

City of Albuquerque: Evaluating and Identifying Opportunities for Growth DRAFT

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Chapter 1: Falling Behind

his report examines the structure of the Albuquerque metropolitan statistical area relative to its peers by identifying underlying drivers behind historic economic trends and diagnosing appropriate potential policy responses. It attempts to identify where the Albuquerque economy is with respect to its peers, how it got there, and how it can potentially initiate a more dynamic pace of growth. The report will conclude with a menu of broad policy options aimed at taking advantage of existing economic assets and developing new ones. In order to best gauge the metro area's performance, a peer group of similar metro areas in South and Mountain regions was selected based on similarly sized economies and geographies. This peer group consists of Colorado Springs, El Paso, Oklahoma City, Salt Lake City, and Tucson.

Since 1990, 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 Albuquergue rested roughly in the middle of the pack, and this pack has been a good one to be in, 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.

There are a number of factors behind

the disparity in performance between Albuquerque and its peers including industrial makeup, federal support, public policy, and quality of life, which vary across members of the comparison group and have meaningful impact on a metro area's

relative performance. 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.

Table 1: Comparative Economic Statistics

Metro area	Nonfarm payroll employment, Jan 2013	Unemployment rate, Jan 2013, %	Per capita income as a % of U.S., 2011	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 CO	247,825	9.24	96.25%	2.51%	12.24%
El Paso TX	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 AZ	356,883	7.31	83.53%	1.88%	10.24%

Sources: BEA, BLS, Moody's Analytics





of producing goods.

Private services

The sector that most

Chart 1: Falling Behind



Chart 2: Services Set Albuquerque Apart

Chart 3: Lower Relative Wage Rates



Sources: BLS, Moody's Analytics

This category includes 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 data show their importance in the region as well.

Because of their importance in a metro area's economy, the performance of private services determines the performance of the overall economy. The weakness of Albuquerque's private services explains much of the metro area's long-term underperformance back to 1990. Services have expanded at a slower rate than any other metro area in its peer group. The Albuquerque economy lacks high-wage service industries, which catalyze overall economic growth and contribute to a more dynamic economic landscape. This is particularly surprising given the metro area's immense technological and research assets through the University of New Mexico, Sandia National Laboratories, and Kirtland Air Force Base. While the lack of privatesector investment in 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 contribute much less to overall private-sector job growth than do peer metro areas' assets. Consequently, Albuquerque's private-service sector is forced to rely on lower-wage industries such as retail and leisure/hospitality for growth. Such

reliance perpetuates income discrepancies with its peers and the U.S. These industries in turn are forced to rely on demand created by growth in government and goods producers. As a result, Albuquerque maintains outsize dependence on its 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, predominately local government and federal payrolls, has declined in line with that of its peers and the nation as a whole. Although detailed employment data are 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. Since little growth has occurred in much of the high-paying portions of the private services sector, 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% and 16% respectively. Given the

Chart 4: Locals and Feds Lead Public Declines

Albuquerque government jobs, change from previous year, #



Sources: BLS, Moody's Analytics



Chart 5: Govt. More Important in Albuquerque

Government employment, % of total employment

Goods producing employment, 1990=100

Chart 6: Producers Bearing Brunt of Recession



onset of federal austerity, it is unlikely that Albuquerque will be able to depend on the federal government 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 house prices in other peer metro areas are beginning to rebound in earnest, prices in Albuquerque are bouncing along the bottom, despite a smaller real estate contraction during the Great Recession. The lack of house price appreciation continues in turn to drag on construction employment, which has been an important contributor to Albuquerque's underperformance during the recovery.

Construction employment will begin to grow again as the employment picture improves and house prices begin to rise. However, without high-paced job growth and in turn strong population growth to drive new housing demand, the construction industry will remain constrained.

