



The Perryman Report & Texas Letter

IN THIS ISSUE

TEXAS ECONOMIC FORECAST

The Texas economy has been hit hard not only by COVID-19, but also by turmoil in oil markets. The Perryman Group's latest short-term forecast indicates a significant downturn this year, but a return to growth in 2021.

THE GULF COAST REGION

The Gulf Coast Region has a population of 7.26 million and includes 13 counties and the Houston-The Woodlands-Sugar Land Metropolitan Statistical Area (MSA). An overview of the area's long-term forecast is featured in this issue.

ECONOMIC DEVELOPMENT NEWS

Despite COVID-19 setbacks among Texas businesses, some developments continue to move forward. For a look at new projects happening across the state, check out this section.

FOCUS ON: REAL PERSONAL INCOME

A breakdown of real personal income by MSA provides a quick look at the forecast for 2019 to 2045. See page 7 to get a snapshot of the anticipated growth for the state as well as for a MSA near you.

The Short-Term Outlook for the Texas Economy

The Perryman Group's forecast for the Texas economy calls for a significant drop in business activity for 2020, but a return to growth next year. Measures taken to slow the spread of COVID-19 have had substantial negative effects, including causing downturns in key industries including oil and natural gas. However, the state is well positioned to return to growth once social distancing requirements can be relaxed and the economy reopens.

For purposes of comparison, The Perryman Group's most recent short-term projections for the national economy indicate a decline in real gross product at a -5.47% rate in 2020, representing a loss of more than \$1.0 trillion. For 2021, real gross product is forecast to grow by \$973.7 billion, a 5.40% rate. Job losses are forecast to total more than 9.818 million on an annualized basis in 2020 (a 6.49% decline), with 5.19% growth expected in 2021. These job losses are reported on an annualized basis; thus, many more individuals are likely to be

affected for a portion of the year (as an example, an annualized job can be three individuals who are each unemployed for four months). In fact, more than two million Texans have filed initial claims for unemployment since March.

OIL MARKET TURMOIL

In Texas, the oil situation is especially significant to the economy. At the beginning of this year, oil prices were trending in the upper \$50s per barrel. As demand dropped in response to COVID-19 restrictions, spot prices fell to a fraction of that level and futures prices actually became negative at times as contracts neared maturity and traders scrambled to avoid having to take delivery of oil at a time when storage capacity would be largely exhausted. The price decline is due to the combination of (1) plummeting demand as economies and industries around the world shut down due to COVID-19 and (2) rising supply, with threats of even more due to the collapse of talks earlier this year among major global

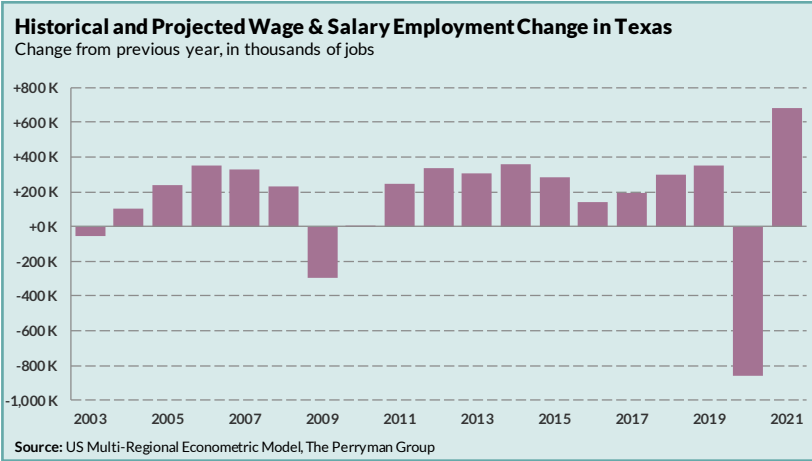
oil producers to try to bring discipline to the market. The agreement by OPEC+, the United States, and other nations is not sufficient to rebalance markets due to the unprecedented effects on demand of shutting down huge segments of the world economy, though it is an important step to keep the supply overhang from getting as big as it would otherwise.

