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CITY OF ALBUQUERQUE

Peer Comparison of Economic Performance and Underlying Drivers

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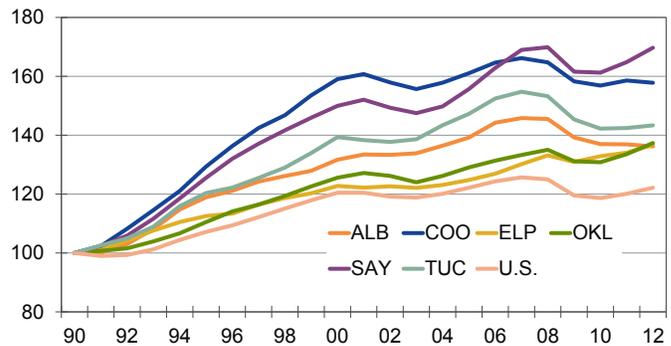
This report examines the current and past economic performance of the Albuquerque metropolitan statistical area, and identifies underlying drivers behind the trends that present themselves in order to better diagnose appropriate policy reactions. In other words, it attempts to identify where the Albuquerque economy is with respect to its peers, how it got there, and where it is heading under Moody's Analytics baseline economic assumptions. In order to best gauge the metro area's performance, a peer group of similar regional metro areas was selected. This peer group is Colorado Springs CO, El Paso TX, Oklahoma City OK, Salt Lake City UT, and Tucson AZ.

Since 1990, the earliest year in which we have complete metropolitan area employment data, Albuquerque has underperformed its peer group in both employment and income growth. On an annualized basis, the metro area finished last in employment

growth and second to last in nominal personal income growth. However, much of this relative underperformance has come about only in the wake of the Great Recession. Prior to 2007 Albuquerque rested in the middle of the pack. This pack has been a good one to be amongst, as all of its members have handily outperformed the national average since 1990. Therefore, although Albuquerque has underperformed most of its regional peers, it has performed markedly better than the average U.S. metro area over time.

Chart 1: Falling Behind

Payroll employment, 1990=100



Sources: BLS, Moody's Analytics

More recently the Albuquerque economy has begun to recover, though preliminary employment data is conflicting. Per the Bureau of Labor Statistic's payroll employment survey, the metro area continues to see year over year declines, and shed a total of 2,300 jobs last year. However, some of the

Table 1: Comparative Economic Statistics

Metro area	Nonfarm payroll employment, Jan 2013	Unemployment rate, Jan 2013, %	Per capita income as a % of U.S.	Annualized employment growth, 1990-2012, %	Annualized nominal personal income growth, 1990-2012, %
Albuquerque	369,533	7.02	83.84%	1.57%	9.53%
Colorado Springs	247,825	9.24	96.25%	2.51%	12.24%
El Paso	285,483	9.27	72.29%	1.59%	11.02%
Oklahoma City	586,042	4.85	95.95%	1.62%	9.38%
Salt Lake City	640,167	5.46	95.18%	3.03%	11.74%
Tucson	356,883	7.31	83.53%	1.88%	10.24%

Sources: BEA, BLS, Moody's Analytics

Table 2: Comparison of Selected Economic Policy Statistics

Metro area	Right to work state	State CIT apportionment sales factor	Uses tax increment financing	Uses private activity bonds
Albuquerque	No	Equal	Yes	Yes
Colorado Springs	No	Single	Yes	Yes
El Paso	Yes	N/A	Yes	Yes
Oklahoma City	Yes	Equal	Yes	Yes
Salt Lake City	Yes	Double	Yes	Yes
Tucson	Yes	80/10/10*	Yes	Yes

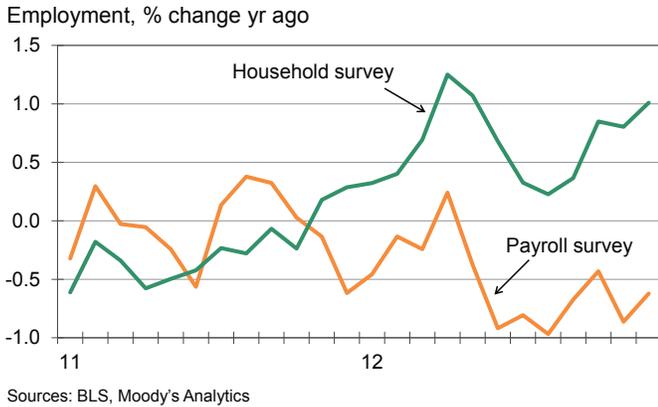
Sources: National Right to Work Legal Defense Foundation, ITEP, Moody's Analytics

*Arizona apportions corporate income based 80% on sales, 10% on payrolls, and 10% on property.

indicated declines seem inconsistent with underlying economic conditions, creating plenty of room for potential upward revisions in the spring benchmark revision process. This potential is borne out further in the BLS's household employment survey, which shows the Albuquerque metro area actually adding more than 3,700 jobs in 2012.

