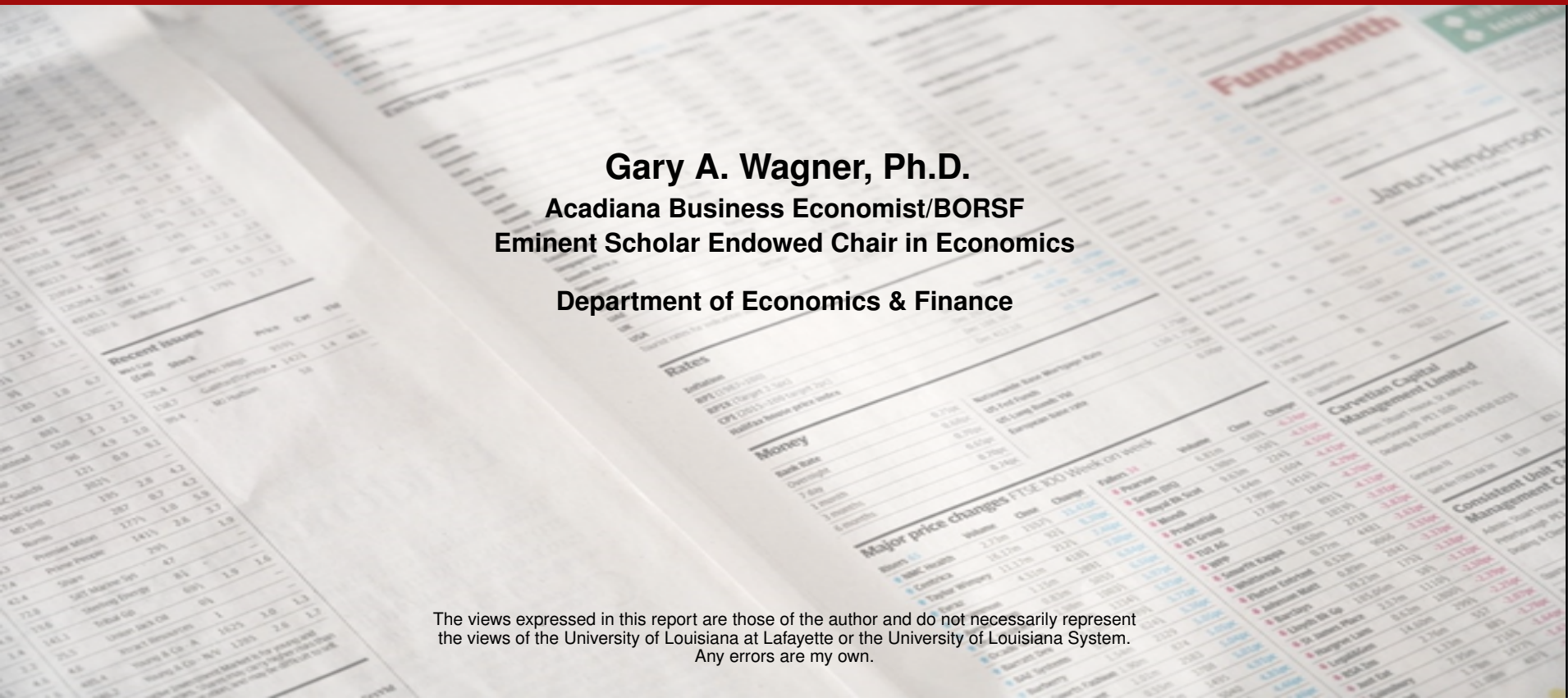
February 16, 2024

UNIVERSITY of LOUISIANA LAFAYETTE

B.I. Moody III College of Business Administration

Louisiana Economic Activity Forecast

2024:Q1



Gary A. Wagner, Ph.D.

Acadiana Business Economist/BORSF

Eminent Scholar Endowed Chair in Economics

Department of Economics & Finance

The views expressed in this report are those of the author and do not necessarily represent the views of the University of Louisiana at Lafayette or the University of Louisiana System. Any errors are my own.

Executive Summary

The near-term outlook for Louisiana and the U.S. economy has improved over the past three months. Inflation-adjusted GDP growth is expected to average 1.5% for Louisiana and 1.7% for the U.S. over the next four quarters. Louisiana gained almost 40,000 jobs over the past year, the strongest four-quarter growth since 1996-1997. Growth is expected to remain solid, with baseline projections pointing to job gains of more than 27,000 in 2024. Following two quarters of sharp reductions, year-over-year home price growth is expected to dip into negative territory in the second and third quarters of this year before rebounding in Q4. Employment growth in the state's metro areas has also been upgraded since last quarter. Year-over-year (net new) job growth is expected to exceed 1% in seven of the state's nine metro regions in 2024.

2024 Report Release Schedule:
First Quarter: February 16, 2024
Second Quarter: May 17, 2024

27,000

Projected job gains over the next four quarters.

-0.01%

Average home price growth projected over the next five quarters.

3.6%

Projected average unemployment rate over the next year.

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Introduction

The near-term outlook for Louisiana and the U.S. economy has improved over the past quarter. Professional forecasters now expect the U.S. to expand at a rate of 2.1% over the next quarter, an upward revision of 0.8%. Inflation-adjusted GDP growth in Louisiana is now expected to average 1.5% over the next four quarters, substantially higher than last quarter's annual projection of -0.09%. This sizable upward revision is largely because of a benchmark data revision conducted by the Bureau of Economic Analysis (BEA) indicating that Louisiana's economy has expanded at a much faster pace since the second quarter of 2022 than previously estimated. Apart from home price growth, the outlook for most economic indicators and metro regions have been revised upward. Statewide job gains are expected to exceed 27,000 over the next four quarters, led by the New Orleans and Hammond metro regions. This research brief uses the latest projections for U.S. economic activity to present Baseline, Optimistic, and Pessimistic scenarios for key Louisiana economic indicators through the fourth quarter of 2024.

Forecasting models make projections on the most likely path of future variables based on historical data, past trends, and the expected future path of other critical variables. Because these relationships change over time, no model is able to perfectly incorporate unexpected changes in economic conditions, policy decisions at the federal or state level, or shifts in consumer or firm behavior. This means that every model is embedded with uncertainty. For this reason, the projection scenarios provided in this report should be interpreted as providing broad guidance on the most probable path for economic activity in Louisiana **if** the underlying assumptions of the model evolve as anticipated. For example, all of the scenarios in this report depend strongly on how the growth in U.S. gross domestic product (GDP) evolves over the next 3 to 18 months. If U.S. growth turns out to be much stronger *or* much weaker than is currently envisioned, then the expected accuracy of the Louisiana projections decrease. To simplify the presentation of multiple scenarios, the figures in this report do not show the confidence intervals around the scenario point estimates. One should always bear in mind that a point estimate of (say) 1.1% for employment growth in the next quarter is the mid-point of a range of potential values.

The Louisiana Forecast Model (LFM) projects employment, unemployment rate, home prices, and gross domestic product using a Vector Autoregression (VAR) framework (see the Technical Appendix for more details). The model also takes other variables into account and assumes that their future values are given with certainty. These external variables include real U.S. gross domestic product, U.S. unemployment rate, oil prices, the state's real trade-weighted exchange rate, and the global prices of soybeans and rice.

Results from a regional employment model are also presented. The Louisiana Regional Employment Model (LREM) nests the Louisiana Forecast Model by adding statewide employment projections to the external variables in order to generate projections for each of the state's metropolitan statistical areas (MSAs). Employment in these nine metro areas account for approximately 90% of non-agricultural jobs in the state.

Alternative Economic Scenarios

Three alternative scenarios are considered in this report: Baseline, Optimistic, and Pessimistic. The scenarios differ only in how they treat the future values of selected variables external to the Louisiana Forecast Model, namely U.S. gross domestic product, U.S. unemployment rate, and oil prices. The projected future values of other external variables to the model - Louisiana's trade-weighted exchange rate and the prices of soybeans and rice - are identical across scenarios so they are omitted from the table below.

Table 1 shows the future expected values for U.S. GDP, unemployment rate, and oil prices under each scenario. 2023:Q4 values for the Baseline, Optimistic, and Pessimistic scenarios are identical because this quarter has already occurred. This row is shaded gray. Values for 2024:Q1 to 2025:Q4 have yet to be realized.

Table 1: Assumed Future Values of External Variables

	U.S. GDP (% SAAR)			U.S. Unemployment Rate (%)			Oil Prices ($ per barrel)		
Quarter	Baseline	Optimistic	Pessimistic	Baseline	Optimistic	Pessimistic	Baseline	Optimistic	Pessimistic
2023:Q4	3.30	3.30	3.30	3.73	3.73	3.73	78.63	78.63	78.63
2024:Q1	2.14	2.73	1.47	3.76	3.70	3.88	77.33	67.36	87.28
2024:Q2	1.49	2.11	1.20	3.90	3.82	4.00	79.36	66.56	91.94
2024:Q3	1.52	2.07	1.18	3.99	3.81	4.10	77.50	61.06	98.94
2024:Q4	1.73	2.22	1.30	4.00	3.87	4.15	76.50	57.47	103.88

The Baseline scenario in Table 1 shows the most likely path for U.S. GDP, unemployment rate, and oil prices based on the most current information. The expected future path for U.S. GDP and the U.S. unemployment rate are the median projections from the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters outlook released on February 9, 2024. The Baseline expected path of oil prices is from the U.S. Energy Information Administration's Short-Term Economic Outlook released on February 6, 2024.

Apart from single-family and rental housing, inflation continues to move closer to the Federal Reserve's target rate of 2%. While the most recent (January 2024) Consumer Price Index shows that year-over-year prices remain elevated at 3.1%, broader and shorter-term indicators are at, or below, the 2% target. For example, for each of the last two months of data (November and December 2023), the Personal Consumption Expenditures index six-month, three-month, and one-month annualized inflation rates have all been 2% or lower. Labor market conditions nationally remain very strong, averaging more than 254,000 net new jobs per month in 2023. Based on the continued strength in labor markets and the

inflation outlook, the Federal Reserve has signaled that they expect to lower interest rates later this year. I would place the highest probability on a 25 basis point (or 0.25%) reduction following the June meeting.

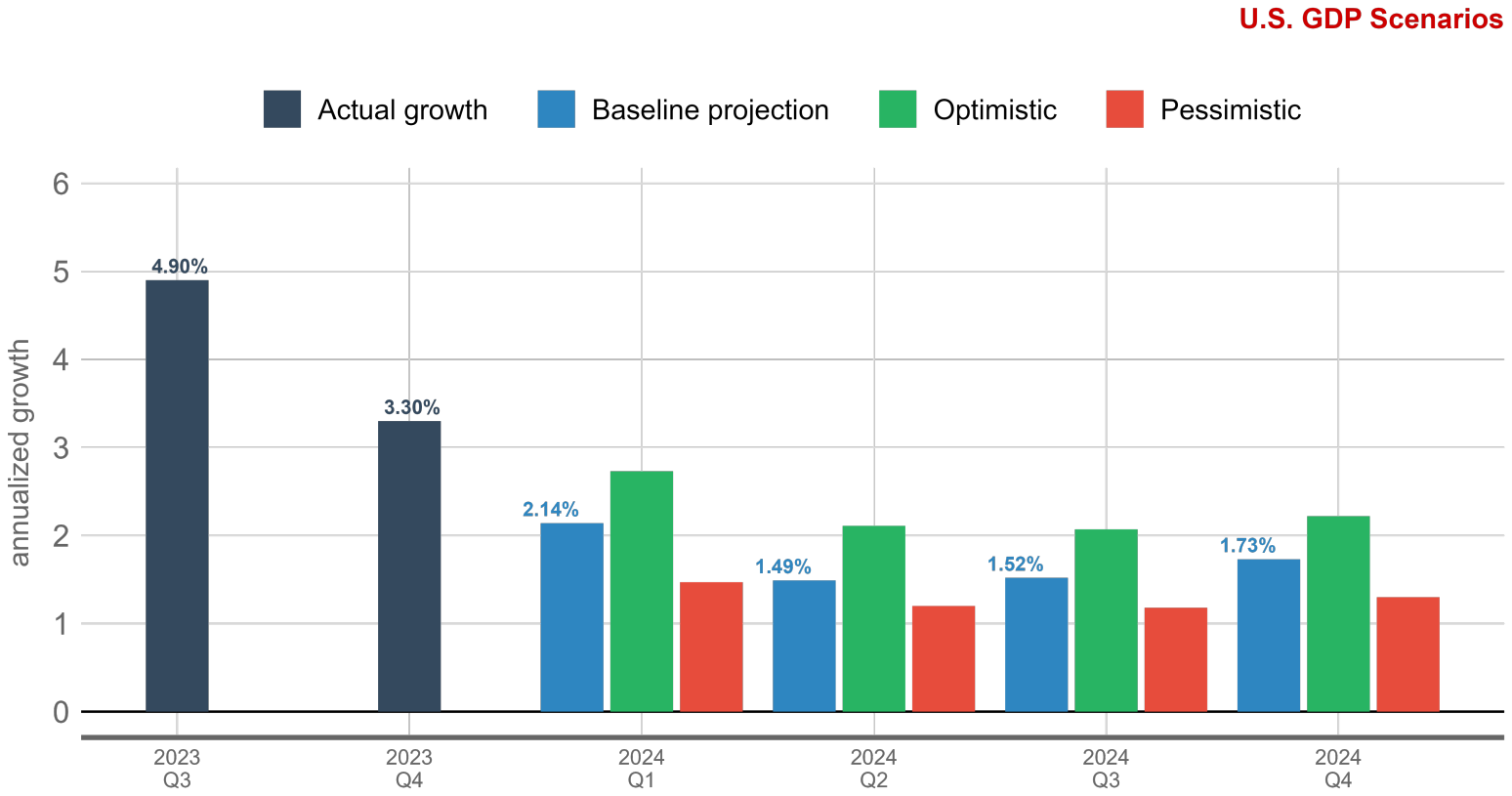
U.S. GDP expanded at a 3.3% clip in Q4, exceeding expectations for the second consecutive quarter. Consumer spending accounted for almost 60% of that growth, fueled by strong spending in recreational goods and vehicles, health care, and food services and accommodations. Consumer sentiment (or confidence) also continues to improve since reaching an all-time low in the second quarter of 2022. Household balance sheets remain healthy by historical norms and (nominal) wage growth for the median worker has outpaced inflation for most of the past 6 months.

