

January 12, 2023







The US economy continues to demonstrate remarkable resilience in the face of notable challenges. Total employment has surpassed pre-COVID-19 pandemic levels, though some negative effects such as supply chain snarls are lingering. Other difficulties include inflation and worker shortages.

Inflation is causing problems for individuals, businesses, and the economy as a whole. Now trending near 40-year highs, the pace of increase has led the Federal Reserve to take definitive action. The target interest rate has been increased at an unusually rapid rate, and monetary policy is tightening. The

effects on the economy have begun to surface, particularly in the housing market. With mortgage interest rates more than twice as high as they were a year ago, the market is cooling. Even so, a housing crash is not anticipated given the lack of extreme overbuilding (in fact, inventories are lagging in many markets).

Worker shortages continue to be a problem in some geographic areas and industries, though the overall slowing in the economy is causing the situation to moderate to some extent. The numbers of job openings have been far higher than the number of unemployed persons, and employers are having to make adjustments.

Much of this issue is driven by fundamental demographics that will persist for quite a while.

Even with these and other difficulties such as shortages of various inputs (including fuel) and geopolitical risk, the US economy is likely to avoid a major setback. Some slowing in the pace of growth and possibly even a modest downturn is likely in the coming year, but a major recession is not anticipated. Beyond this adjustment period, The Perryman Group's outlook calls for growth at a moderate pace over the next five years.

PRO JECTED KEY INDICATORS

Economic Indicator	2022 Level	2027 Level	Level Change	Growth Rate
Real Gross Product	\$20.0 tr	\$23.0 tr	+\$3.0 tr	+2.81%
Real Personal Income	\$17.7 tr	\$20.2 tr	+\$2.5 tr	+2.64%
Population	333.346 m	343.804 m	+10.459 m	+0.62%
Employment	152.049 m	165.695 m	+13.646 m	+1.73%
Industrial Production Index	107.2	122.4	+15.2	+2.69%
Consumer Price Index	127.3	142.1	+14.9	+2.23%
20-Year Treasury Bond	3.43%	3.79%	N/A	N/A

The Perryman Group's most recent short-term forecast for the US economy indicates significant growth over the next five years.

Real gross product is projected to increase at a 2.81% annual pace, reaching a level of \$23.0 trillion in 2027.

About 13.6 million net new jobs are forecast to be added, for a total 2027 employment of 165.7 million.

Consumer prices and interest rates are expected to trend upward slightly over the next five years.

The State of Texas

The Texas economy has been among the growth leaders in the wake of the pandemic, reaching pre-COVID-19 levels of employment well before most areas. National challenges such as inflation and supply chain woes are affecting Texas as well, but the state is better positioned than most to deal with the challenges.

Texas continues to attract far more major corporate locations and expansions than any other state. These new operations cover a spectrum of industries, from advanced manufacturing to financial services. At the same time, cornerstone industries such as energy are responding to the global need for fuels. The result is a multi-faceted impetus for expansion which will help the state economy to both weather current headwinds and expand in the decades to come.

The state's younger population and in-migration from other parts of the United States are helping the workforce keep pace with job growth, although shortages persist in many areas. The oil and gas sector is generating a notable stimulus, with substantial renewable energy installations also ongoing.

During the next five years, the Texas economy will likely outpace growth in most parts of the nation. In addition, the state economy is well-positioned for stronger performance on a longterm basis.

PROJECTED INDUSTRY GROWTH 2022-2027

Industry Sector	Real Gross Product		Employment	
	Level Change	Growth Rate	Level Change	Growth Rate
Agriculture	+\$0.7 b	+1.51%	+3,060	+0.86%
Mining	+\$75.6 b	+5.57%	+28,825	+2.57%
Utilities	+\$3.0 b	+2.01%	+1,688	+0.62%
Construction	+\$5.8 b	+1.62%	+20,947	+0.52%
Manufacturing	+\$51.6 b	+3.84%	+57,649	+1.23%
Trade	+\$46.1 b	+3.52%	+175,204	+1.66%
Logistics	+\$9.5 b	+3.33%	+60,423	+1.90%
Information	+\$19.9 b	+3.72%	+13,796	+1.18%
Financial Activities	+\$51.9 b	+3.01%	+58,560	+1.23%
Services	+\$94.4 b	+3.81%	+772,092	+2.50%
Government	+\$16.4 b	+1.85%	+75,923	+0.71%
All Industry Total	+\$374.8 b	+3.58%	+1,268,167	+1.77%

Services industries will drive job gains, with wholesale and retail trade businesses also forecast to see notable hiring.