Regardless of what revisions are implemented on the most recent employment data, Albuquerque is still materially underperforming its peer group with regards to growth. There are a number of different factors behind the disparity in performance between Albuquerque and its peers. In-

Chart 2: Recent Employment Data Conflicting



dustrial makeup, natural resources, federal support and public policy are varied amongst the comparison group, and can all have meaningful impact on a metro area's relative performance.

However, in order to best identify some of the drivers behind Albuquerque's underperformance, it is necessary to drill down into the details of each of the metro area's economic sectors.

industries not in the business of producing goods. This category includes essentially all private industries with the exceptions of manufacturing, construction and natural resources. As one would imagine, this encompasses a wide spectrum of jobs and wage rates, from waiting tables to running companies. Nationwide, private services make up nearly three-quarters of the economy, and the comparative employment

Private services

The sector that most sets Albuquerque apart from its peers in terms of performance is its private service sector. Broadly, private services, as defined by the Bureau of Labor Statistics, are characterized as any private

data show their importance in the region as well.

As metro areas' private service industries have performed, so have their overall economies. This explains much of Albuquerque's long-term underperformance back to 1990, expanding at a slower rate than any other metro area in its peer group. The primary driver for such underperformance rests in the underutilization of some of Albuquerque's primary existing assets. Albuquerque has been blessed with a number of highly educated workers thanks to the presence of Sandia National Lab, the University of New Mexico, and Kirtland Air Force Base. In fact, Albuquerque is home to a higher percentage of residents with graduate or professional degrees than any other metro area in its peer group, save Colorado Springs, home to the Air Force Academy. Furthermore, the state of New Mexico as a whole enjoys more academic research funding as a share of output than any other state in the region. As a result, Albuquerque is home to an unparalleled number of public research facilities within its peer group.