Manufacturing, like private services, has been a relative underperformer for the metro area during the past three decades. There are a number of reasons for this. Some relatively high input costs reduce Albuquerque's regional competitiveness. While the overall cost of doing business in Albuquerque is relatively low, utility costs are much higher than those of some outperforming peers largely as a result of geographic challenges and tax structure.

However, tax policies were put in place last year that alleviated many of these pressures by exempting manufacturing inputs from gross receipts taxes. These policies were further refined in the just-ended legislative session, and they should help to improve growth prospects in manufacturing. Albuquerque's manufacturing has also suffered from the same disconnect in research commercialization that has stymied its high-wage private service industries. Without a formidable manufacturing industry, the metro area has been unable to take advantage of its transportation assets or proximity to the Mexican border. This has severely hampered metro area exports, another deficiency that significantly distinguishes Albuquerque from its outperforming peers.

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 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 enacted to the federal budget represent additional downside risk to the long-term forecast.

A number of significant upside risks are also present, which would provide opportunities for Albuquerque to change its economic narrative, by growing organically from within and by attracting business from out of state. Albuquerque is blessed with some of the nation's most comprehensive public research facilities, which attract highly educated workers to the area. Leveraging these assets by

Chart 7: Energy Costlier Than Outperformers'

Moody's Analytics energy cost index, U.S.=100, 2010



growing and improving the infrastructure for the commercialization of local research and development 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. By taking advantage of these assets and nurturing startup businesses, Albuquerque can build a more dynamic private sector.

In addition to leveraging what it already has to work with, policy options are also available to create new assets and advantages designed to encourage external growth by attracting out-of-state businesses to expand and or relocate to the area. Opportunities to make Albuquerque more competitive range from the quality of the metro area's workforce to its overall quality of life. Further development in these areas to develop a more robust private-sector and thus a more dynamic economic outlook will be key in narrowing the performance gap between Albuquerque and peer metro areas.

Chart 8: Underperformance Will Continue



Chapter 2: Growing From Within

espite Albuquerque's current trajectory of underperformance, significant upside risks to the forecast are prevalent thanks to the metro area's existing assets. Harnessing these assets to create a more dynamic economy by organically creating and growing businesses from within is key in closing the performance gap with competing metro areas. Looking back at the local economic dynamics over the past two decades, it becomes clear that many existing assets are being underutilized and should be contributing more to overall economic growth.

Albuquerque has been blessed with a number of highly educated workers as a result of the presence of Sandia National Laboratories, the University of New Mexico, and Kirtland Air Force Base, home to the Air Force Research Laboratory. 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 gross state product than any other state in the region. Given all of these assets, Albuquerque has the potential to compete toe to toe with any other metro area in the Mountain region in terms of high technology.

Though these public installations have been a clear blessing to the local economy, they have also made Albuquerque overly reliant on the public sector for growth. At first glance, Albuquerque's private professional services industry is large when compared with the U.S. average. But a majority of those jobs are predominantly reliant on public institutions for demand, because those institutions have yet to be able to spin off adequate additional industry to stand alone without public support, as is the case in some of Albuquerque's biggest competitors. Private research and development funding levels in contrast with public research spending levels are actually the lowest in the region. As a consequence, private professional services job growth has consistently underperformed that of not only Albuquerque's peers, but also the nation as a whole. Metro area manufacturing employment is equally, if not more, undersize. This is key to identifying some of the inconsistency 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 also been generating better jobs.

Albuquerque is too small a market and too geographically isolated to create enough internal demand to support rapid industry growth. Therefore, it must broaden its appeal to wider markets in order to support a dynamic industrial mix of high-value-added manufacturing and service industries. This has been a persistent stumbling block for Albuquerque, as evidenced by its low share of international exports. The metro area's public research assets are helping to broaden those markets, but based on the value of investments and number of patents awarded, researchers in Albuquerque are starting new businesses and commercializing their ideas less than their peers in other metro areas. Per-capita venture capital equity investment in New Mexico since 2000 has been one of the lowest in the region. Peer metro areas

Chart 1: Many Highly Educated Workers





Chart 2: Well-Funded University Research

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



Sources: Census Bureau, Moody's Analytics

Chart 3: Less Private Research

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



such as Salt Lake City and Colorado Springs in contrast have benefited handsomely from the strong influx of venture capital into their states. In order to better compete with neighboring metro areas, Albuquerque must do a better job of capitalizing on its unique research and technological abilities, by commercializing research and development into tangible companies that stay in the area.