Although production costs are down sharply in Texas in recent years, they are not yet at a level to maintain viability

at recent prices. As a result, the situation is leading to significant disruptions in the Permian Basin and the state's other production areas. The industry has engaged in a rapid shutdown of drilling activity, which ripples through an enormous supply chain and supporting retail and service enterprises in the affected communities and the rest of the state. Banks which have large energy company loan portfolios are being strained, and mid-stream and downstream investments are being deferred. Adverse

effects on oil producing areas are being observed in a dramatic fashion, but the fallout from the situation involves all regions of Texas.

As the economy begins to recover from COVID-19 restrictions and travel prohibitions, oil markets can normalize expeditiously. Prices are already trending toward more normal levels and should recover to sustainable levels for West Texas producers (where costs were falling notably for years before the pandemic) in the next few months.

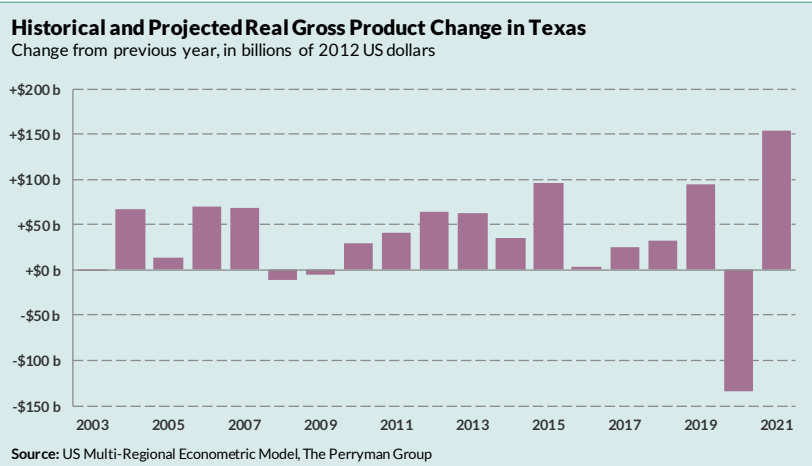


THIS IS NOT THE 1980s

With the oil market in disarray, comparisons are being drawn to the horrific events of the 1980s. While such discussions are both natural and inevitable, they are also both misplaced and incorrect.

One key difference is the sheer speed of the downturn. The prior decline began in early 1982 and did not reach its nadir until a rapid fall in 1986. This time, it unfolded in a matter of weeks.

Moreover, the 1980s debacle occurred amidst a savings and loan and real estate crisis and ill-conceived reversals in tax policy that led to massive failures throughout the financial system and took



years to repair. It was further complicated by the complex geopolitics of the Cold War. Today, a pandemic arose as the country was enjoying the longest expansion in history with no major structural dislocations.

The 1980s downturn came on the heels of the 1970s embargo and energy crisis which brought major cutbacks in energy usage and sluggish demand. By contrast, the current situation arose as a manufacturing boom in emerging countries was driving solid global increases in consumption (and no export ban).

Back then, production and known reserves had been declining for decades and the future of the industry was in doubt. “Peak oil” was a common mantra. Presently, reserves are expanding, technology is evolving rapidly, costs are falling, production is twice its prior peak, and there are centuries of supply.

The oil industry in the 1980s was heavily financed by institutional debt, leaving little flexibility to weather setbacks (a drop of \$1 dollar per barrel in 1982 sent the sector reeling). The recent expansion was fueled by infusions of private equity in the aftermath of the mortgage

meltdown and the Great Recession; thus, it is more resilient.

The near-term situation in oil markets is undeniably severe, but it is a temporary aberration stemming from an unprecedented health issue. As the economy reopens, demand for oil will rise and markets will normalize. This is NOT the 1980s.