Apart from the on-going housing market corrections fueled by the COVID-19 pandemic, the U.S. economy is experiencing arguably the strongest broad-based growth since before the pandemic. As a result, respondents to the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters (SPF) have substantially lowered their probabilities of a national recession over the next four quarters (see Figure 9). For the first time since 2022:Q2, respondents now place the probability of a recession below 30% over the next year.

The Optimistic and Pessimistic scenarios, which I would assign a 10% and 20% probability respectively, vary the severity and recovery time for oil prices, unemployment, and U.S. GDP growth. The Optimistic scenario assumes that U.S. GDP growth will be higher than the Baseline projection, while the Pessimistic scenario assumes that GDP growth will be slower than projected. I would assign a 70% probability to the Baseline forecast.

The Baseline scenario projects U.S. GDP to grow at an annual pace of 1.7% over the next four quarters, reflecting a strong upward revision from last quarter's outlook. As of February 8, the Federal Reserve Bank of Atlanta's real-time GDP forecast – GDPNow – is 3.4% for the first quarter. Figure 1 on the next page shows U.S. GDP under the three scenarios considered. For the first time in more than a year, all three scenarios point to the U.S. economy expanding at an inflation-adjusted pace of at least 1% in each of the next four quarters.

Figure 1: U.S. Economic Growth Scenarios



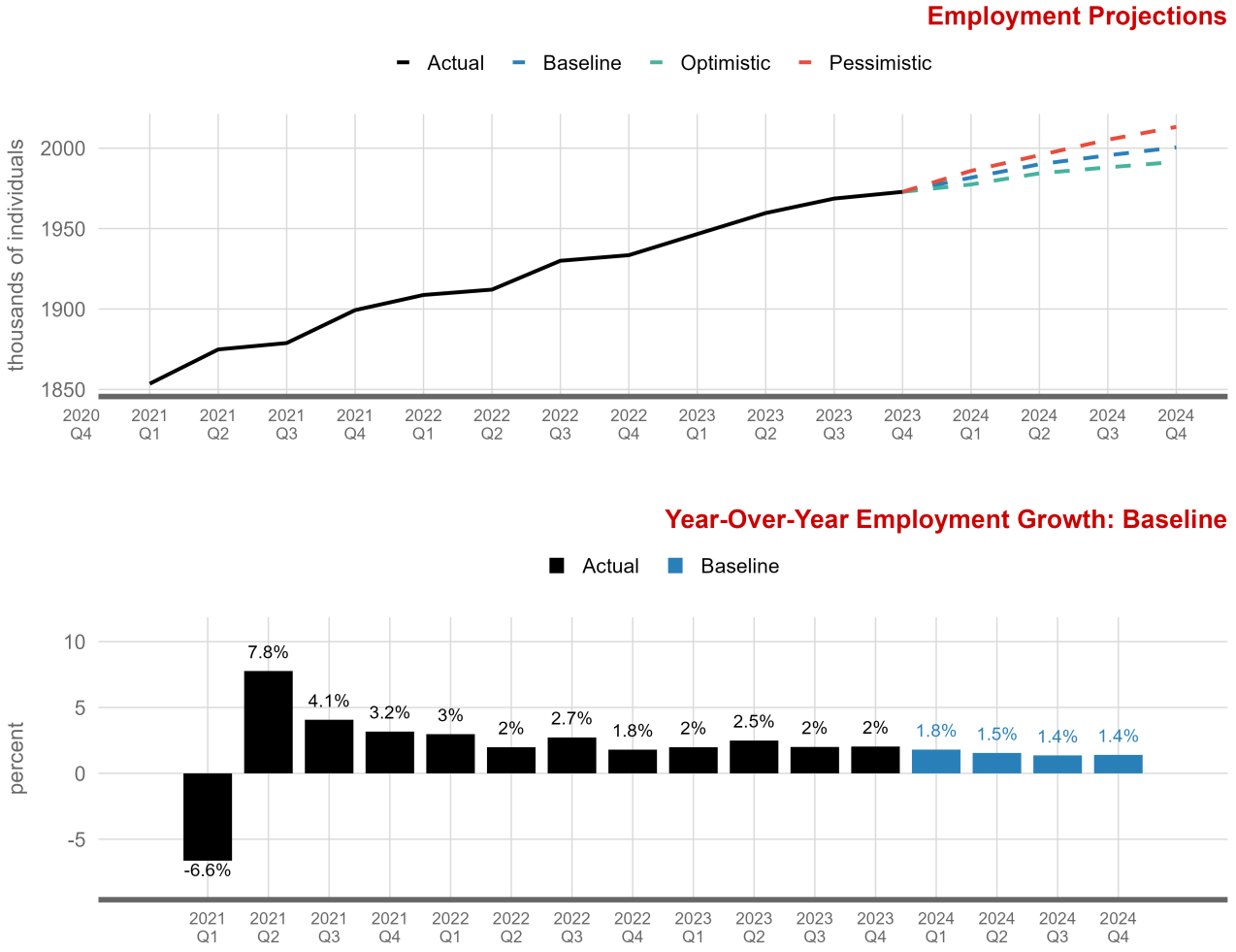
Louisiana Employment Projections

Although job growth slowed between the third and fourth quarters, the state added nearly 4,200 net new jobs in Q4. Over the past four quarters (2022:Q4 to 2023:Q4), Louisiana gained almost 40,000 net new jobs. Excluding hurricane and the pandemic recoveries, this is the highest annual figure since 1996-1997. Over the next four quarters, the Baseline forecast is for job gains in excess of 27,000.

Consistent with last quarter's report, job growth is expected to remain strong in the near-term in every metro region in the state. Annualized growth is projected to exceed 1% (on average) in seven of the state's nine metro regions over the next four quarters.

The employment forecast error from the previous report was 0.25%. See Table 2 for forecast errors from the previous report.

Figure 2: Louisiana Employment Projections

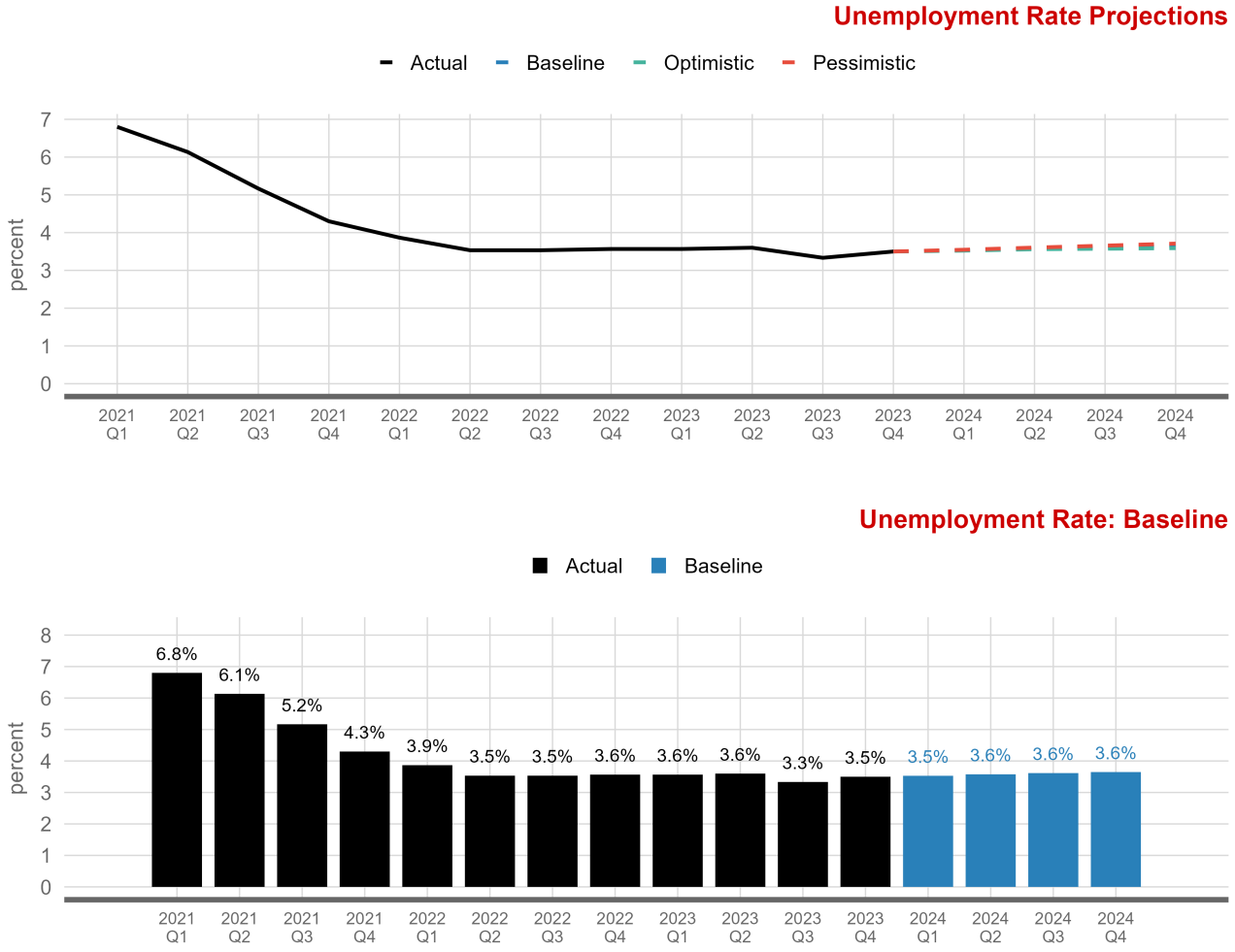


Louisiana Unemployment Rate Projections

Louisiana's unemployment rate increased slightly from an average of 3.3% in Q3 to an average of 3.5% in Q4, exactly as projected in last quarter's report. Although the economic outlook has been upgraded, the baseline projection is for the (statewide) unemployment to average approximately 3.6% over the next four quarters.

The unemployment rate forecast error from the previous report was 0.0%. See Table 2 for forecast errors from the previous report.