Chart 3: Services Set Albuquerque Apart

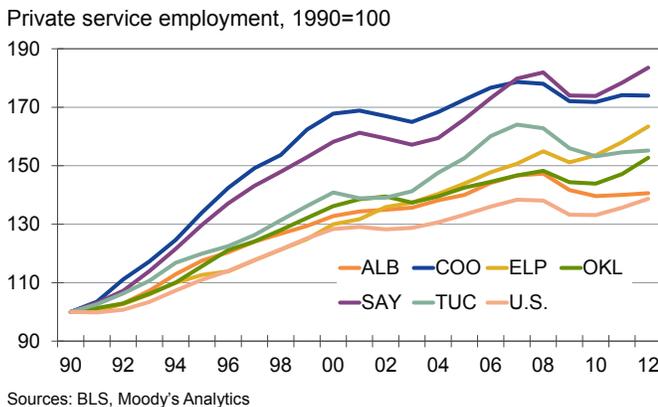


Chart 5: Well-Funded University Research

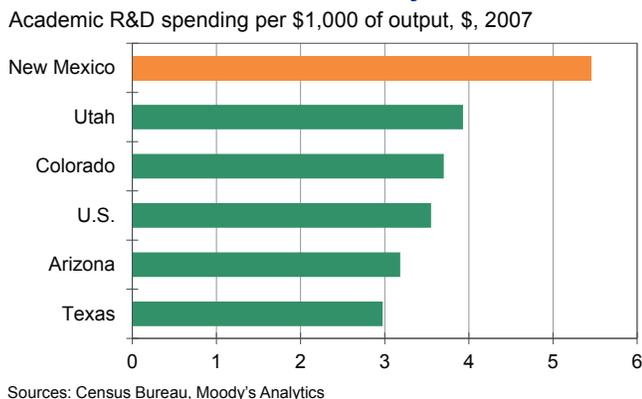


Chart 4: Many Highly Educated Workers

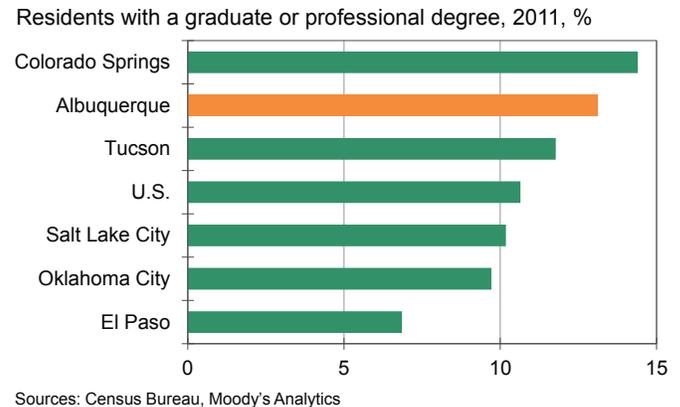


Chart 6: Industry Job Growth Has Been Anemic

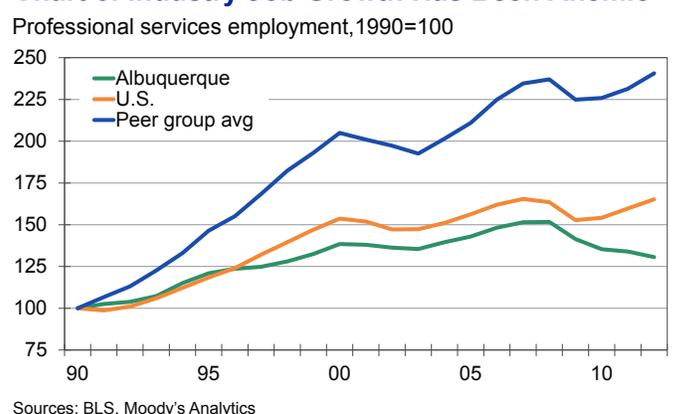
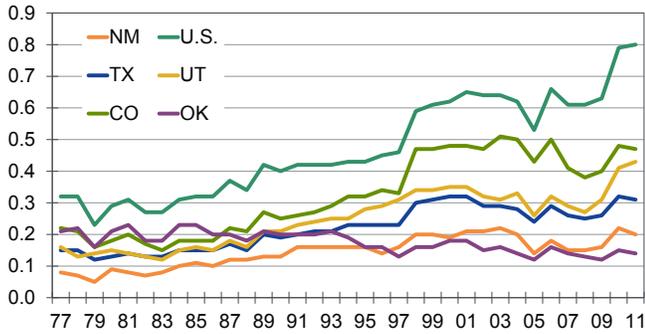


Chart 7: Weak Research Commercialization

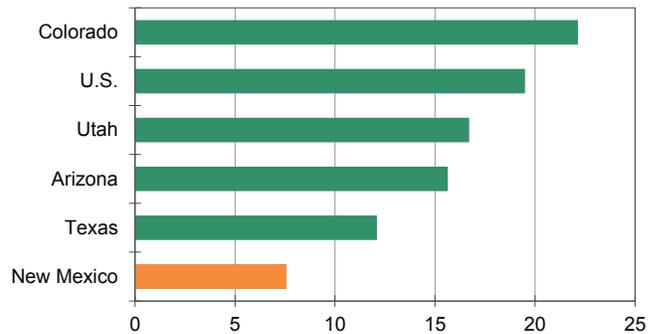
Patents granted per ths residents



Sources: U.S. Patent and Trademark Office, Moody's Analytics

Chart 8: Spinning Off Less Private Research

Industry R&D spending per \$1,000 of output, \$, 2007



Sources: Census Bureau, Moody's Analytics

These assets should result in a dynamic professional services industry, which includes scientific research, business management, and a number of other high-wage jobs. In turn Albuquerque's professional services industry is large when compared with the U.S. average, thanks mostly to the presence of government contractors. However, despite this wealth of assets, professional services job growth has consistently underperformed that of not only

Albuquerque's peers but also the nation as a whole. This is key to identifying some of the disconnects between Albuquerque's performance in both employment and income growth versus its peer group. Since 1990, Albuquerque's peer metro areas have not just been generating more jobs, they have been generating higher-paying jobs.

The primary reason for the discrepancy between research assets and professional job growth is an under-utilization of resources by the private sector. Commercialization of research in Albuquerque is much lower than its peers', as is evident in the number of patents issued per capita.