TEXAS ECONOMIC OUTLOOK

For 2020, The Perryman Group estimates that the Texas economy will experience

significant losses due to COVID-19 and the associated disruptions in the oil market. Real gross product is expected to decline by \$133.8 billion relative to 2019 levels (a 7.60% loss), while total employment on an annualized basis is likely to drop by almost 861,000 (down 6.48%).

Note that job losses are expected to be concentrated in the spring and summer months with some improvement through the year, so reported losses

at some points in time will be even higher. While job losses are currently quite high, many will return as social distancing requirements are relaxed.

In addition, expected economic growth for 2020 has been foregone. When compared to baseline projections before the pandemic, real gross product losses for the year reach \$206.3 billion, with more than 1.1 million fewer annualized jobs in Texas relative the pre-COVID-19 expectations.

(continued on page 6)

Texas Employment Change from Pre-Virus Projections

Results by industry sector

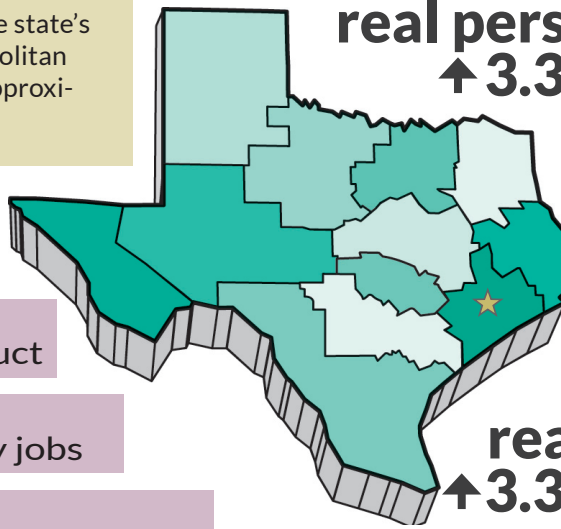
Industry Sector	Change
Agriculture	-6,441
Mining	-95,959
Utilities	-5,003
Construction	-49,551
Manufacturing	-120,938
Wholesale Trade	-49,604
Retail Trade	-178,945
Transportation and Warehousing	-54,926
Information	-22,614
Finance and Insurance	-24,602
Real Estate and Rental/Leasing	-8,757
Professional Services	-36,701
Management Services	-9,191
Administrative Services	-34,568
Educational Services	-14,956
Health and Social Services	+3,436
Amusement and Recreation Services	-41,282
Accommodation and Food Services	-301,917
Other Services	-64,769
Government	+5,565
Total, All Industries	-1,111,724

Source: US Multi-Regional Econometric Model, The Perryman Group

Notes: Components may not sum due to rounding.

THE GULF COAST REGION FORECAST 2019-2045

The 13-county Gulf Coast Region includes the state's Houston-The Woodlands-Sugar Land Metropolitan Statistical Area (MSA). The area is home to approximately 7.26 million residents.



real personal income
↑ 3.33% annually

population
+2.99 mln

jobs
+1.54 mln

real retail sales
↑ 3.36% annually

25.0% of the state's population

30.3% of the state's real gross product

25.1% of the state's wage and salary jobs

28.3% of the state's real personal income

EMPLOYMENT 2019-2045

The Gulf Coast area's employment is forecast to expand at a compound annual growth rate (CAGR) of 1.48% from 2019 to 2045. Around 1.54 million jobs are likely to be added in the region.

Growing at a CAGR of 2.01%, the services industry sector is expected to represent nearly 50% of the region's total employment by the year 2045.