Figure 3: Louisiana Unemployment Rate Projections

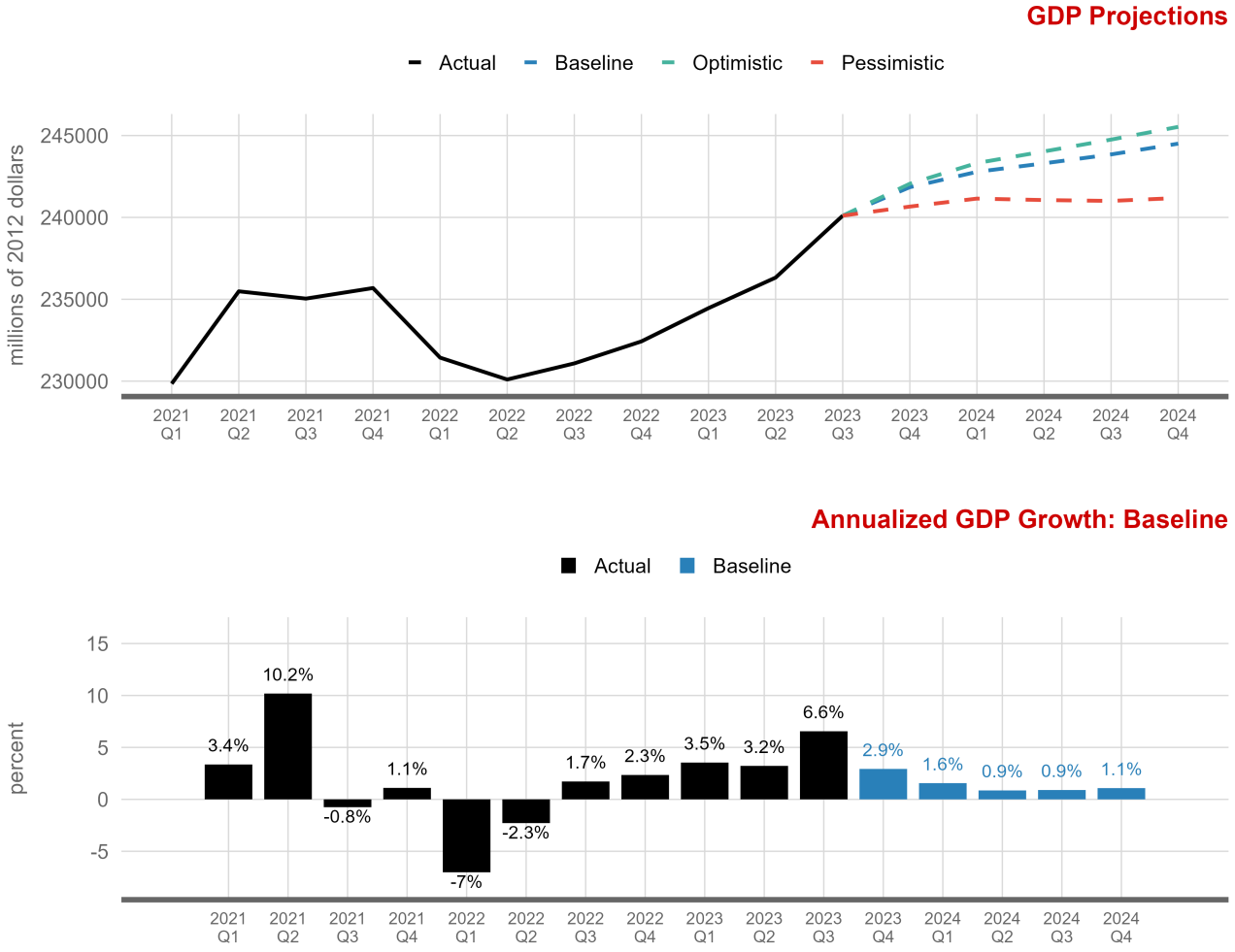


Louisiana GDP Projections

As previously noted, a benchmark revision to historical inflation adjusted GDP data revealed that Louisiana's economy has grown faster than previously estimated since 2022:Q2. This has led to a substantial upward revision in the outlook, with grow expected to average 1.5% over the next year.

The unemployment rate forecast error from the previous report was 8.8%. See Table 2 for forecast errors from the previous report.

Figure 4: Louisiana GDP Projections



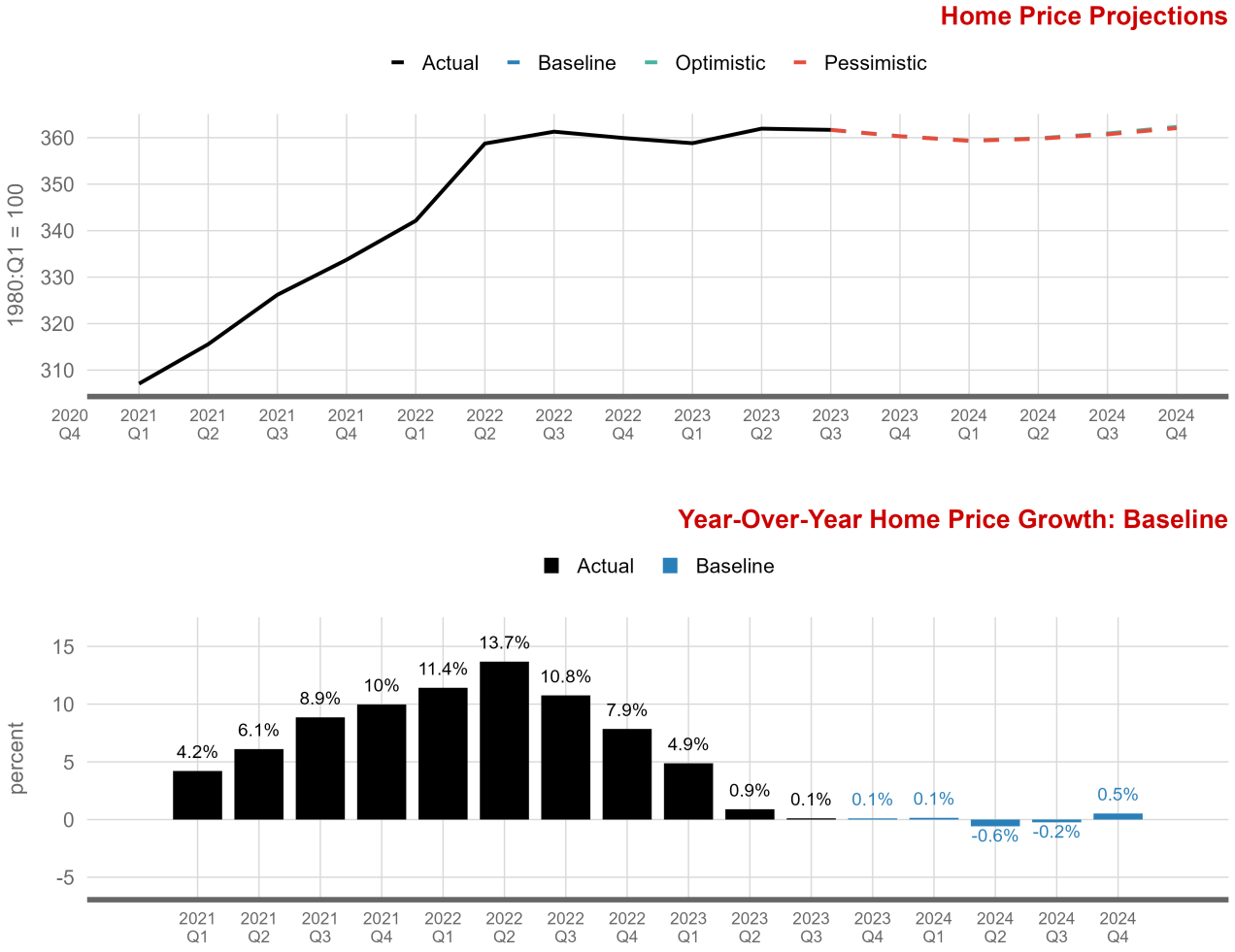
Louisiana Home Price Projections

Following two consecutive quarters of slowing growth, the baseline projection is for year-over-year home price to average roughly 0% over the next five quarters. Growth is expected to be negative in both the second and third quarters of this year before rebounding in Q4.

Additional housing charts are provided for each metro region to track individual market corrections.

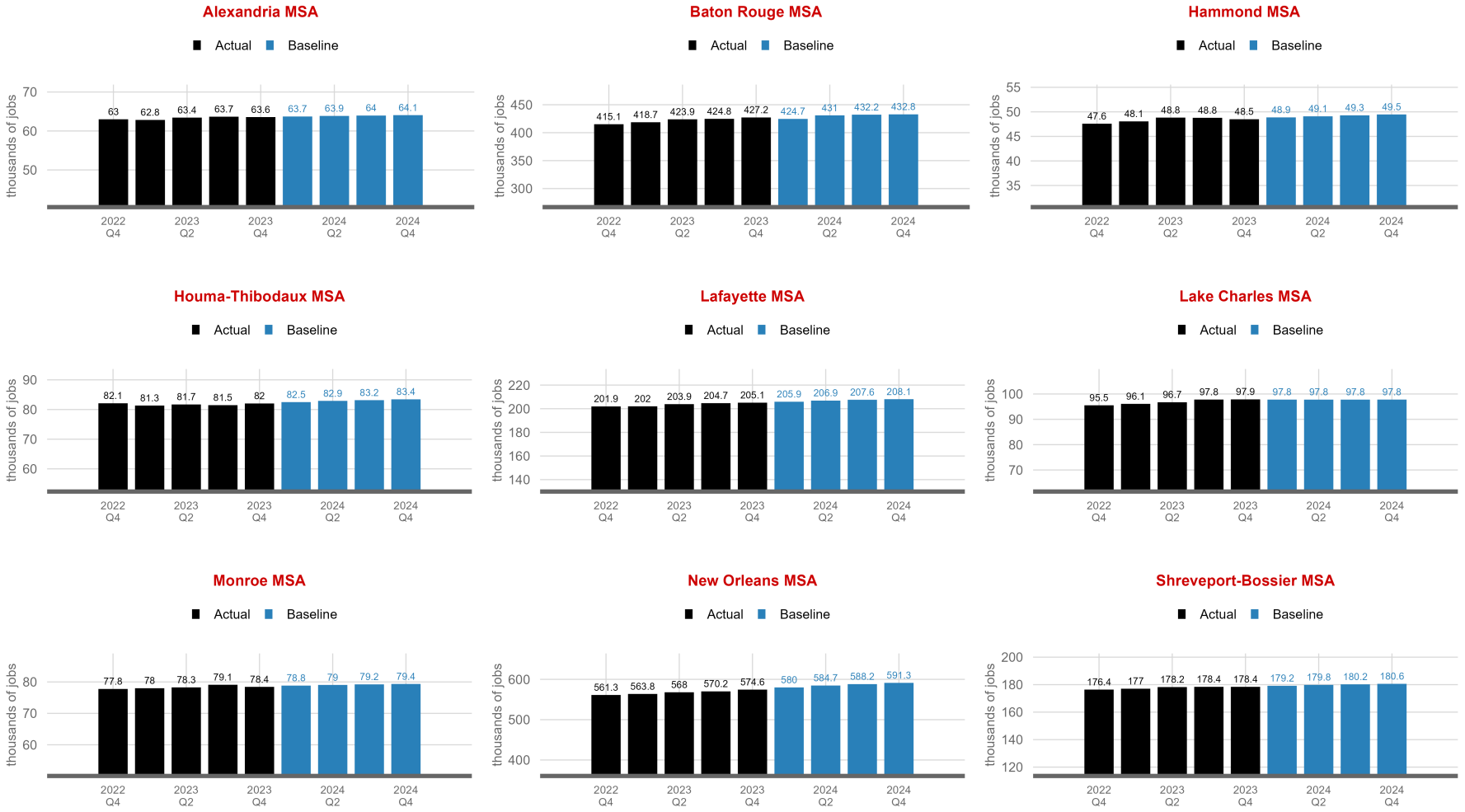
The previous LEAF report's forecast error for home prices was 1.08%. See Table 2 for forecast errors from the previous report.