The lack of commercialization is spinning off less private research dollars

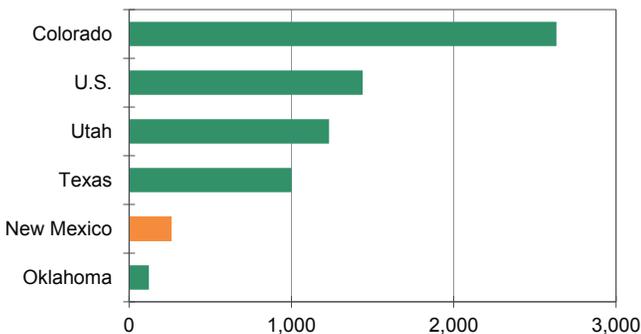
to supplement the healthy investments from the public sector. Although academic research and development dollars as a share of output are higher in New Mexico than any state in the region, private industry research and development dollars are the lowest.

Researchers in Albuquerque are starting new businesses and commercializing their ideas less than their peers in other metro areas, as borne out by investment statistics. Per capita venture capital equity investment in New Mexico since 2000 has been the lowest of any in the region. Peer metro areas such as Salt Lake City and Colorado Springs on the other hand have benefited handsomely from strong influxes of venture capital in their states.

While the lack of private sector investment into research and technology ventures could be seen as both a cause and a symptom of weakness in professional services growth, what is clear is that the metro area's vast research assets are contributing much less to overall private sector job growth than those

Chart 9: Attracting Less Private Investment

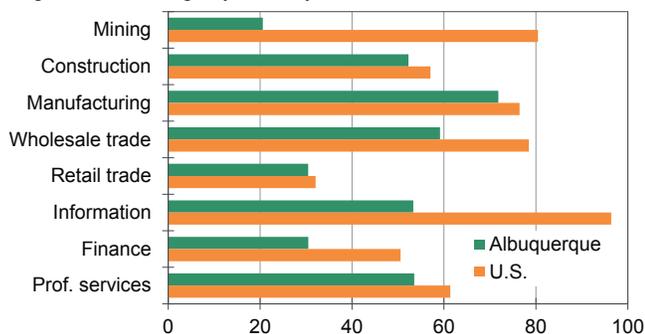
Per-capita venture capital equity investment, 2000-2012, \$



Sources: PriceWaterhouse Coopers Money Tree Survey, Moody's Analytics

Chart 10: Lower Relative Wage Rates

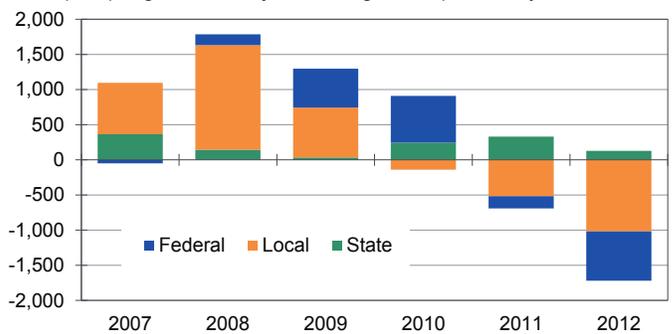
Avg annual earnings by industry, \$ ths



Sources: BEA, Moody's Analytics

Chart 11: Locals and Feds Lead Public Declines

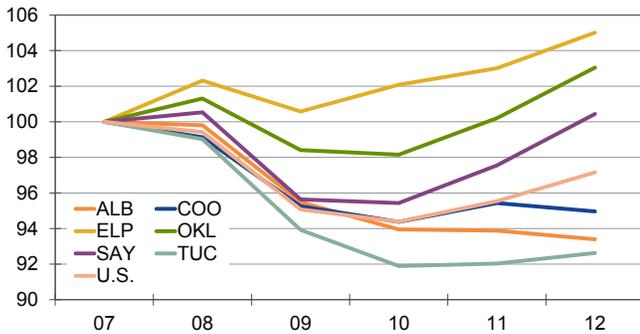
Albuquerque government jobs, change from previous year, #