Industry	2019-45 Growth	2019-45 Gain	2045 Percent
Agriculture	0.32%	681	0.18%
Mining	1.23%	32,905	2.48%
Utilities	0.19%	926	0.40%
Construction	1.00%	69,290	6.23%
Manufacturing	0.91%	65,329	6.42%
Trade	1.24%	186,570	14.03%
Transportation & Warehousing	1.60%	70,958	4.31%
Information	0.77%	6,933	0.79%
Finance, Insurance & Real Estate	1.05%	54,385	4.68%
Services	2.01%	980,327	49.89%
Government	0.60%	74,369	10.58%
All Industries	1.48%	1,542,673	100.00%

COUNTIES

- Austin
- Brazoria
- Chambers
- Colorado
- Fort Bend
- Galveston
- Harris
- Liberty
- Matagorda
- Montgomery
- Walker
- Waller
- Wharton

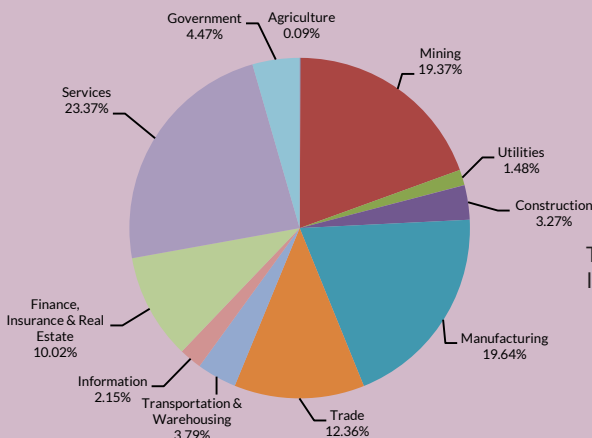
NEWS

McCord Development has bought 201 acres to expand Houston's mixed-use Generation Park. The 4,000-acre site currently has around \$1 billion of development and 2.1 million square feet of projects in the works.

Seabrook Economic Development Corp. is supporting local businesses through a \$250,000 relief program. A total of \$184,000 has been awarded and additional applicants are being considered until the fund is depleted.

Developers are moving forward with plans for a resort-style, 75-unit condominium complex on Tiki Island. Legend Communities purchased six acres for the community that will also include a yacht club and boathouse.

REAL GROSS PRODUCT 2045 COMPOSITION



Real gross product (RGP) in the region is expected to expand at an annual pace of 3.22% from 2019 to 2045. An increase of \$680.5 billion is likely over the long-term forecast period.

The services sector is expected to have the largest increase in RGP over the long term. It is forecast to grow at a CAGR of 3.32% and see a gain of \$161.9 billion through 2045.

ECONOMIC DEVELOPMENT NEWS FROM AROUND THE STATE

ELLIS COUNTY

Two major data centers are starting to take shape south of Dallas. Google has bought 165 acres for a \$600 million project and Compass Datacenters is wrapping up its first phase of a facility on 225 acres both in Red Oak.

FORT WORTH

Everman Trade Center is welcoming new tenant Novartis. The Swiss pharmaceutical company signed a 13,294 square foot lease.

LUBBOCK

The NTS Tower downtown is being transformed into Metro Tower Lofts. The new housing development will feature 89 apartments and be ready by the end of 2021.

TEMPLE

The city has approved an expansion for its parks and recreation building. Work on the \$526,000 project should wrap up in December.

DALLAS

FedEx is moving into a 776,630 square foot space at Cedardale Distribution Center. The shipping hub is expected to be operational in November.

On the west side of the city, Amazon plans to open a 2.3 million square foot fulfillment center. Around 1,500 will be hired for the facility opening later this month.

GRAND PRAIRIE

The city recently purchased a 12.3-acre site. An industrial service center project is planned for the new location.

AUSTIN

Dell Children's Medical Center of Central Texas is planning a second hospital in the city. The 36-bed, 135,000 square foot facility along with a 60,000 square foot office building is expected to be ready in November of 2022.

Data management firm Magnitude Software has hired its first chief marketing officer and plans to triple its local workforce over the next 15 months.

SAN ANTONIO

Fiesta Warehousing & Distribution Co. has signed a 66,468 square foot lease for an industrial space in the city. The logistics firm is moving into a larger space.