Figure 5: Louisiana Home Price Projections



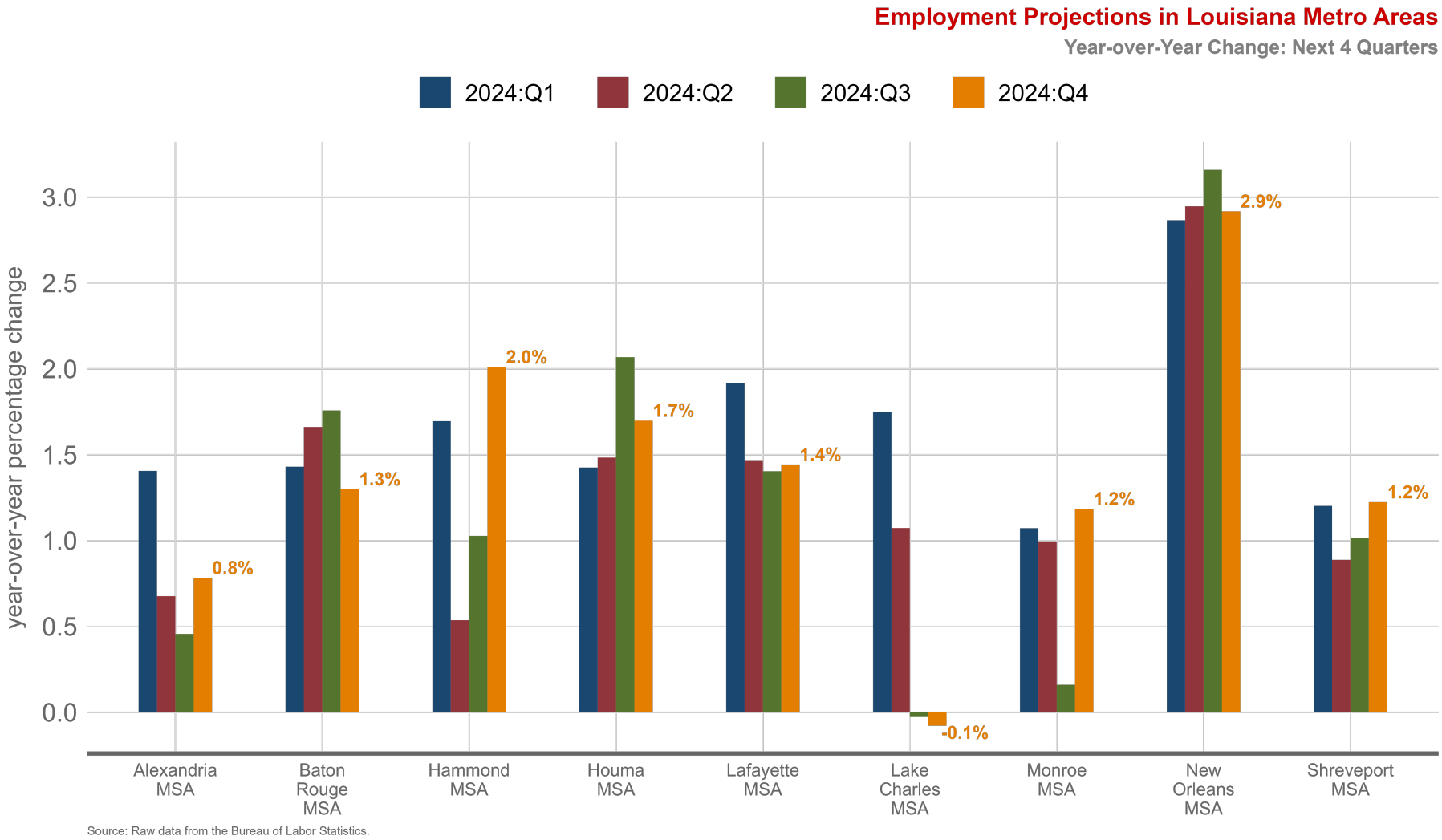
Metro Area Employment Projections

Figure 6: Metro Employment Projections



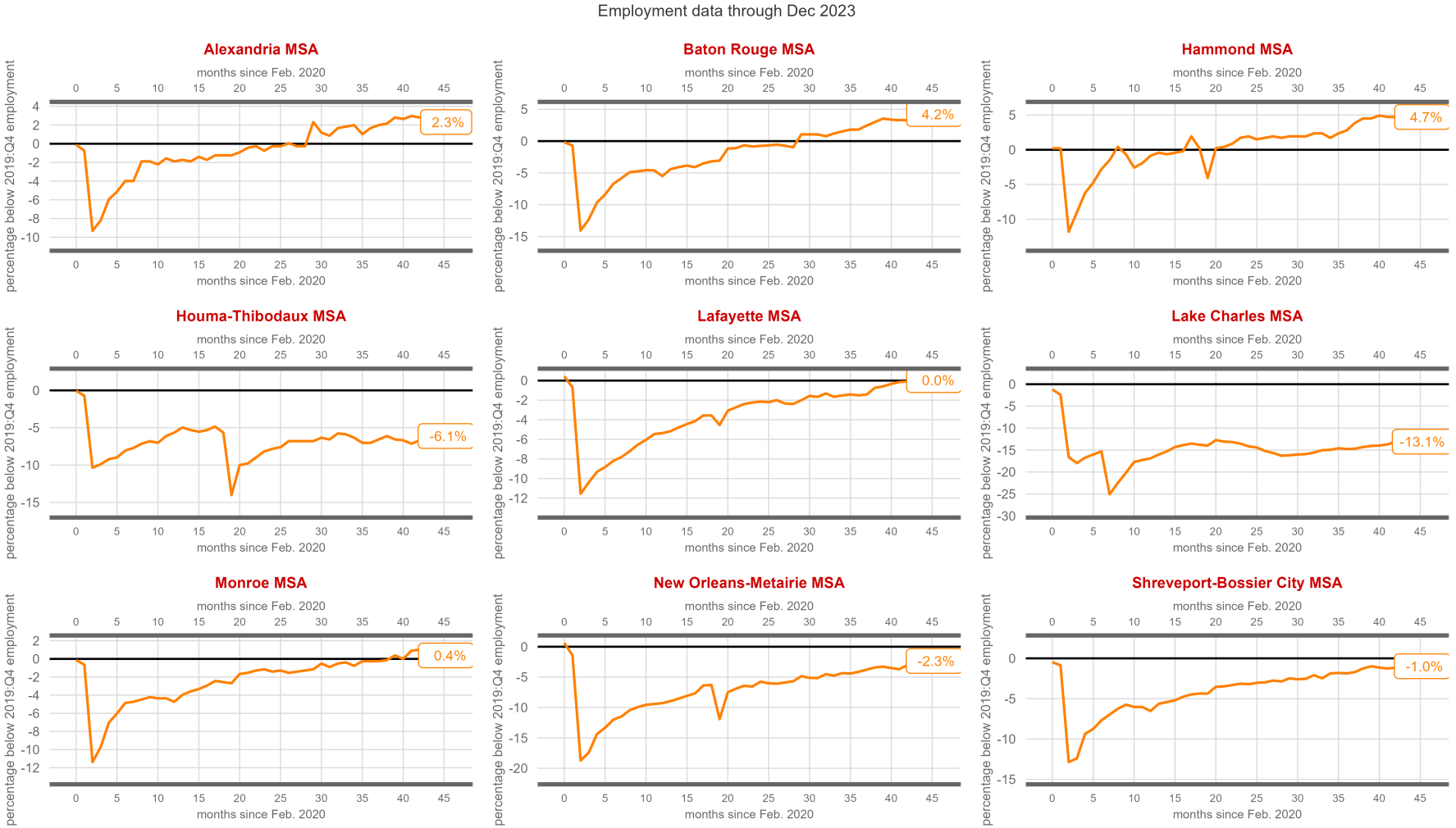
Metro Area Employment Projections: Year-over-Year Growth

Figure 7: Metro Area Employment Projections: Year-over-Year Growth



Metro Area Employment: COVID Job Losses and Recovery Relative to 2019:Q4

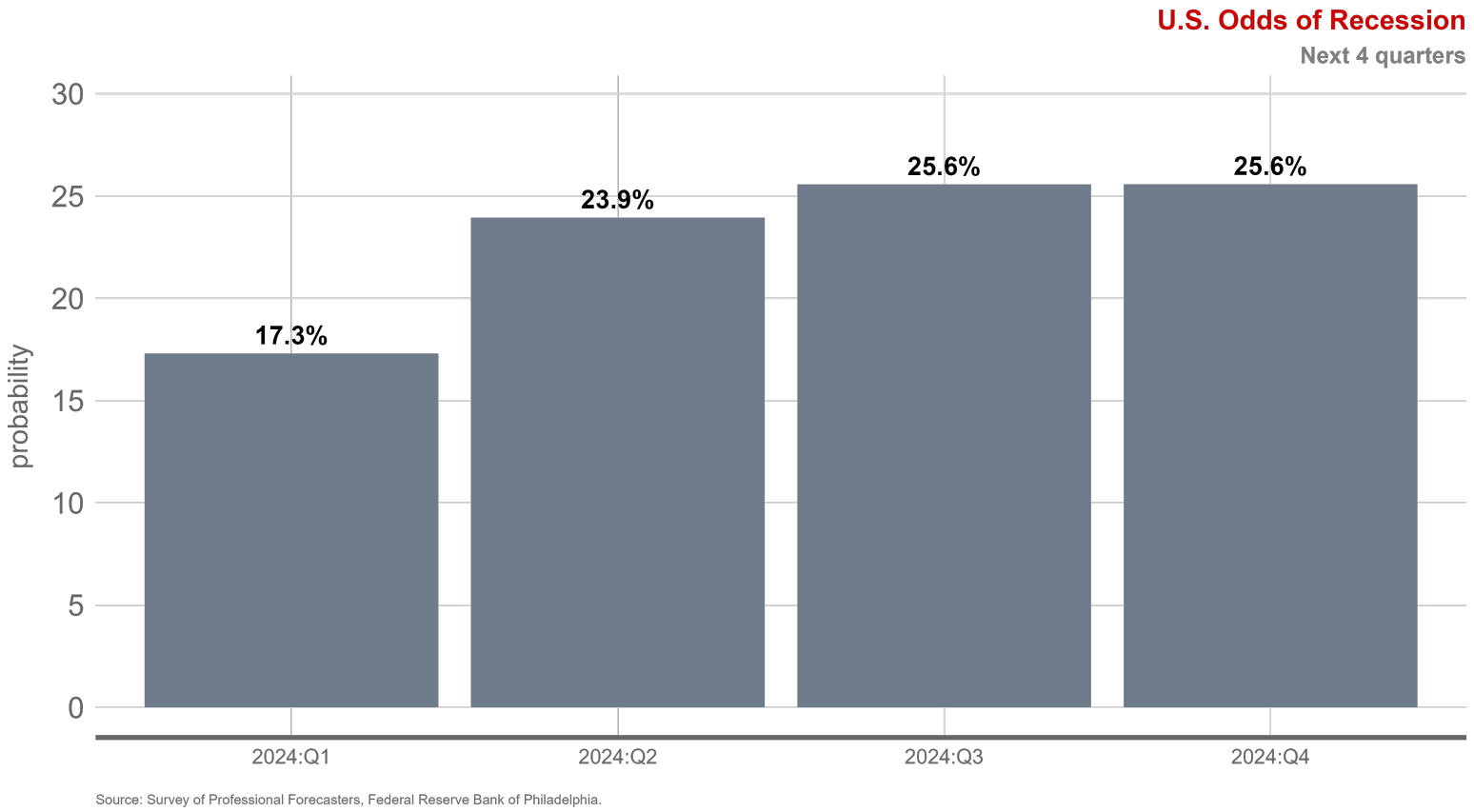
Figure 8: Metro Area Employment: COVID Job Losses and Recovery Relative to 2019:Q4



Source: Raw data from the Bureau of Labor Statistics.

Recession Probabilities Over the Next Year

Figure 9: Recent Recession Probabilities

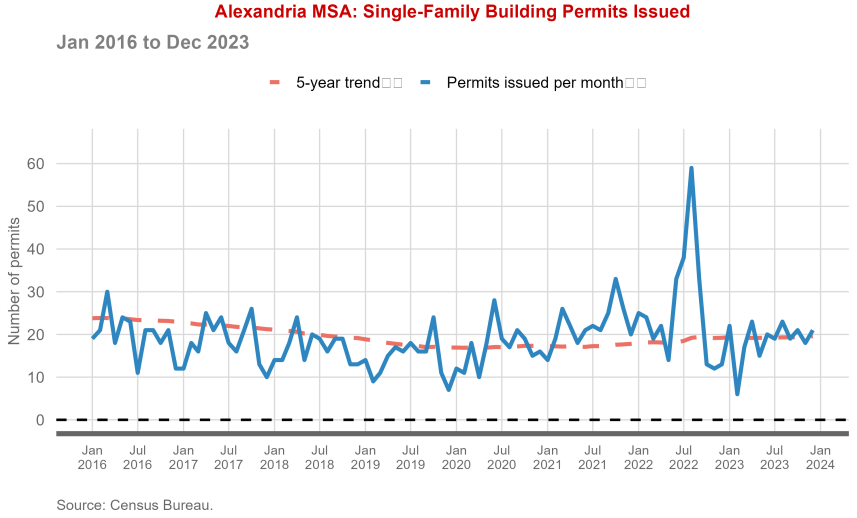


Source: Survey of Professional Forecasters, Federal Reserve Bank of Philadelphia.

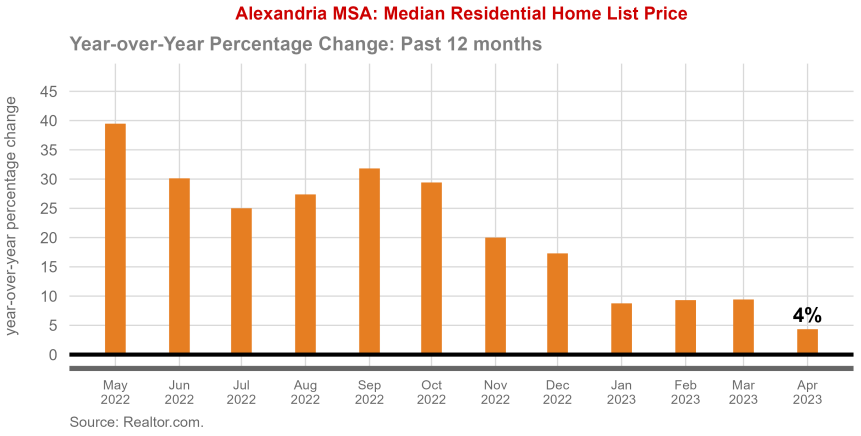
Alexandria MSA: Additional Charts

Figure 10: Alexandria Metro Area: Additional Charts

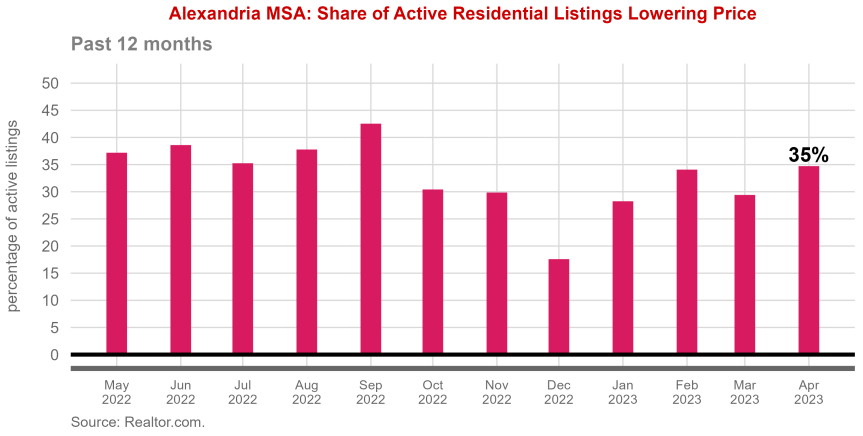
Source: Bureau of Labor Statistics.



