demography Office
- Projections by age groups for U.S., Colorado, and RTD District
- Population age distributions affect savings, labor supply, productivity, output, and household expenditures

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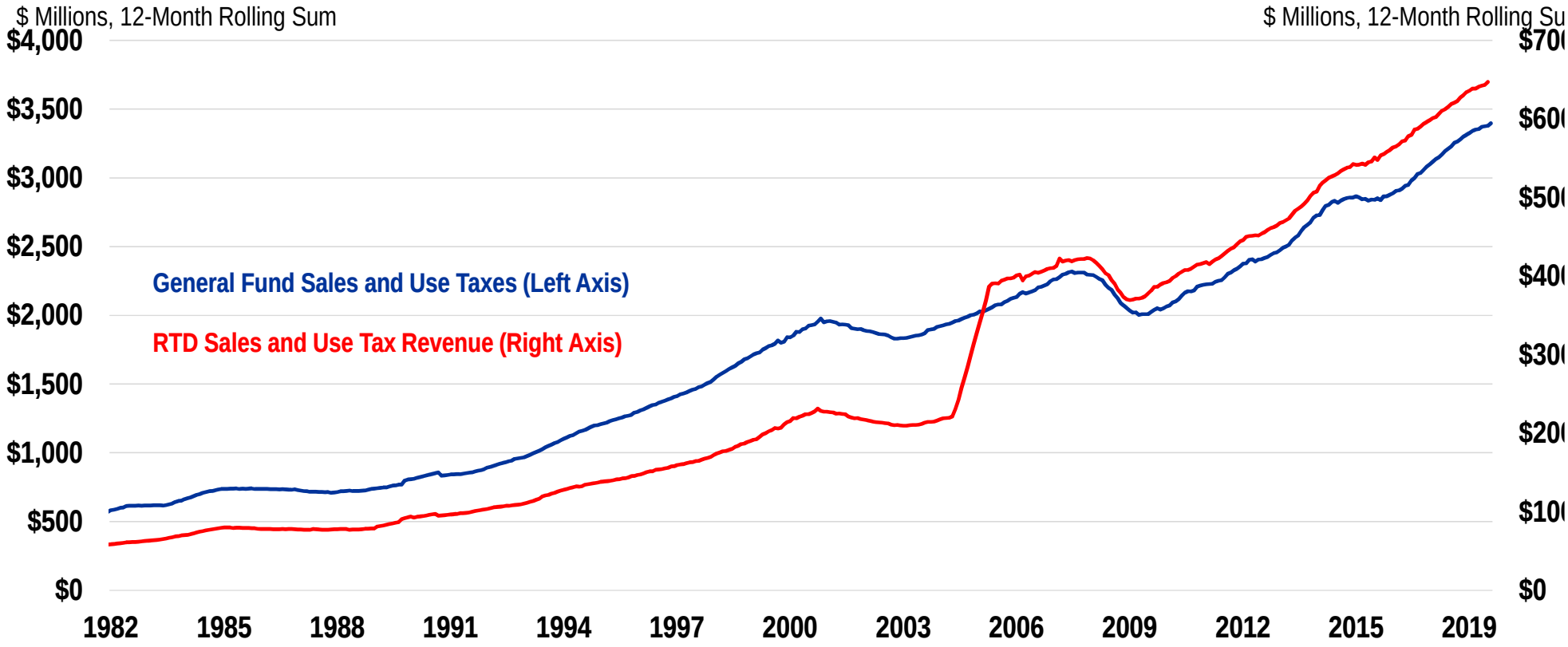
Colorado Sales Taxes and RTD Tax Revenue



Sources: Colorado Office of the State Controller and the Colorado Department of Revenue.

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Short-Term Forecast

RTD Sales and Use Tax Revenues

Forecasted Percentage Changes of Sales, Use and Total Revenues			
Year	Sales Tax Revenue	Use Tax Revenue	Total Revenue
2018[a]	4.2%	25.7%	6.0%
2019	3.8%	-6.3%	2.7%
2020	1.1%	10.8%	2.0%

[a]Historical data.