Sources: BLS, Moody's Analytics

Chart 12: Lagging in Wake of Great Recession

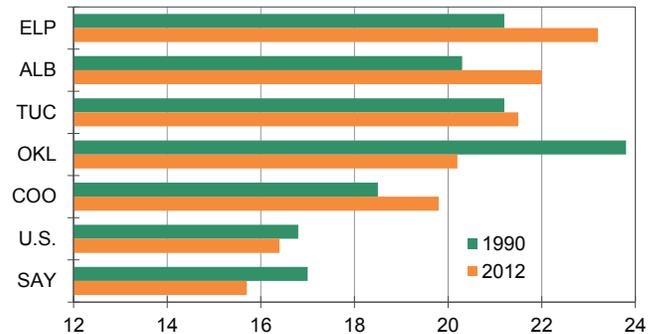
Payroll employment, 1990=100



Sources: BLS, Moody's Analytics

Chart 13: Govt. More Important in Albuquerque

Government employment, % of total employment



Sources: BLS, Moody's Analytics

of its peers. Consequently, Albuquerque's private service sector is forced to rely on lower-wage industries, such as retail and leisure/hospitality, for growth, perpetuating income discrepancies with its peers and the U.S.

These industries in turn are forced to rely on demand created by growth in the public and goods producing sectors of the economy, placing an outside dependence on the public sector.

Public sector

Fortunately, Albuquerque's public sector has been stout enough to offset the weakness in private services over time thanks to a tremendous federal government presence. As a result, growth in government employment has been strong and steady since 1990.

Since 2010, however, in the wake of the Great Recession, Albuquerque government employment has declined, predominantly within local government and federal payrolls, in line with that of its peers and the nation as a whole. Though detailed employment

data within each of these categories is not compiled by the BLS for the Albuquerque metro area, anecdotally it appears as if a majority of the local government declines thus far have come from school districts. By not offsetting the declines in government with growth in the private sector, Albuquerque's job market has continued to decline while those of the majority of its peers have been turning around.

Furthermore, because government makes up such an important part of the Albuquerque economy, the effects of the downturn in public sector employment have been magnified relative to peer metro areas. In addition to the direct federal government jobs in the area, thousands more private sector jobs are related to and do business with federal government. As growth in much of the high-paying portions of the private services sector has been static, the tie between public sector and total job growth has strengthened. Since 1990, government employment as a share of the total job market has increased to more

than 22% in Albuquerque. Alternatively, the U.S. and Salt Lake City, the peer group's top performer, decreased their proportionate share of government employment to as little as 15%.

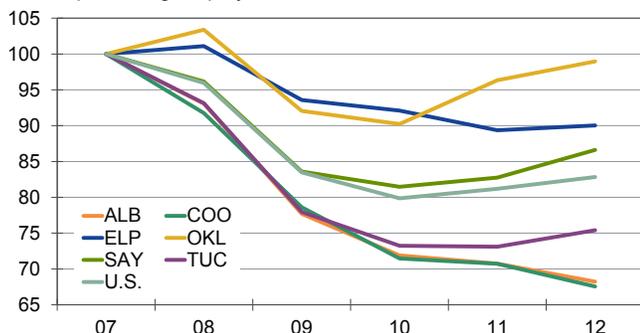
Given the onset of the age of federal austerity, it is unlikely that Albuquerque will be able to depend on government to continue to pick up the slack from the private sector as much as it has in the past.

Goods producers

Decreased government employment has also reduced support for Albuquerque's housing market during the recovery. As other peer metro areas are beginning to see house prices rebound in earnest, Albuquerque is bouncing along the bottom, despite a smaller real estate contraction during the Great Recession. The lack of house price appreciation continues to drag on construction employment, which has been an enormous contributor to Albuquerque's underperformance during the recovery.

Chart 14: Producers Bearing the Brunt of Pain

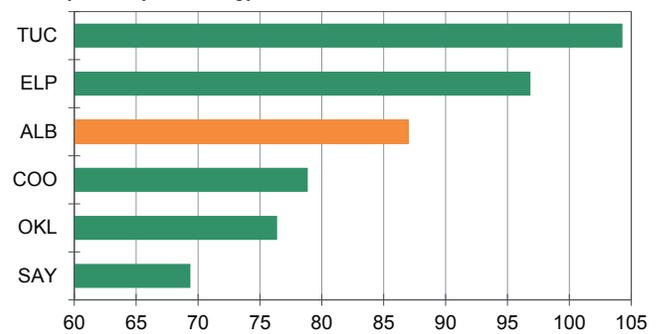
Goods producing employment, 1990=100



Sources: BLS, Moody's Analytics

Chart 15: Energy Costlier Than Outperformers'