Source: Census Bureau.



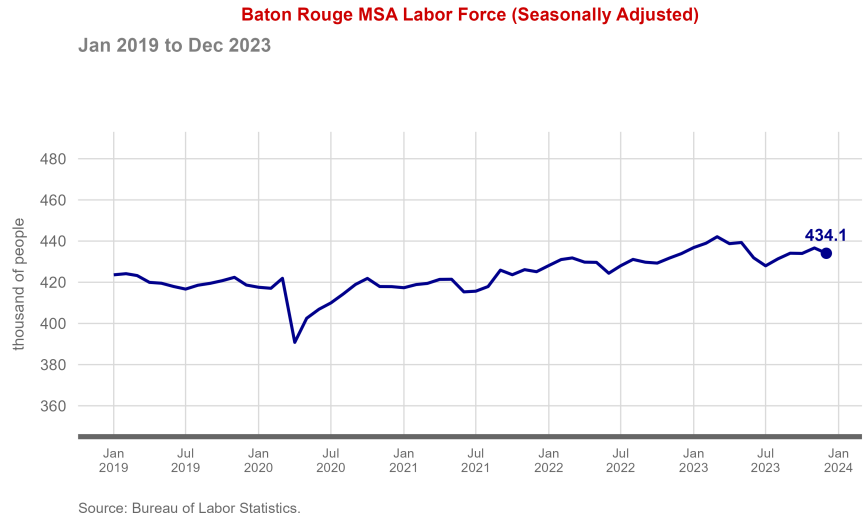
Source: Realtor.com.



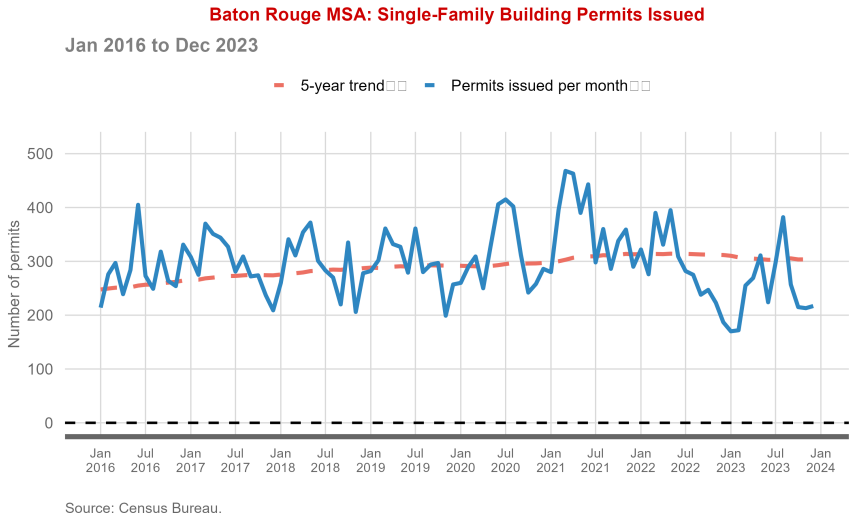
Source: Realtor.com.

Baton Rouge MSA: Additional Charts

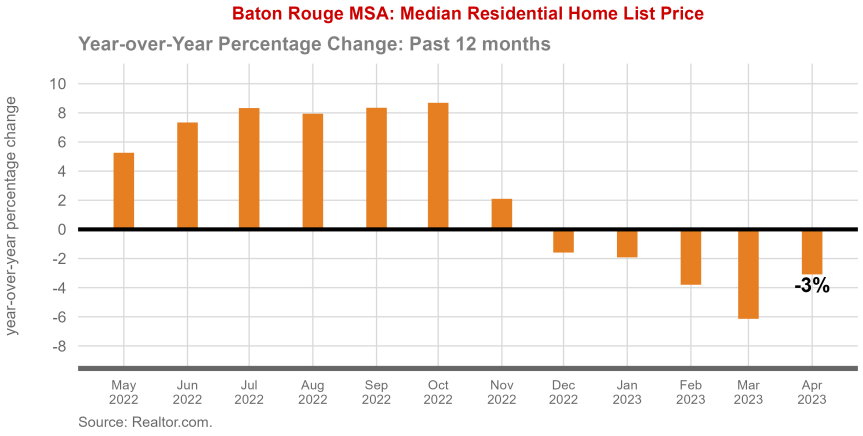
Figure 11: Baton Rouge Metro Area: Additional Charts



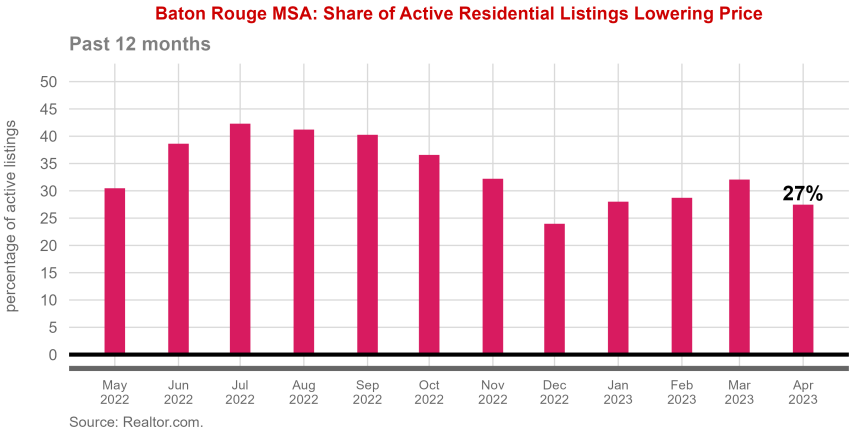
Source: Bureau of Labor Statistics.



Source: Census Bureau.



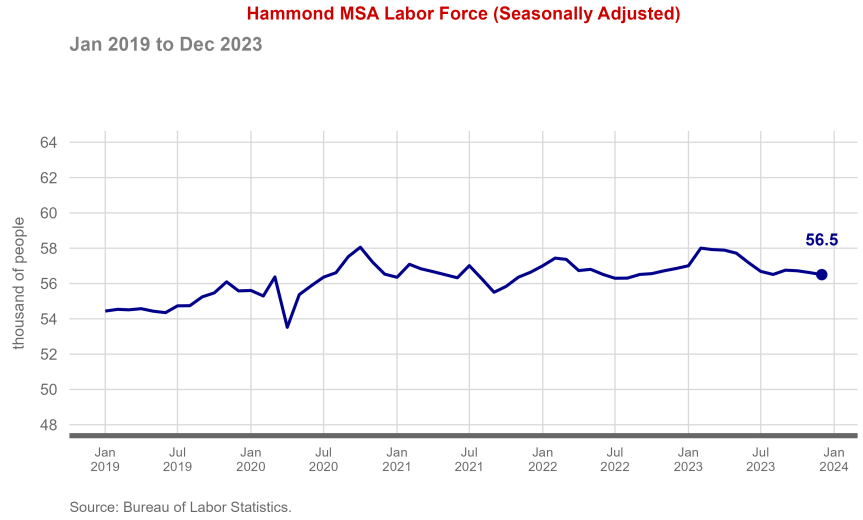
Source: Realtor.com.

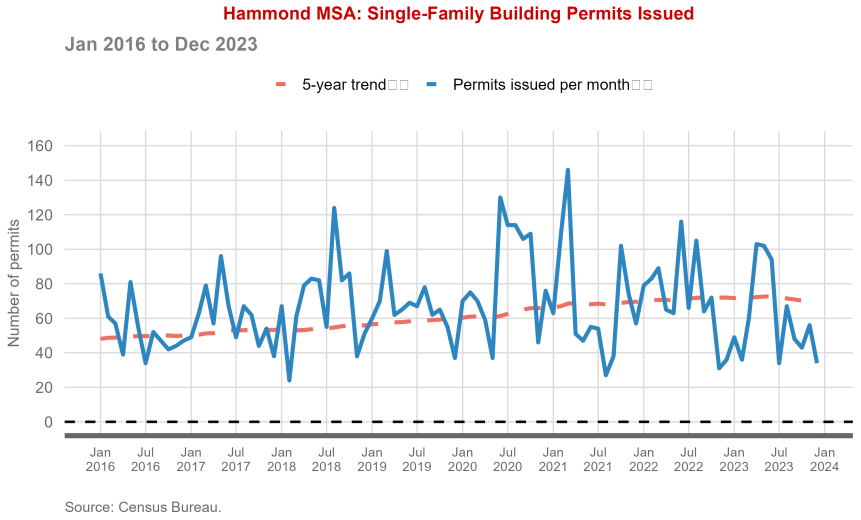


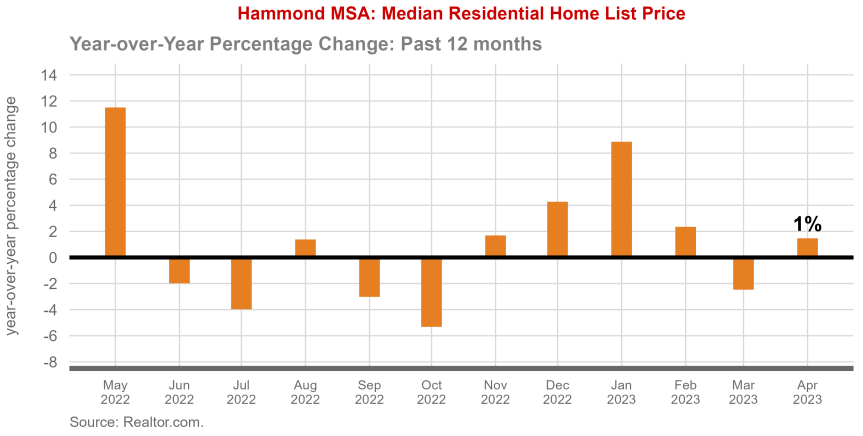
Source: Realtor.com.

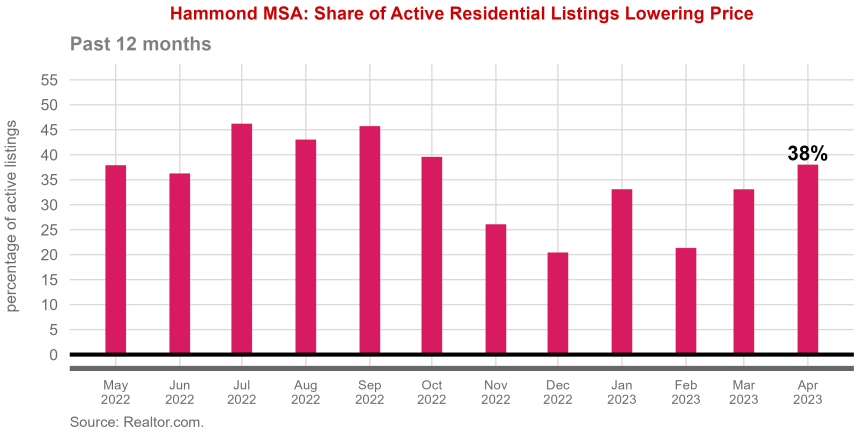
Hammond MSA: Additional Charts

Figure 12: Hammond Metro Area: Additional Charts







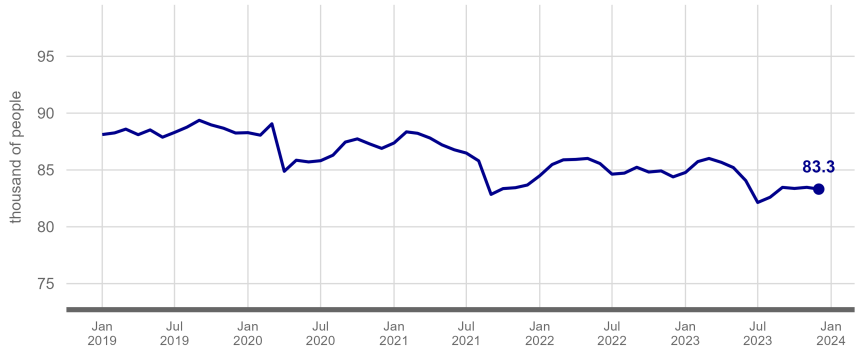


Houma-Thibodaux MSA: Additional Charts

Figure 13: Houma-Thibodaux Metro Area: Additional Charts

Houma-Thibodaux MSA Labor Force (Seasonally Adjusted)

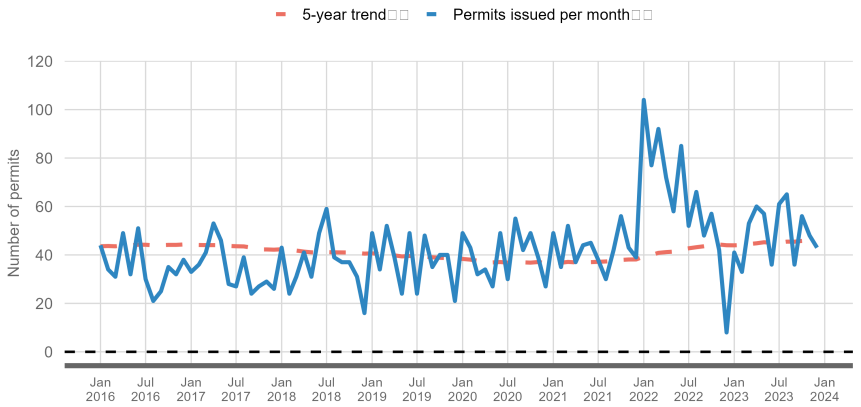
Jan 2019 to Dec 2023



Source: Bureau of Labor Statistics.