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Error Tracking

January-August 2019

- Error +0.3%

Forecasted Quarter	Mar 2015	Jun 2015	Sep 2015	Dec 2015	Mar 2016	Sep 2016	Mar 2017	Sep 2017	March 2018	Sep 2018	March 2019
Q1 2015	-0.9										
Q2 2015	3.3	0.4									
Q3 2015	0.6	-2.4	-1.0								
Q4 2015	3.9	1.4	4.8	2.4							
2015	**1.8**	**-0.2**	**1.0**	**0.6**							
Q1 2016					3.2						
Q2 2016					-0.2						
Q3 2016					0.3	1.1					
Q4 2016					1.1	3.1					
2016					**1.0**	**1.1**					
Q1 2017							-0.2				
Q2 2017							-3.6				
Q3 2017							-3.9	-1.4			
Q4 2017							-0.3	0.6			
2017							**-2.0**	**-0.2**			
Q1 2018								0.6	-1.1		
Q2 2018								-1.9	-3.3		
Q3 2018								-1.9	-1.9	-0.7	
Q4 2018								-1.5	-0.8	-0.3	
2018									**-1.8**	**-0.2**	
Q1 2019											2.5
Q2 2019											1.1

Note: A positive number represents BRD forecasts exceeding actual revenue.

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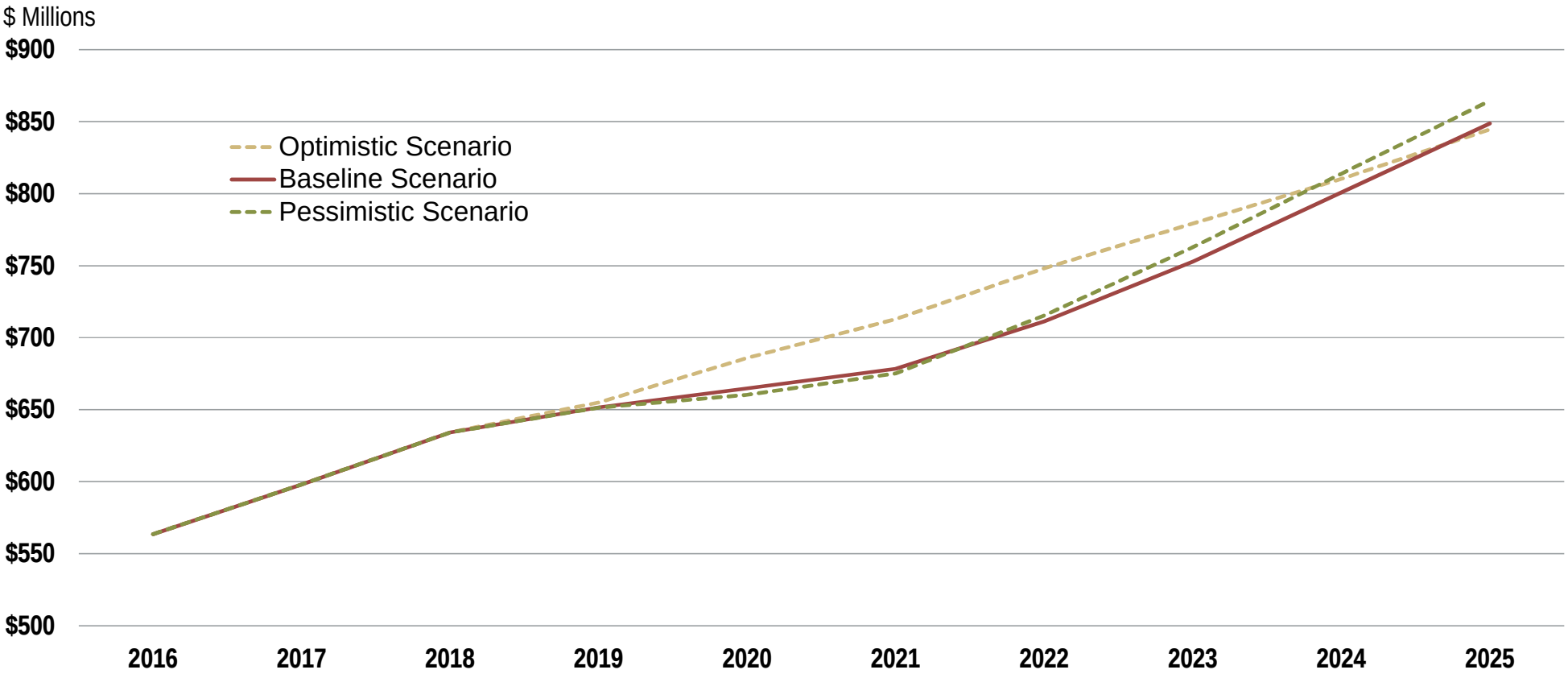
Medium-Term Scenario Planning