TYLER

A new VA Outpatient Clinic is planned for the area and should open in the fall of 2021. The 53,000 square foot facility is expected to employ over 100 workers.

FRISCO

Luxury hotel Hyatt Regency Frisco is opening up in June. The 18-story, 303-room property is connected to Stonebriar Mall.

KATY

Construction of the 87-acre Katy Prairie Business Park continues. Domino's Pizza will occupy a 59,000 square foot warehouse and distribution center, the first building in the 1.1 million square foot project.

HAVE AN ANNOUNCEMENT TO MAKE?



Let our editors know what's taking place in your "neck of the woods."

Share the details of recent economic development happenings in your area with our readers by reaching out to us.

The Perryman Report & Texas Letter is read monthly by the state's most notable leaders.



510 N. Valley Mills Dr, Suite 300
Waco, TX 76710



254.751.9595



254.751.7855



info@perrymangroup.com



perrymangroup.com

(continued from page 3)

The industries likely to see the largest drops in the numbers of jobs include accommodation and food services, retail trade, manufacturing, and mining (which is primarily oil and natural gas in Texas).

For 2021, a notable improvement is projected. Gains in real gross product are forecast to be \$154.4 billion (a 9.50% increase), while the number of jobs rises by almost 685,000 (up 5.51%). It is expected to take two to five years to return to the level of business activity the state would otherwise have experienced in the absence of COVID-19 and the related measures to prevent a spike in infections.

CONCLUSION

Texas is facing not only COVID-19 issues, but also a notable contraction in the energy sector. The state economy is declining steeply at present, but is expected to return to growth later this year (although, as noted, the year-over-year numbers will likely be down considerably).

Because the underlying economy was strong prior to this situation, it is likely to be more of a pause than a fundamental change, particularly if safe and effective measures to resume activity are successful.

Texas Real Gross Product Outlook through 2021

Results by industry sector

Industry Sector	Loss/Gain in 2020		Recovery in 2021	
	Absolute	Percent	Absolute	Percent
Agriculture	-\$799.5 m	-6.51%	+\$583.2 m	+5.08%
Mining	-\$72,719.0 m	-31.03%	+\$54,281.1 m	+33.58%
Utilities	-\$1,904.8 m	-7.34%	+\$1,731.2 m	+7.20%
Construction	-\$2,987.1 m	-3.92%	+\$3,754.3 m	+5.12%
Manufacturing	-\$22,672.5 m	-9.82%	+\$23,977.3 m	+11.51%
Wholesale Trade	-\$6,594.6 m	-4.54%	+\$10,041.2 m	+7.25%
Retail Trade	-\$9,404.7 m	-9.55%	+\$9,572.2 m	+10.75%
Transportation and Warehousing	-\$3,918.5 m	-6.87%	+\$4,525.5 m	+8.51%
Information	-\$5,245.6 m	-7.13%	+\$7,134.9 m	+10.44%
Finance and Insurance	-\$827.5 m	-1.05%	+\$3,855.9 m	+4.95%
Real Estate and Rental/Leasing	-\$1,089.1 m	-0.68%	+\$7,025.7 m	+4.45%
Professional Services	+\$50.4 m	+0.04%	+\$6,687.6 m	+5.45%
Management Services	-\$461.7 m	-1.76%	+\$1,705.9 m	+6.63%
Administrative Services	+\$171.4 m	+0.31%	+\$2,947.7 m	+5.37%
Educational Services	-\$417.3 m	-3.66%	+\$726.1 m	+6.62%
Health and Social Services	+\$4,770.8 m	+4.57%	+\$2,858.9 m	+2.62%
Amusement and Recreation Services	-\$2,596.3 m	-23.51%	+\$1,772.0 m	+20.98%
Accommodation and Food Services	-\$8,610.0 m	-19.84%	+\$6,638.9 m	+19.09%
Other Services	-\$2,115.8 m	-6.80%	+\$2,298.0 m	+7.93%
Government	+\$3,554.7 m	+2.18%	+\$2,328.2 m	+1.40%
Total, All Industries	-\$133,816.6 m	-7.60%	+\$154,445.8 m	+9.50%

Source: US Multi-Regional Econometric Model, The Perryman Group

Notes: Monetary values given in millions of 2012 US dollars. Components may not sum due to rounding.