Houma-Thibodaux MSA: Single-Family Building Permits Issued

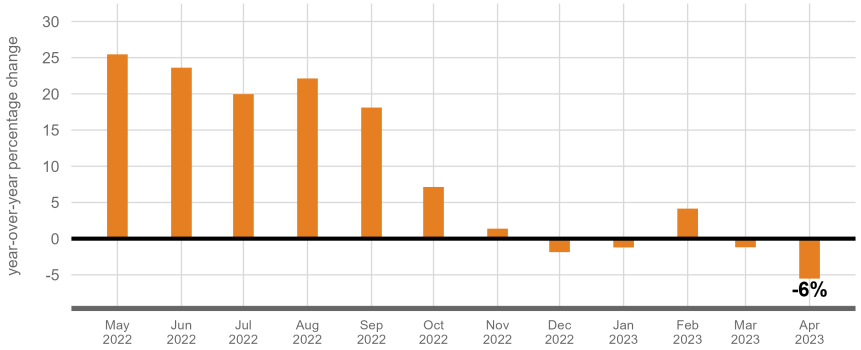
Jan 2016 to Dec 2023



Source: Census Bureau.

Houma-Thibodaux MSA: Median Residential Home List Price

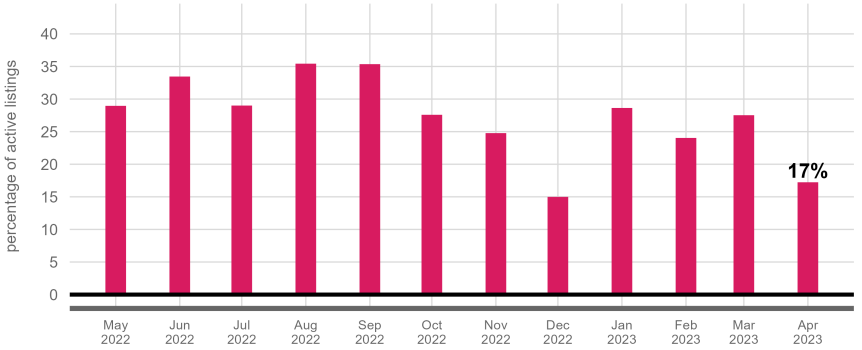
Year-over-Year Percentage Change: Past 12 months



Source: Realtor.com.

Houma-Thibodaux MSA: Share of Active Residential Listings Lowering Price

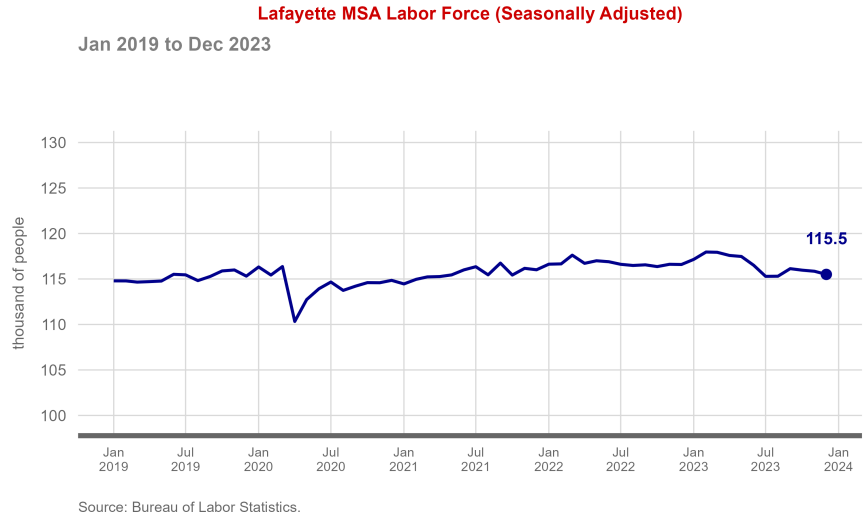
Past 12 months

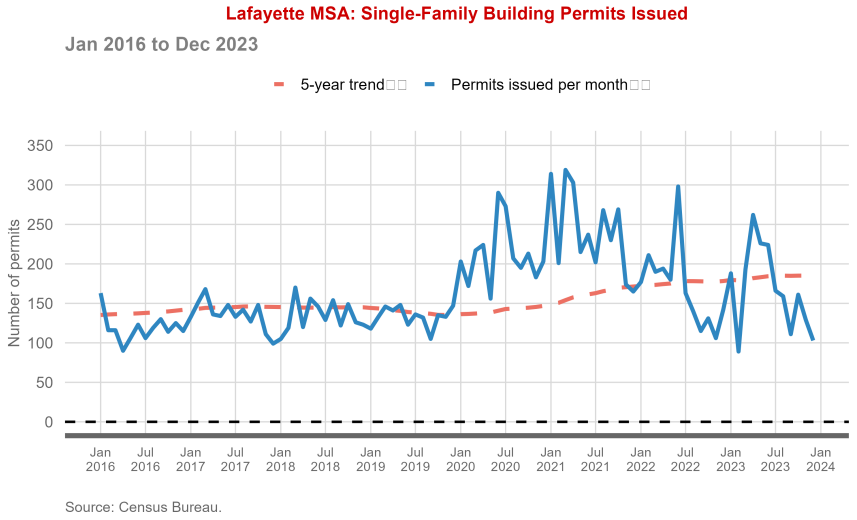


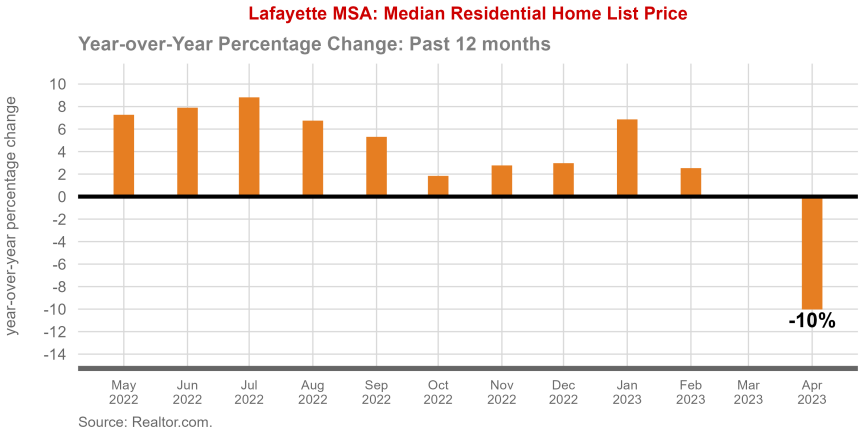
Source: Realtor.com.