The Texas population is forecast to grow by almost 1.7 million over the next five years.

An estimated 1.3 million net new jobs are projected for the Texas economy by 2027, representing a 1.77% annual rate of growth over the period.

Real gross product in all major industry groups is projected to expand through 2027, with the mining and services segments likely to experience the largest growth.

PROJECTED KEY INDICATORS

Economic Indicator	2022 Level	2027 Level	Level Change	Growth Rate
Real Gross Product	\$1.9 tr	\$2.3 tr	+\$374.8 b	+3.58%
Real Personal Income	\$1.4 tr	\$1.7 tr	+\$217.4 b	+2.85%
Real Retail Sales	\$418.1 b	\$487.1 b	+\$69.0 b	+3.10%
Population	29,844,400	31,511,526	+1,667,126	+1.09%
Employment	13,831,302	15,099,468	+1,268,167	+1.77%

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Tyler

metropolitan statistical area

The Tyler-area economy has improved significantly over the past year. All major industry groups have seen job growth, and the unemployment rate is trending

below the statewide level. Energy sector activity is providing further stimulus, as are positive developments in other cornerstone industries.

The Perryman Group's forecast for the Tyler economy calls for expansion at a notable pace over the next five years and beyond.

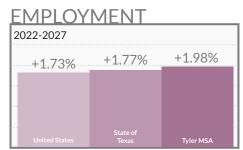


PROJECTED KEY INDICATORS Level Change Indicator Real Gross Product \$11.7 b \$13.8 b +\$2.1 b 3.42% \$12.0 b Real Personal Income \$13.7 b +\$1.7 b 2.72% Real Retail Sales \$3.5 b \$4.0 b +\$0.5 b 2.80%

0.2 m

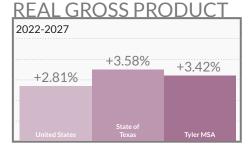
0.1 m

POPULATION 2022-2027 +1.09% +1.25% +0.62% State of Tyler MSA



Population

Employment



0.3 m

 $0.1 \, \text{m}$

+15,421

+11,864

1.25%

1.98%

PROJECTED INDUSTRY GROWTH 2022-2027

	Real Gross Product		Employment	
Industry Sector	Level Change	Growth Rate	Level Change	Growth Rate
Agriculture	+\$0.001 b	1.63%	+34	0.97%
Mining	+\$0.140 b	5.40%	+181	2.41%
Utilities	+\$0.004 b	2.13%	+12	0.74%
Construction	+\$0.040 b	1.72%	+160	0.62%
Manufacturing	+\$0.312 b	3.90%	+453	1.29%
Trade	+\$0.340 b	3.42%	+2,237	2.05%
Logistics	+\$0.080 b	3.58%	+629	2.14%
Information	+\$0.086 b	3.57%	+75	1.04%
Financial Activities	+\$0.324 b	3.07%	+284	1.17%
Services	+\$0.693 b	3.75%	+7,121	2.55%
Government	+\$0.116 b	2.04%	+680	0.90%
All Industry Total	+\$2.135 b	3.42%	+11,864	1.98%

The rate of population, employment, and real gross product expansion in the Tyler Metropolitan Statistical Area are expected to exceed that of the nation.

Employment is likely to increase at a 1.98% annual pace, leading to a gain of almost 11,900 jobs by 2027.

Real gross product is forecast to grow at a 3.42% annual pace, for a total gain of over \$2.1 billion over the next five years.

All major industry segments are projected to expand in the next five years.

Real Gross Product: Also called "output;" the final value of all goods and services produced in an economy during a given period of time (adjusted for inflation, 2012 US\$).

Personal Income (by place of residence): The total income accruing to households where the income-earner resides rather than works (adjusted for inflation and given in 2012 dollars).

Retail Sales: The total volume of retail goods sold (adjusted for inflation, in 2012 US\$).

Population: The total number of persons residing in a specific area.

Employment: (Wage and salary) a measure of the number of persons in the workforce excluding proprietors, but including agricultural workers and military personnel.