Texas Employment Outlook through 2021

Results by industry sector

Industry Sector	Loss/Gain in 2020		Recovery in 2021	
	Absolute	Percent	Absolute	Percent
Agriculture	-6,076	-7.19%	+3,394	+4.33%
Mining	-88,660	-34.11%	+50,558	+29.52%
Utilities	-4,485	-8.59%	+2,744	+5.75%
Construction	-39,923	-5.02%	+29,609	+3.92%
Manufacturing	-114,996	-12.64%	+64,821	+8.16%
Wholesale Trade	-38,418	-6.29%	+30,399	+5.31%
Retail Trade	-156,548	-11.59%	+99,901	+8.37%
Transportation and Warehousing	-44,621	-8.44%	+32,657	+6.74%
Information	-20,193	-9.91%	+12,504	+6.81%
Finance and Insurance	-17,878	-3.04%	+16,600	+2.91%
Real Estate and Rental/Leasing	-5,587	-2.38%	+6,227	+2.72%
Professional Services	-12,433	-1.53%	+30,559	+3.82%
Management Services	-5,322	-3.63%	+6,529	+4.63%
Administrative Services	-13,658	-1.63%	+27,706	+3.36%
Educational Services	-9,275	-4.70%	+10,330	+5.50%
Health and Social Services	+50,744	+3.31%	+22,127	+1.40%
Amusement and Recreation Services	-36,539	-24.13%	+23,034	+20.05%
Accommodation and Food Services	-268,392	-21.32%	+167,737	+16.93%
Other Services	-48,958	-7.53%	+42,918	+7.14%
Government	+20,251	+0.97%	+4,437	+0.21%
Total, All Industries	-860,967	-6.48%	+684,793	+5.51%

Source: US Multi-Regional Econometric Model, The Perryman Group

Notes: Employment refers to Wage & Salary Employment. Components may not sum due to rounding.

FOCUS ON: REAL PERSONAL INCOME

Major Metropolitan Areas	2019	2045	Gain	Growth
Austin-Round Rock-Georgetown MSA	\$108.895	\$276.357	\$167.461	3.65%
Dallas-Plano-Irving MD*	\$261.412	\$665.716	\$404.304	3.66%
Fort Worth-Arlington-Grapevine MD*	\$117.571	\$283.672	\$166.101	3.45%
El Paso MSA	\$28.287	\$67.438	\$39.151	3.40%
Houston-The Woodlands-Sugar Land MSA	\$358.098	\$846.466	\$488.368	3.36%
McAllen-Edinburg-Mission MSA	\$21.623	\$54.317	\$32.695	3.61%
San Antonio-New Braunfels MSA	\$109.963	\$267.726	\$157.763	3.48%
STATE OF TEXAS	\$1,316.960	\$3,193.782	\$1,876.821	3.47%