Competing metro areas, in particular Salt Lake City, have in many ways beaten Albuquerque to the punch in this regard. The University of Utah has a long track record of commercializing technologies and spinning off companies based on in-house research. In each of the last six years the university ranked in the top two in new companies created in annual surveys performed by the Association of University Technology Managers, ranking among such prestigious institutions as the California University System, Johns Hopkins University, and the Massachusetts Institute of Technology. This shows that such a dynamic business environment based on public research is feasible in relatively small Mountain metro areas. That's not to say that technologies and companies are not being spun off from UNM. The Science and Technology Corp. at the University of New Mexico is taking steps to nurture business startups and commercialize new technologies. In fact, the metro area as a whole appears to have more than adequate startup infrastructure from an institutional standpoint already in place to promote startups and the commercialization of public research. In addition to the STC, the metro area is home to a growing number

of small business incubators, as well as a technology transfer office at the state's national labs working in partnership with the New Mexico Small Business Assistance Program. Numerous other statewide efforts are also being undertaken by the Department

of Economic Development, the State Investment Council, the New Mexico Small Business Investment Corp., and many others. However, to date, these efforts have been less successful than in competing metro areas for a variety of reasons.

The difference in the success in spinning off private businesses from public universities is illustrated by the following comparison. Similar studies were performed for both the STC at UNM and its equivalent office at the University of Utah. In 2009, the STC was actively servicing 16 New Mexico startup companies whose direct wages and salaries made up approximately \$5.8 million, or \$363,000 per firm¹. In the same year, the University of Utah laid claim to 98 startups whose direct wages and salaries added up to approximately \$358 million, or nearly

Chart 4: Industry Job Growth Has Been Anemic

Professional services employment, 1990=100



Chart 5: Lack of Exports Constrains Economy

Exports, % of gross metro product, 2011



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

\$3.7 million per firm². Similar economic multiplier analysis used in each study came to the conclusion that the companies in the New Mexico and Utah programs represented more than \$18 million and \$1.2 billion of each state's respective gross state product in 2009. In terms of the number of new businesses created, from 1996 to 2009 the UNM program totals 63³ versus the University of Utah's 126⁴.

There are a variety of reasons for the enormous performance gap between the two programs. First, the University of Utah program is a much older program than anything in place in Albuquerque. The University's Technology Commercialization

¹ University of New Mexico Bureau of Business and Economic Research, UNM's Science and Technology Corporation: The Impact of Start-Up Companies. January 2011

² Crispin, Jan Elise, Bureau of Economic and Business Research, University of Utah, The Economic Impact of Startup Companies and Invention Licensees Originating from Research at the University of Utah. March 2011

³ STC.UNM, STC Metrics. Accessed March 2013 at https://stc. unm.edu/about/metrics.php

I Technology Venture Development, University of Utah, Annual Report 2012. Accessed March 2013 at http://www.techventures.utah.edu/news/publications/

Table 1: Comparative Economic Impacts of the STC at UNM and STO at U of U, Including Indirect and Induced Impacts, 2009

	UNM	U of U
Companies	16	98
Employment	88	15,767
Labor Income	\$8,533,304	\$754,528,324
Gross State Product	\$18,078,217	\$1,199,371,972

Sources: UNM Bureau of Business and Economic Research, University of Utah Bureau of Economic and Business Research