RTD Revenue



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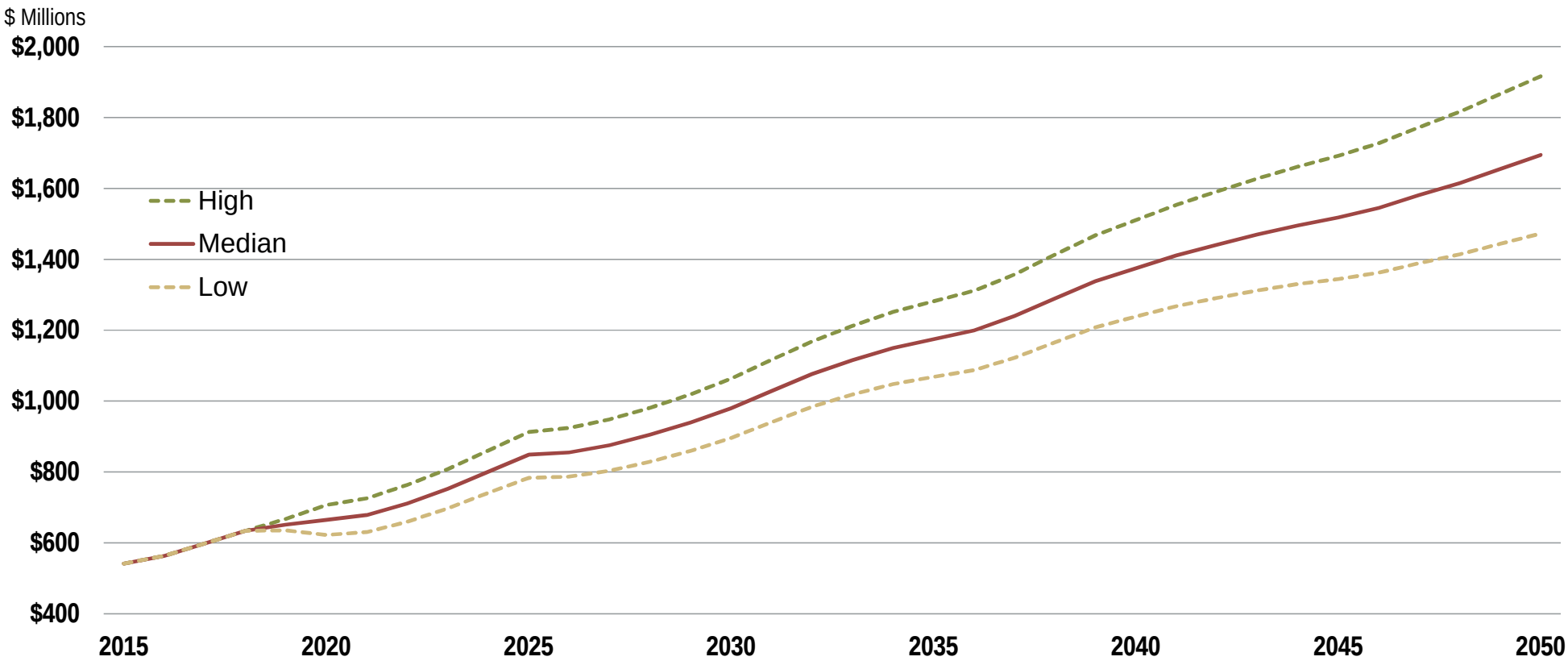
Long-Term Forecast Uncertainty

RTD Revenue



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Forecast Comparison

Forecast Comparison			
Colorado Economic Indicators	Business Research Division	Colorado Legislative Council	Office of State Planning and Budgeting
Personal income (% change)			
2018	5.7%	5.7%	5.7%
2019	3.3%	5.6%	5.4%
2020	0.2%	5.2%	5.0%
Employment (% change)			
2018	2.4%	2.4%	2.4%
2019	2.0%	1.9%	1.8%
2020	1.3%	1.1%	1.5%

Note: BRD, Colorado Legislative Council, and Office of State Planning and Budgeting updates as of September 2019. In the March update, OSPB and CLC discontinued the retail trade series.

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Integrity of Model Forecasts

- Forecasts are updated semi-annually to reflect the most current economic situation.
- Forecasts may be too high or too low, reflecting uncertainty in the economy.
- Forecasts are generated from theoretically sound economic relations, modeled with state-of-the-art methods of modern econometric time series analysis.
- BRD forecasts do not incorporate “add factors” or other subjective adjustments of model forecasts.
- BRD is independent from RTD with no political or financial stake in the forecast numbers.

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