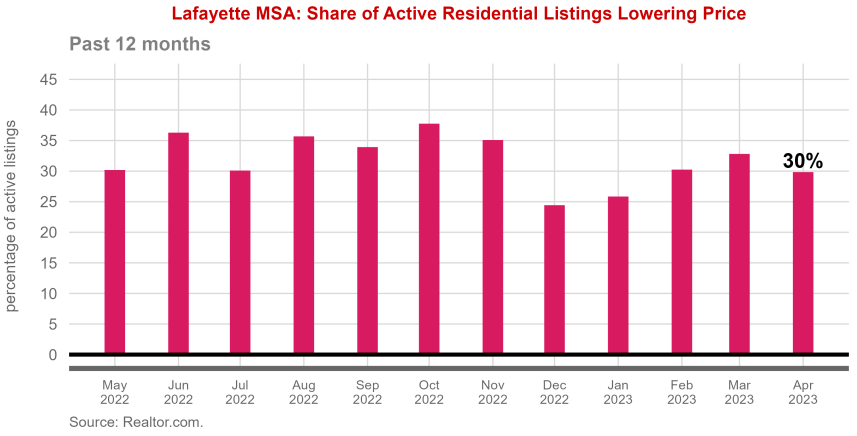
Lafayette MSA: Additional Charts

Figure 14: Lafayette Metro Area: Additional Charts



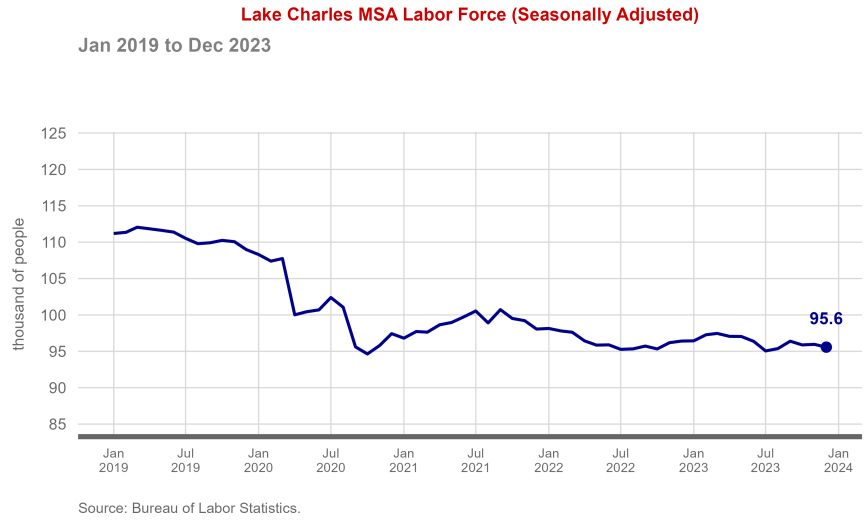


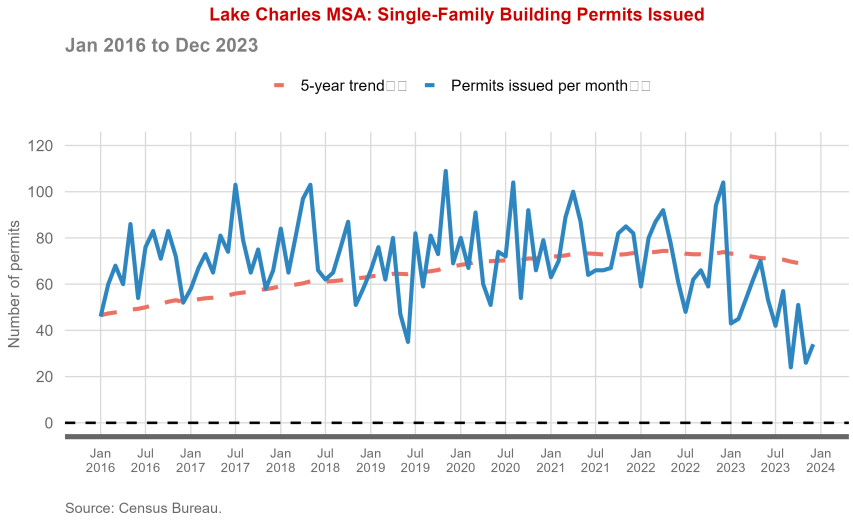


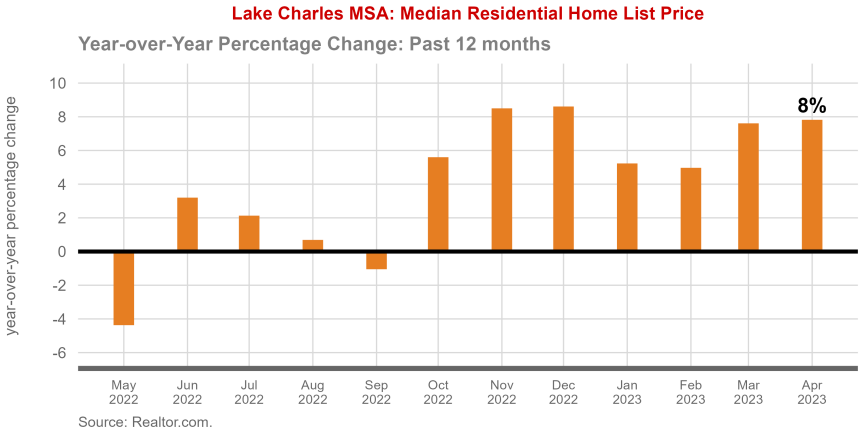


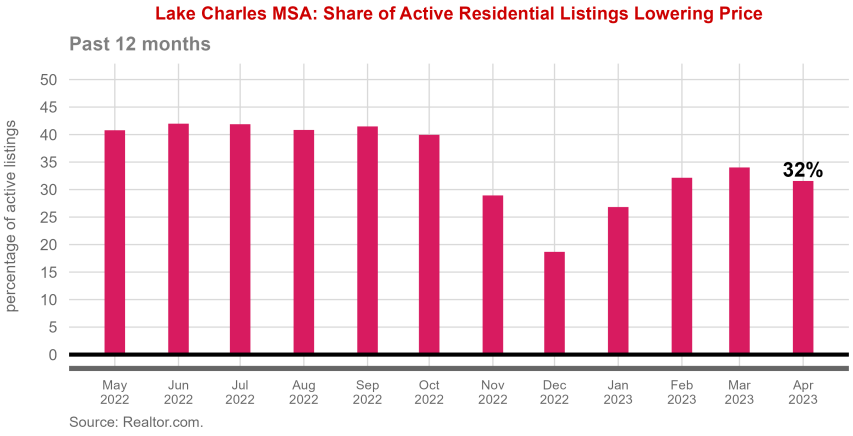
Lake Charles MSA: Additional Charts

Figure 15: Lake Charles Metro Area: Additional Charts



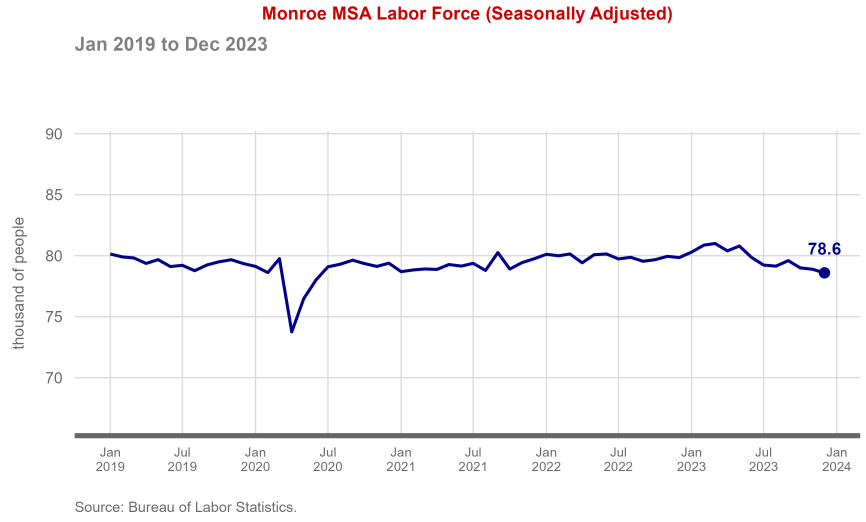


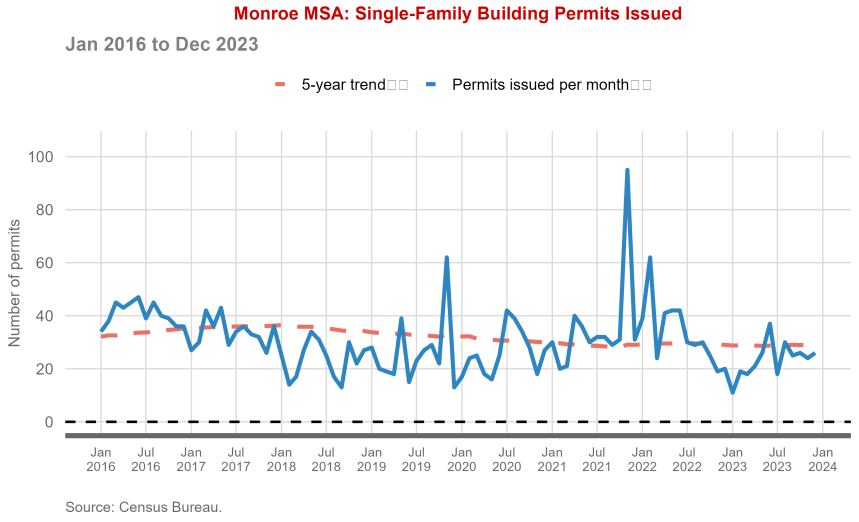


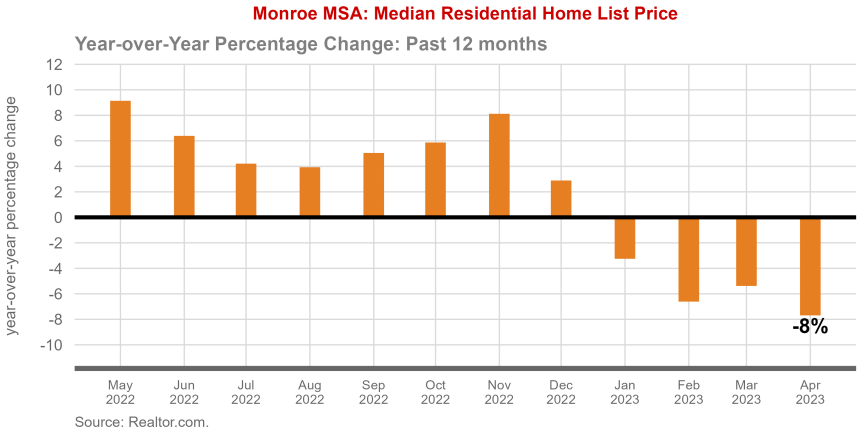


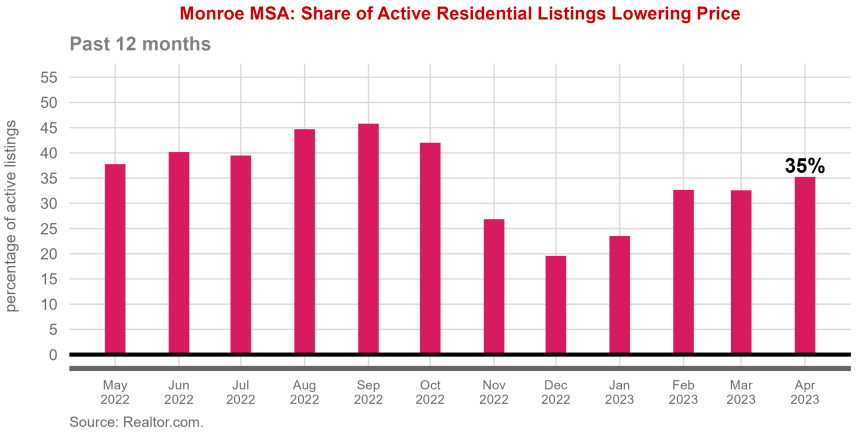
Monroe MSA: Additional Charts

Figure 16: Monroe Metro Area: Additional Charts



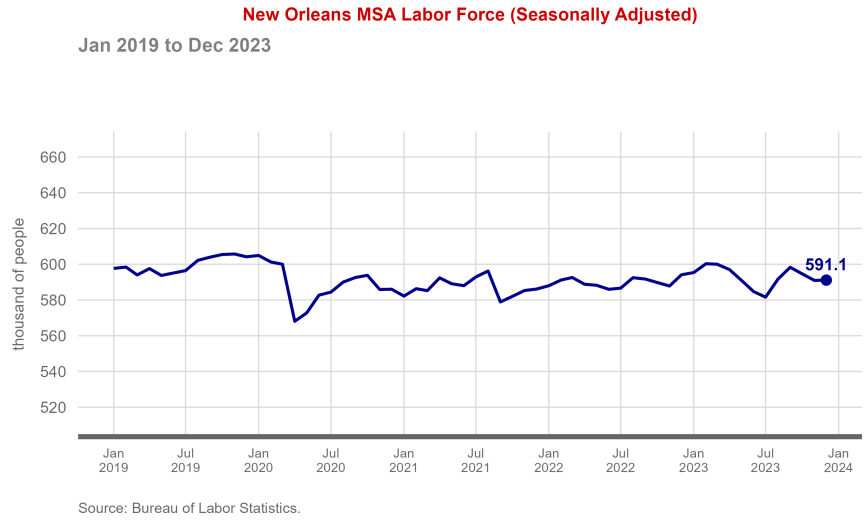


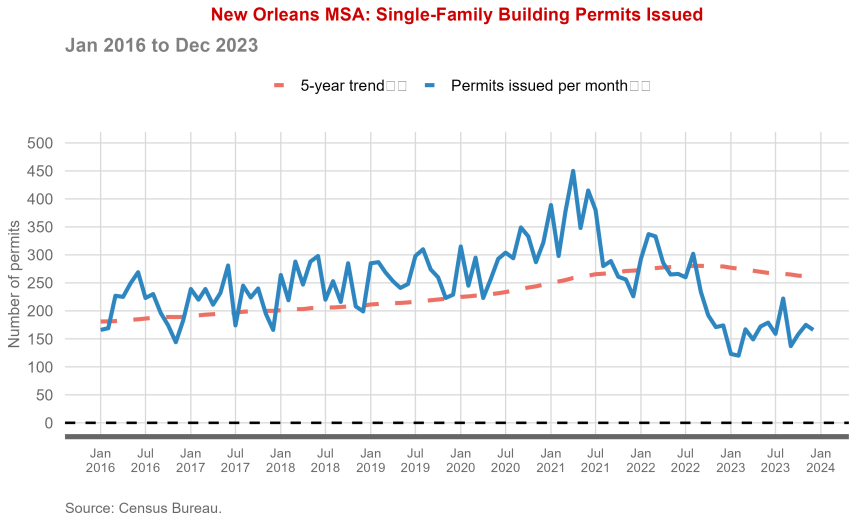


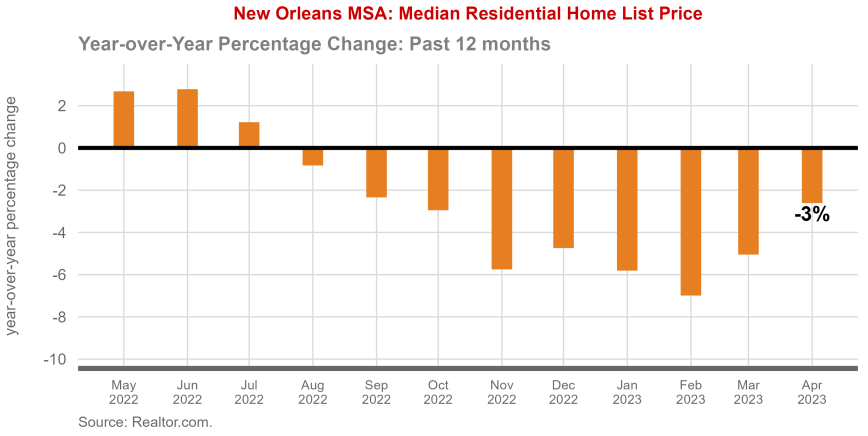


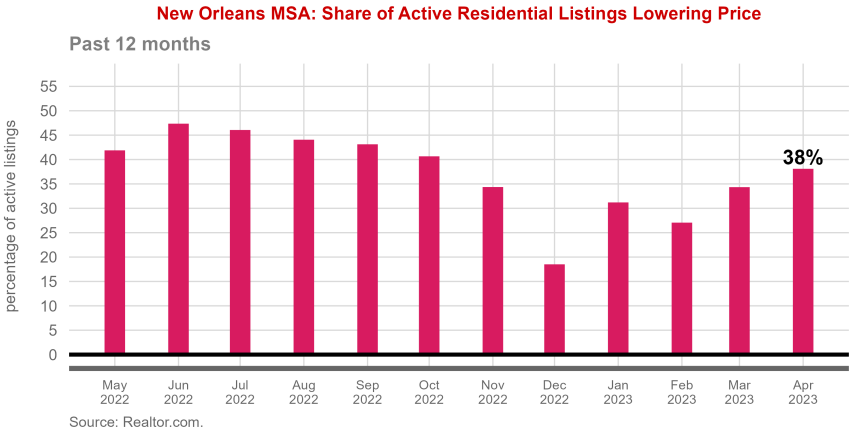
New Orleans MSA: Additional Charts

Figure 17: New Orleans Metro Area: Additional Charts







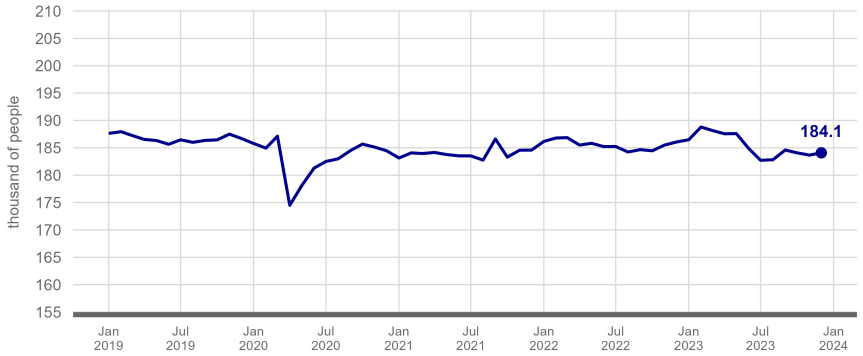


Shreveport-Bossier MSA: Additional Charts

Figure 18: Shreveport-Bossier Metro Area: Additional Charts

Shreveport-Bossier MSA Labor Force (Seasonally Adjusted)