Annual Growth: Growth rate compounded annually, meaning that it reflects changes in the base from which growth is calculated.

Industrial Production Index: A measure of output in the core production sectors of the economy expressed as an index with 2012=100.

Consumer Price Index: A measure of inflation, the escalation of prices of consumer goods, expressed as an index with 2012=100.

DEFINITIONS

Interest Rates: The rate set on the 20-year Treasury note.

Agriculture includes farming, ranching, commercial fishing, forestry, hunting and trapping, and related services.

Mining includes companies primarily involved in the extraction of minerals occurring naturally (largely oil and gas in Texas).

Utilities includes electric, water, and sanitary services (including all establishments of the US Postal Service).

Construction includes new work, additions, alterations, and repairs of buildings, water systems, highways, utility plants, and other projects.

Manufacturing involves both non-durable items consumed in a short time period such as paper, bread, chemicals, and clothing as well as durable goods typically consumed over a period of several years such as automobiles, washing machines, industrial machinery, and computers.

Wholesale & Retail Trade comprises establishments engaged in wholesaling & retailing merchandise.

Transportation & Warehousing includes transporting passengers and goods, warehousing and storing goods, and providing similar services

Information includes establishments that create, disseminate, or provide the means to distribute information including data processing; newspaper, book, and periodical publishers; software publishers; broadcasting and telecommunications producers and distributors; motion picture and sound recording industries; and information services.

Finance, Insurance, & Real Estate includes depository and credit institutions, holding companies, insurance carriers and agents, real estate buyers and sellers, real estate agents, and real estate developers.

Services includes companies providing services to individuals, businesses, or government entities such as health care, business services (excluding finance, insurance, and real estate), hotels, and amusements.

Government includes federal, state, local, and international governments and military activity.

METHODOLOGY

Economic and population projections were derived using the **US Multi-Regional Econometric Model**, which was developed by Dr. M. Ray Perryman, President and CEO of The Perryman Group, 40 years ago and has been consistently maintained, expanded, and updated since that time. It is formulated in an internally consistent manner and is designed to permit the

integration of relevant global, national, state, and local factors into the projection process. It is the result of more than three decades of continuing research in econometrics, economic theory, statistical methods, and key policy issues and behavioral patterns, as well as intensive, ongoing study of all aspects of the global, US, Texas, and Texas metropolitan area economies.

It is extensively used by scores of federal and state governmental entities on an ongoing basis, as well as hundreds of major corporations. The overall methodology, while certainly not ensuring perfect foresight, has been peer-reviewed on numerous occasions and permits an enormous body of relevant information to impact the economic outlook in a systematic manner.

Effective economics, accessible analysis

The Perryman Group provides the economic insights you need for the board room, the courtroom, the hearing room, or any other room where decisions are made.

We are an economic and financial analysis firm that provides clients with thoroughly researched, well-documented, carefully considered answers to complex questions.

Led by Dr. M. Ray Perryman, The Perryman Group covers numerous practice areas including litigation & regulatory services, impact assessment, economic modeling & forecasting, valuation, economic development & strategic planning, and public policy. In addition, our in-house professionals also provide market & industry analysis, statistical modeling & analysis, survey & demographic studies, economic statistics, and other services in a comprehensive manner. The firm has served the needs of more than 3,000 clients ranging from major

corporations to small startups and local communities to national governments.

The Perryman Group analyzes and clearly communicates complex issues. The experienced team has a superlative track record in working with both defendants and plaintiffs in hundreds of significant assignments over more than 40 years, and Dr. Perryman has frequently provided successful testimony in numerous high-profile judicial, legislative, and regulatory proceedings. Deadlines are met, problems are solved, and messages are delivered.

ABOUT DR. M. RAY PERRYMAN

Dr. Ray Perryman, the founder and CEO of The Perryman Group, has guided clients, subscribers, and audiences through the complexities of economic life for more than 40 years. He holds a BS in Mathematics from Baylor and a PhD in Economics from Rice. He has held numerous academic positions; authored several books, more than 400 academic papers and 3,000

trade articles; and received hundreds of prestigious awards for his academic and professional efforts. Some of his most gratifying work has been in the fields of economic development and social policy, where he has played a role in the creation of hundreds of thousands of jobs, trillions of dollars in investments, and numerous initiatives to address pressing human needs.

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