Office was first established in 1967, while the STC at UNM was not put into place until 1996. Therefore, a number of the Utah program's companies are much further along in their life cycle, and as such are larger and better established. Despite the earlier start, the majority of Utah's successes, in terms of the number of companies being started, began more recently. After decades of average or belowaverage growth, the University of Utah boosted support for commercialization in 2005 by creating the Technology Venture Development Office to focus more attention on the commercialization of intellectual property hand in hand with local economic development. Since then the program has seen exponential returns in terms of the number of companies being created. In fact the program boasts having started more than 150 new university spin-off companies since 2005 alone. According to a survey done by AUTM in 2008, 72% of university startups form headquarters in their home state. This statistic underlies the fact that starting

businesses typically generates a bigger bang for the buck in terms of local economic development than does the licensing of technologies and should be the focus of commercialization efforts.

Success in commercializing public research for local economic development at Sandia National Labs has been less than adequate to spur a more dynamic pace of private-sector growth. Sandia does commercialize many of its technologies, though predominantly by licensing them to existing companies. Unfortunately, the overwhelming majority of these licenses are granted to out-of-state companies, and thus the economic impact of the research is never felt in Albuquerque, other than through Sandia itself. Some of this is due to the lab's mission, which as a national laboratory serves a broader geography than the Albuquerque metro area alone. This is obviously well outside the sphere of control of local policymakers, but the city should be encouraging and lobbying the national labs to focus more on the creation of businesses than on just licensing the technologies

Table 2: Economic and Financial Impacts of the Statewide NMSBA Program

	2000-2010
Jobs Created and Retained	2,317
Mean Salary	\$38,215
Increase in Revenue	\$107,591,992
Decrease in Operating Costs	\$63,636,671
Investment in NM Goods/Services	\$34,880,933
New Funding/Financing Received	\$40,940,750

Source: NMSBA 2011 Annual Report

developed at the lab. Currently, given the way lab operating contracts are structured, national labs and their personnel have very little incentive to create businesses in their home states. The creation of new local business instead can be brought about only by creating the proper incentives for the labs, and their researchers. Researchers and management companies at both UNM and the labs should be rewarded and incentivized to build businesses through equity sharing or other types of financial rewards. What's more, when prioritizing resources, both the labs and UNM should be encouraged to more consciously focus on areas more susceptible to profitable commercialization.

New Mexico has taken steps to help small businesses cash in on the research capabilities of the national labs through the New Mexico Small Business Assistance Program. The program seeks to assist entrepreneurs and small businesses throughout the state by giving technical assistance and even access to many of the research capabilities at Sandia and Los Alamos National Laboratories in order to better prepare products for the marketplace. Though it does not necessarily result in the direct startup of companies based on new technologies coming out of the labs, it does strengthen existing startups and enables small businesses to grow into larger, better established companies. The program, like the STC at UNM, is still relatively young, making results difficult to gauge in comparison to similar arrangements in other states. Its economic impacts are still relatively small. According to its most recent annual report, the NMSBA program increased New Mexico business revenue by \$108 million from 2000 to 2010⁵. However, despite its tech origins, these jobs are being created across a wide range of industries, typically at relatively low wage rates. The mean salary of a job created or retained through the program from 2000 to 2010 was only \$38,000. Given the amount of public monies that are used to fund this program, it is imperative to ensure its effectiveness relative to appropriate performance metrics. An objective analysis of the program's performance, possibly by the NM Legislative

5 New Mexico Small Business Assistance Program, Annual Report 2011: Perspectives. http://www.nmsbaprogram.org/ userfiles/NMSBAPerspectives2011.pdf

Table 3: Economic Impacts of the SS&TP on the City of Albuquerque, Including Indirect and Induced Effects, 2012 \$

	2011
Employment	2,317
Average Salary	\$74,949.00
Output	\$38,215
Total Wages and Salaries	\$107,591,992
Population Impacts	\$63,636,671

Source: Mid-Region Council of Governments, Economic Impact Assessment, Sandia Science & Technology Park, May 2012



Chart 6: Attracting Less Private Investment

Finance Committee's performance evaluation unit, may prove a worthwhile endeavor.