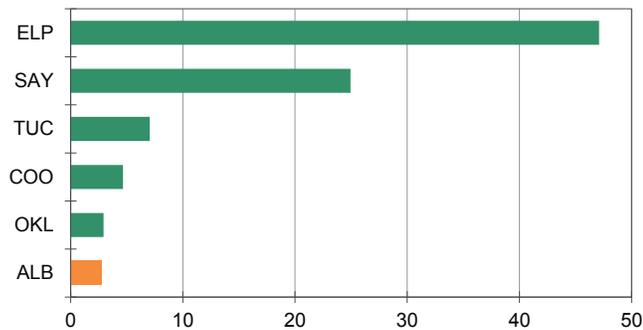
Moody's Analytics energy cost index, U.S.=100



Source: Moody's Analytics

Chart 16: Lack of Exports Constrains Economy

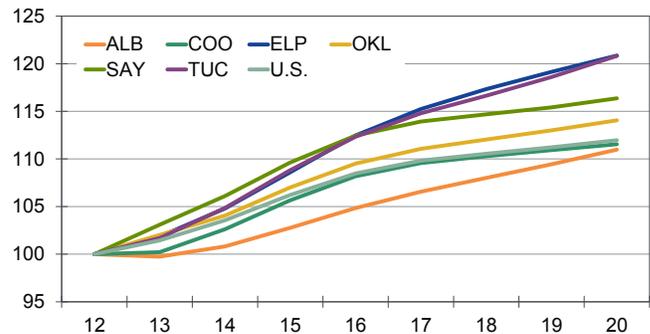
Exports, % of gross metro product



Sources: BEA, International Trade Administration, Moody's Analytics

Chart 17: Underperformance Will Continue

Employment, 2012=100



Sources: BLS, Moody's Analytics

Construction employment will begin to grow again as the employment picture improves. However, without strong job growth and in turn strong employment growth, the Albuquerque construction industry will remain constrained.

The second biggest piece of the goods producing sector in Albuquerque is manufacturing, which like private services has been a relative underperformer for the metro area throughout history. There are a number of reasons for this, first among them input costs. While the overall cost of doing business in Albuquerque is relatively low, utility costs are much higher than those of a majority of outperforming peers largely as a result of geographic challenges.

Utility costs for water and electricity in particular, two of the most important costs for manufacturing firms, are relatively high in the metro area. While this is a significant hurdle to overcome in drawing perspective firms to the area, Albuquerque does have some major assets such as its location along major transportation corridors and the massive public research facilities creating technologies. Without a formidable manufacturing industry, the metro area has been unable to take advantage of its transportation assets or its proximity to the Mexican border. This severely hampers exports in the metro area,

another attribute which significantly distinguishes it from its outperforming peers.

Albuquerque's manufacturing industry has also suffered from the same lack of research commercialization that has stricken its high-wage private service industries. In terms of manufacturing, existing research efforts could have substantial potential with regard to renewable energy technologies, an industry that has already budded in Albuquerque. Despite its abundance of wind and solar resources, coupled with research conducted at the national labs and its universities, New Mexico ranks sixth in installed solar electric capacity behind a number of states in the region. In terms of wind, New Mexico ranks 15th in the nation, well behind peers Colorado, Oklahoma and Texas. Though manufacturing will never likely be the primary growth driver of the Albuquerque economy, leveraging existing transportation and research assets into high-value-added production would help in weaning the metro area off the public sector and creating wealth, not just income.

The road ahead

The Great Recession once again revealed Albuquerque's vulnerable private services sector by reducing support from its primary economic driver, government. As a result, even as the U.S. and peer metro areas slowly

begin to achieve more sustainable recoveries, Albuquerque is merely treading water. On its current trajectory, Albuquerque will add jobs at a slower pace than its peer group and the U.S. average through the end of the decade. A slower pace of public sector growth will continue to drag on demand for low-wage services, and growth in the private sector will remain subdued as a result. Furthermore, any additional cuts above and beyond those already proposed to the federal budget represent additional downside risk to the long-term forecast.

A number of significant upside risks are also present, however. Albuquerque is blessed with some of the most comprehensive public research facilities in the nation, attracting highly educated workers to the area. Commercialization of these assets has the potential to grow a budding high-tech manufacturing industry, and private research in these fields has the potential to create thousands of well-paying private service jobs. Further development in these areas to develop a more robust private sector will be key in narrowing the performance gap between Albuquerque and peer metro areas. A comprehensive, long-term study is needed in order to drill deeper into these issues and develop more specific policy recommendations as to how to accomplish such goals.

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