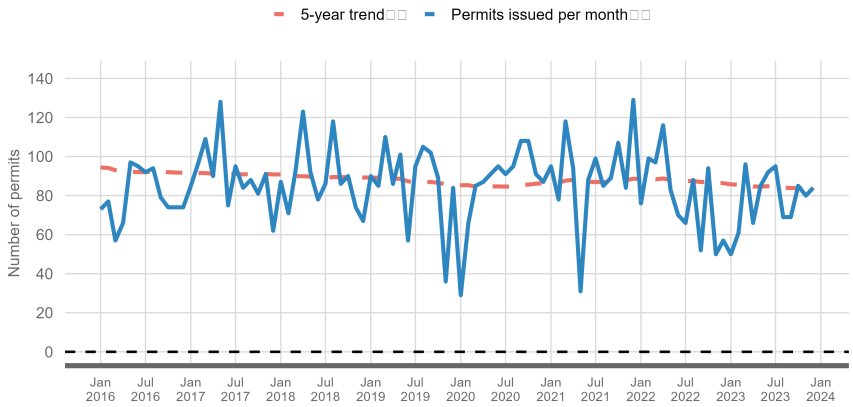
Jan 2019 to Dec 2023



Source: Bureau of Labor Statistics.

Shreveport-Bossier MSA: Single-Family Building Permits Issued

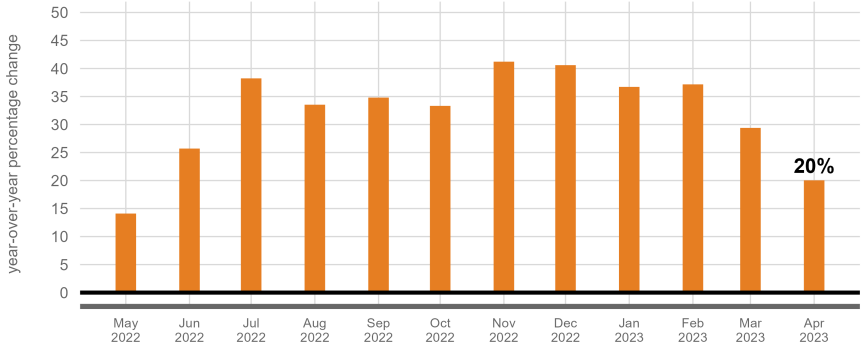
Jan 2016 to Dec 2023



Source: Census Bureau.

Shreveport-Bossier MSA: Median Residential Home List Price

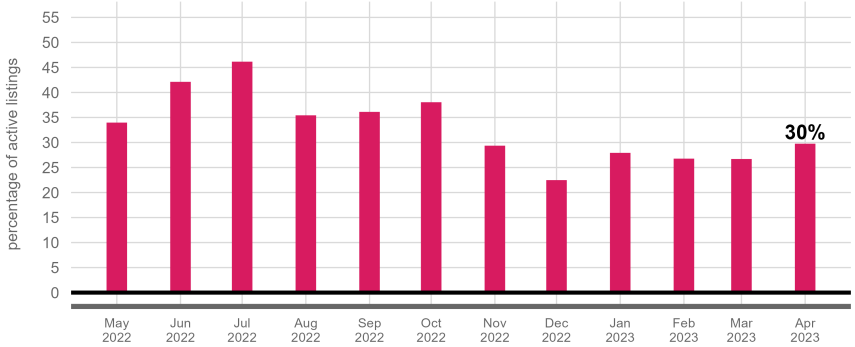
Year-over-Year Percentage Change: Past 12 months



Source: Realtor.com.

Shreveport-Bossier MSA: Share of Active Residential Listings Lowering Price

Past 12 months



Source: Realtor.com.

Projection Errors from Previous Louisiana Economic Activity Forecast

Table 2: One-Quarter Ahead Projection Errors: 2023:Q3 Projections for 2023:Q4

Variable	Baseline Projection	Actual Value	Absolute % Error
employment (statewide)	1977.70	1972.80	0.25
unemployment rate	3.50	3.50	0.00
GDP	218888.40	240105.30	8.84
FHFA home price index	365.60	361.70	1.08
Alexandria MSA employment	63.90	63.60	0.47
Baton Rouge MSA employment	423.90	427.20	0.77
Hammond MSA employment	48.70	48.50	0.41
Houma-Thibodaux MSA employment	82.20	82.00	0.24
Lafayette MSA employment	205.70	205.10	0.29
Lake Charles MSA employment	98.00	97.90	0.10
Monroe MSA employment	79.30	78.40	1.15
New Orleans MSA employment	572.80	574.60	0.31
Shreveport-Bossier MSA employment	179.10	178.40	0.39

Technical Appendix

The Louisiana Forecast Model (LFM) is based on a Vector Autoregression (VAR) system of equations. VAR models can be used to generate forecasts of the future values of multiple variables simultaneously (called endogenous variables) based on the past behavior of these variables and on the behavior of other variables whose values are taken as given (called exogenous variables). Endogenous variables (or the variables ones wishes to forecast) in the LFM include gross domestic product (or total production), non-farm payroll employment, unemployment rate, home prices, and state tax collections. Exogenous variables in the current version of the LFM include U.S. gross domestic product, U.S. unemployment rate, oil prices, the state's real trade-weighted exchange rate, and the global prices of soybeans and rice. Hence, the forecast or projection of each endogenous variable is based on the historical relationship with its own past values, the past values of every other endogenous variable, and the values of every exogenous variable. The Louisiana Regional Employment Model (LREM) is a nested Vector Autoregression (VAR) of total payroll employment in the state's nine MSAs. In addition to the exogenous variables used in the LFM, the Louisiana Regional Employment Model incorporates statewide employment projections and statewide GDP projections as additional external variables.

The VAR methodology is a widely-accepted approach for generating economic and business forecasts. Academic studies have repeatedly shown that small-scale VAR models perform well in terms of prediction errors relative to alternative forecasting models. VAR systems also model the underlying dynamics of economic relationships in the system without imposing behavioral assumptions about the relationships between the variables or how they evolve over time.

The model is estimated using quarterly data beginning in 1994:Q1. Quarterly average values are used for data series that are available at a weekly or monthly frequency. All variables enter the model in log difference form. Real quarterly Louisiana gross domestic product, which the Bureau of Economic Analysis did not begin reporting until 2005, is backcasted using the estimated relationship between the observable data on state GDP and real U.S. quarterly gross domestic product and real quarterly state personal income.

Future values of the exogenous variables are required to make projections for the endogenous variables. The future growth rate in real U.S. GDP and the future level of the U.S. unemployment rate are the median median projections from the Survey of Professional Forecasters. Future projections for oil prices are from the U.S. Energy Information Administration. Future trade-weighted exchange rates and the prices of soybeans and rice were estimated using an Akaike Information Criterion (AIC) weighted average of univariate autoregressive moving-average (ARMA) models that range from (0,0) to (4,4). The data appendices provide complete documentation for all underlying source data used in the model.

Data Appendix: Endogenous Variables

- **Employment (statewide)**
  Total seasonally adjusted non-farm payroll employment. Source: Bureau of Labor Statistics via the Federal Reserve Bank of St. Louis FRED database (mnemonic = LANA). Units: thousands of individuals.

- **Unemployment rate**
  Seasonally adjusted unemployment rate. Source: Bureau of Labor Statistics via the Federal Reserve Bank of St. Louis FRED database (mnemonic = LAUR). Units: percent.

- **Home prices**
  All-transactions home price index. Source: U.S. Federal Housing Finance Agency via the Federal Reserve Bank of St. Louis FRED database (mnemonic = LASTHPI). Units: 1980:Q1 = 100. Seasonally adjusted prior to estimation.

- **GDP**
  Total Real Gross Domestic Product for Louisiana (seasonally adjusted annual rate). Source: U.S. Bureau of Economic Analysis via the Federal Reserve Bank of St. Louis FRED database (mnemonic = LARQGSP). Units: Millions of chained 2012 dollars. Pre-2005 figures were backcasted following the approach described in the Technical Appendix.

- **Employment (metro area)**
  Total seasonally adjusted non-farm payroll employment. Source: Bureau of Labor Statistics via the Federal Reserve Bank of St. Louis FRED database. Units: thousands of individuals. Alexandria (ALEX722NA), Baton Rouge (BATO922NA), Hammond (SMU22252200000000001SA), Houma (HOUM322NA), Lafayette (LAFA122NA), Lake Charles (LAKE322NA), Monroe (MONR722NA), New Orleans (NEWO322NA), and Shreveport (SHRE322NA).

Data Appendix: Exogenous Variables

- **U.S. GDP**
  Total Real Gross Domestic Product for the U.S. (seasonally adjusted annual rate). Source: U.S. Bureau of Economic Analysis via the Federal Reserve Bank of St. Louis FRED database (mnemonic = GDPC1). Units: Millions of chained 2012 dollars. Future values are from the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters.

- **Oil prices**
  West Texas intermediate crude oil price. Source: U.S. Energy Information Administration via the Federal Reserve Bank of St. Louis FRED database (mnemonic = DCOILWTICO). Units: dollars per barrel. Future values are from the U.S. Energy Information Administration Short-Term Energy Outlook. Seasonally adjusted prior to estimation.

- **Trade-weighted exchange rate**
  Real trade-weighted exchange rate for Louisiana's major trading partners relative to the U.S. dollar. Source: Federal Reserve Bank of Dallas. Units: January 1988 = 100.

- **Price of rice**
  Global price of rice. Source: International Monetary Fund via the Federal Reserve Bank of St. Louis FRED database (mnemonic = PRICENPQUSDM). Units: U.S. dollars per metric ton. Seasonally adjusted prior to estimation.

- **Price of soybeans**
  Global price of soybeans. Source: International Monetary Fund via the Federal Reserve Bank of St. Louis FRED database (mnemonic = PSOYBUSDM). Units: U.S. dollars per metric ton. Seasonally adjusted prior to estimation.

- **Unemployment rate**
  U.S. unemployment rate (seasonally adjusted). Source: U.S. Bureau of Economic Analysis via the Federal Reserve Bank of St. Louis FRED database (mnemonic = UNRATE). Units: Percent. Future values are from the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters.

About the Author

Dr. Gary A. Wagner currently holds the Acadiana Business Economist/BORSF Eminent Scholar Endowed Chair in Economics at the University of Louisiana at Lafayette. In this role, he monitors the region's economic environment, conducts research and analysis, and engages with external stakeholders on behalf of the Moody College of Business and University.

His research interests range from regional economics to state and local public finance issues, with a particular focus on tax structures and economic development. He has authored or coauthored more than 60 professional articles and reports, and has delivered more than 300 presentations to public audiences on national and regional economic conditions. Dr. Wagner served on the Governor's Council of Economic Advisors in Arkansas from 2008-2011, and he is a quarterly participant in the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters projecting national economic conditions.

Dr. Wagner holds a Ph.D. in Economics from West Virginia University. His professional research has appeared in many leading economics journals including *The Journal of Law and Economics*, *Journal of Economic Behavior and Organization*, *National Tax Journal*, *Economics and Politics*, *Regional Science and Urban Economics*, *Papers in Regional Science*, *Public Choice*, and *Public Finance Review*. Prior to joining the University of Louisiana at Lafayette, he was Vice-President & Senior Regional Officer for the Federal Reserve Bank of Cleveland.

Contact information:
Phone: (337) 482-5381
Email: gary.wagner@louisiana.edu