In addition to the NMSBA, Sandia is contributing to local economic development through the Sandia Science & Technology Park. The activities at the park, funded by Sandia, have thus far been amongst the metro area's most successful in generating dynamic private industry by appealing to broader global markets. The types of companies being developed are high-wage, high-value-added science and technology firms whose products can be marketed far beyond the Albuquerque metro area. However, the program is still relatively new, established in 1998, and as such its overall economic impacts are difficult to gauge against similar programs in competing metro areas. Since 1998, the park's activities have generated more than \$350 million in total investment, roughly three-quarters of which has come from private sources. More important, the jobs being created at the

an Albuquerque average of only \$42,000⁶. This proves that the creation of dynamic industries from public research is a viable option in Albuquerque.

SS&TP are of the

quality necessary

to compete with

and outperform

Because of the

park's emphasis

technology, the

average annual

full-time wage

at companies

in science and

neighboring metro areas.

In summary, Albuquerque appears to have been a little later to the party than many of its highest performing peers in emphasizing the commercialization of public research. As a result, extraordinary efforts will need to be made to enable it to catch up. Focus on the development of new businesses at UNM, Sandia and beyond must become an imperative for city, state and institutional leaders. Otherwise, the metro area will remain overdependent on the public sector, and the low-wage service jobs that support it. This would perpetuate its underperformance in employment and income growth throughout the extended forecast horizon.

These efforts must include coordinating with state and local leaders to devote as much development resources as possible to the cause of supporting small businesses, particularly in science and technology. Ensuring that enough incubator space is available to accommodate the metro area's increasing efforts will be key in the years ahead. Furthermore, any efforts must be as coordinated as possible to ensure efficiency and avoid duplication of effort. A strategy that has proven fruitful for a number of areas has been to appoint city- or regionwide economic development councils, made up of stakeholders from all of the area's small business and economic development groups. The purpose of such gatherings is not only to avoid duplication, but also to increase communication among the varying interests involved with an area's economic development efforts as well as with elected officials to advise on policy or administrative issues, which might be hampering results. Though a variety of patchwork groups throughout the region already exists, a comprehensive group focused solely on the City of Albuquerque, under the direction of the Economic Development Department, and reporting directly to city policymakers may help in maximizing the city's economic development efforts.

The last, and arguably most important, factor required in successfully growing industry organically from within is capital. Over the last 10 years, New Mexico as a whole has underperformed neighboring states in the amount of venture capital investments made. The data in Chart 6 slightly overstate the advantage of other metro areas over Albuquerque, particularly in states such as Texas and Colorado, where a majority of the venture capital investments are made in larger metro areas, which are not considered in this study. However, it is clear that the Albuquerque economy is receiving less per-capita investment than its outperforming regional competition. The primary reason for the relative underperformance in venture capital investments comes directly from the fact that there have been fewer Albuquerque startup companies to invest in over time. This correlates directly with the relative youth of many of Albuquerque's tech startup

⁶ Sandia Science & Technology Park, *Economic Impact: Park Metrics*. December 31, 2011, accessed at http://www.sstp.org/about-sstp/economic-impact

programs. Broadly, the underperformance does not appear to be predominantly because of a lack of capital. The State Investment Council's New Mexico Private Equity Investment Program and several local private equity firms have been active over time. The NMPEIP alone has more than \$260 million in outstanding venture capital investments. Sun Mountain Capital Partners, the NMPEIP adviser, estimate that program investments have resulted in a capital multiplier of 6.6. In other words, public investments made by the SIC have resulted in an additional influx of nearly \$2 billion in additional private investment⁷.