Other Metropolitan Areas	2019	2045	Gain	Growth
Abilene MSA	\$7.040	\$16.110	\$9.069	3.23%
Amarillo MSA	\$11.702	\$27.470	\$15.767	3.34%
Beaumont-Port Arthur MSA	\$17.344	\$41.335	\$23.990	3.40%
Brownsville-Harlingen MSA	\$11.673	\$28.429	\$16.756	3.48%
College Station-Bryan MSA	\$9.262	\$23.372	\$14.111	3.62%
Corpus Christi MSA	\$18.961	\$43.767	\$24.806	3.27%
Killeen-Temple MSA	\$17.824	\$42.618	\$24.795	3.41%
Laredo MSA	\$8.130	\$19.251	\$11.121	3.37%
Longview MSA	\$8.908	\$19.891	\$10.982	3.14%
Lubbock MSA	\$12.434	\$30.159	\$17.726	3.47%
Midland MSA	\$18.017	\$48.619	\$30.602	3.89%
Odessa MSA	\$6.685	\$16.349	\$9.663	3.50%
San Angelo MSA	\$5.250	\$12.333	\$7.083	3.34%
Sherman-Denison MSA	\$5.065	\$11.571	\$6.506	3.23%
Texarkana MSA	\$3.608	\$8.222	\$4.614	3.22%
Tyler MSA	\$11.438	\$26.989	\$15.551	3.36%
Victoria MSA	\$4.487	\$10.152	\$5.665	3.19%
Waco MSA	\$10.202	\$24.176	\$13.974	3.37%
Wichita Falls MSA	\$6.444	\$14.522	\$8.078	3.17%

* Metropolitan Division (part of the Dallas-Fort Worth-Arlington MSA)

Notes: Monetary values in billions of 2012 US dollars. "Gain" refers to the absolute change in value from 2019 to 2045 while "Growth" refers to the compound annual growth rate over 2019-2045.

COVID-19 Note: The Perryman Group's analysis to date indicates that the long-term outlook will not be materially different from our pre-virus projections, though the recent disruptions will affect patterns over the next several years.



The Perryman Group is a focused team of analysts who know how to address complex economic information tasks and present our findings effectively.

Our in-house professionals bring expertise in **economics, finance, statistics, mathematics, real estate, valuation, systems analysis, engineering, technical communications, and marketing.** Dr. Ray Perryman, President and CEO, has 40 years of experience in developing systems, analyzing complex problems, and communicating effectively. We have considerable pride in what we do. Our enthusiasm is both unbridled and contagious; every day brings a new opportunity for us to tackle a different problem or create a product or service specifically tailored to our clients.

OUR SERVICES

IMPACT ASSESSMENT

We have developed and continually maintain an extensive set of economic impact evaluation models that can be applied in a variety of contexts.

EXPERT TESTIMONY

We help clients analyze and communicate complex information in common-sense terms through comprehensive, objective analyses and clear, concise expert reports and presentations.

FORECASTING

We are at the cutting edge of econometrics and other advanced statistical methods and have provided innovative approaches for many complex applications.

SPEECHES

Dr. Perryman addresses dozens of audiences throughout the world every year, catering to a wide variety of events.

M. RAY PERRYMAN, PH.D.

Dr. Perryman is the President and CEO of the Perryman Group and Distinguished Professor of Economic Theory and Method at the International Institute for Advanced Studies. Over the past 40 years, Dr. Perryman has helped recruit corporations providing tens of thousands of jobs through economic development work, resolved billion-dollar legal issues, and revamped public policy through impact assessments and other studies. His firm has measured economic impacts for corporate locations and expansions involving billions in investments, and his economic forecasts are used by corporations and government agencies alike.



He has provided economic analysis and expert testimony for civil litigation across a wide range of practice areas including antitrust and competition, patent infringement and other intellectual property disputes, securities, and commercial and complex litigation. His work combines strong expertise in economic damages calculation, asset valuation, market analysis, and statistical methods and econometrics.

Reach out to us for more information!

	@PerrymanGroup
	/PerrymanGroup
	/in/ray-perryman
	www.perrymangroup.com
	info@perrymangroup.com
	1.800.749.8705
	1.254.751.7855

The Perryman Report & Texas Letter is a publication of Texas Economic Publishers, Inc., a division of The Perryman Group.

For more information on **subscriptions, economic forecasts, or any of our other corporate services,** call 1.800.749.8705.

Author: M. Ray Perryman
Contributors: Virginia Gleghorn, Nancy Risinger, Cristin Hulyk
Creative Director: Shelia W. Smith
Layout Artist: Geoffrey Eisenbarth
Research & Editing: Karen Amos, Elodia Cavazos
Technical Advisor: Pete Tamez