The NMPEIP has made no new investments since 2008, but this corresponds with the dearth of venture capital investments nationwide in the wake of the Great Recession. Furthermore, anecdotally there appears to be a stigma within New Mexico around these types of public investments given some rather high-profile failures in recent years. Highwage companies such as Eclipse Aviation and Advent Solar, which were funded in part by public investments and failed in recent years for a number of reasons, may have soured public sentiment on public high-tech investment. But venture capital, particularly in high-tech industries, is by rule extremely volatile. Although these companies failed, they were successful in attracting substantial investment dollars for the community, created high-wage jobs, and generally stimulated economic activity. It is vital that the city, working in conjunction with the state and private industry, increase its efforts to encourage and lobby investment into the area both from within the state and beyond. The NMPEIP, in particular, should be encouraged to expand and support ramped-up efforts at UNM and the labs to grow tech startups through direct investments. Increased marketing efforts out of state to advertise the city's unparalleled research and technology assets and potential as a science and technology hub could also pay important dividends. Further efforts to attract capital can be made by making the city's business environment and quality of life more attractive to outside companies and investment.

⁷ New Mexico State Investment Council, New Mexico Private Equity Investment Program: Q2 2012 Review, September 2012, accessed at http://www.sic.state.nm.us/PDF%20files/ Q2%202012%20NMPEIP%20Presentation%20FINAL.pdf

Chapter 3: Attracting Outside Growth

n addition to making it easier for the economy to grow organically, through the creation of local companies, Albuquerque can make up ground with competing metro areas by making itself a more attractive location to outside businesses looking to expand or relocate. The long-term determinants of business location decisions can be roughly grouped into three general areas: costs of doing business, workforce quality, and quality of life.

The city, county, and state governments have done much over the past decade to make Albuquerque a more attractive place to do business, and their efforts have arguably had the most success with respect to the cost of doing business. This year the state cut corporate income tax rates and enacted a single-sales apportionment factor, making it one of the most competitive corporate tax environments in the region. Labor costs and office space are similarly inexpensive. In fact, overall costs of doing business in Albuquerque are quite competitive when looking both at the nation as a whole and at most competing metro areas. In order to objectively gauge regional economic prospects, Moody's Analytics has developed a cost of doing business index for each U.S. metro area. The index comprises four cost components: unit labor costs, state and local taxes, electricity costs, and office rents. Each metro area is then indexed to the U.S. average. More information on how the Moody's Analytics cost of doing business index is compiled can be found in Appendix A.

Because of this competitiveness in overall costs, the only opportunity for real improvement in terms of business costs is through utilities. Though competitive with the U.S. as a whole, utility costs in Albuquerque are higher than those of Salt Lake City, the best performer in its peer group. Utility costs have a large influence in the site selection process, particularly for manufacturers. Public officials have addressed this issue with regard to manufacturers. Last year the state passed a gross receipts tax exemption applicable to utility usage directly related to the manufacturing process. This will make electricity rates more competitive for manufacturers, but rates will still remain higher than in some outperforming metro areas. A comparison of Albuquerque and the two best performing metro areas in the peer growth indicates that Albuquerque's electricity costs, as measured by EIA for 2011, are lower than those of Colorado Springs CO by 17% and the national average by 11%, but are higher than costs in Salt Lake City by 24%. EIA prices are calculated by dividing revenue by sales and

include taxes, energy and customer service charges, franchise fees, fuel adjustments, and other typical charges that customers incur. This information corroborates separate calculations performed in conjunction with PNM comparing total electricity costs over the full course of the year, taking into account seasonal billing changes; Albuquerque is competitive with all peer areas with the important exception of Salt Lake City.

When comparing costs for water, sample bills were constructed for the same three metro areas using information from the Albuquerque Bernalillo County Water Authority, Colorado Springs Utilities, and the City of Salt Lake. Based on the assumptions of a 30-day winter month, 1½-inch water service connection, and 2,000 gallons per day, we calculate that an industrial user would incur a monthly charge of about \$271 in Albuquerque. This is slightly less than in Colorado Springs, \$278, but both are considerably more expensive than Salt Lake City, which would charge about \$93. Detailed calculations are included in Appendix B.



Chart 1: Competitive Costs of Doing Business

Chart 2: Competitive Overall Electric Costs





Sources: EIA, Moody's Analytics

Oklahoma City

Source: Moody's Analytics

El Paso

75

77

79

81

83

85

87

89

91

Chart 3: More Seasonal Differentiation in Costs





Chart 4: Albuquerque Workforce Deficient

% of 25+ pop with bachelor's, associate's, or some college, 2011



Besides the obvious geographical differences, the driving factors behind the higher costs compared to Salt Lake City are largely structural and difficult to change. Urban sprawl has made the city of Albuquerque considerably less dense than some of its competitors. According to 2012 Census estimates, Albuquerque had roughly 97 people per square mile, whereas Salt Lake City and Colorado Springs have nearly 122 people and 250 people, respectively. As a result, Albuquerque utilities are distributing energy and water to fewer customers over a larger geographical area, thus leading to higher fixed costs. Consequently, larger gains can be obtained by addressing the metro area's competitiveness in the other two areas, workforce quality and quality of life.

Table 1: Population Density, Persons Per Square Mile, 2012

Albuquerque	97.14
Salt Lake City	121.58
Colorado Springs	249.03

The quality of a metro area's workforce is of paramount importance to the majority of companies looking to expand or relocate. A well-qualified workforce is also vital to encouraging the growth of small businesses and attracting investment. Thanks to unparalleled public research facilities, Albuquerque is home to many very highly educated workers. However, beyond those workers who hold graduate or doctoral

degrees, a legitimate deficiency exists in the quality of the metro area's workforce. The share of adults with two- and four-year degrees ranks Albuquerque slightly higher than the U.S. average but significantly below the shares of all of its peer metro areas, with the exception of El Paso TX. Indeed, the metro areas that have outperformed Albuquerque most are home to the highest concentrations of workers with two- or four-year degrees. The city has already taken initiative with regard to two-year degrees and vocational training through its Running Start for Careers program, which helps train and recruit high-school students into construction, film and financial fields. Encouragingly, the program is scheduled to expand these offerings into high-growth areas energy, and medical services in the near-future.

More must be done in the area of fouryear college placement. While workers with graduate and doctoral degrees are vital to the development of

new technologies, those with middle levels of education drive business growth. Without sufficient managerial expertise, in particular, the bulk of the new technologies being commercialized can never make it off the ground as legitimate

Chart 5: Graduating Fewer High Schoolers

% of 9th grade cohort that graduates in 4 years, 2010-11



Sources: Robert Wood Johnson Foundation, Moody's Analytics

demonstrate the effects of this deficiency: Nearly 40% of its startups have been forced to look for qualified CEOs outside the state. This necessity is both a cause and a symptom of Albuquerque's current industrial structure. Without a significant private professional services industry, relatively fewer employment opportunities are available to workers with a four-year degree. At the same time, it is extremely difficult to build up such an industry without a sufficiently educated workforce. Some of this deficiency is also home grown as well. The high school graduation rate in Bernalillo County is the lowest among all the peer metro areas analyzed in this study.

business ideas. Data from the STC at UNM

The issue of low high school graduation rates provides a useful segue into the last area of focus: quality of life. Among the factors that drive above-average economic growth in competing metro areas in the Mountain region, a high quality of life is

Table 2: Variables Making Up the Quality of Life Index

Variable	Source	Years of data used
Violent crime rate per 100,000 population	Federal Bureau of Investigation: Uniform Crime Reporting Program	2007-2009
High school graduation (% of 9th grade cohort that graduates in 4 years)	States' departments of education; National Center for Education Statistics	2010-2011
Access to recreational facilities (facilities per 100,000 population)	Census Bureau: County Business Patterns	2009
Teen birth rate per 1,000 female population (ages 15- 19)	National Center for Health Statistics: National Vital Statistics System	2002-2008
Motor vehicle crash deaths per 100,000 population	National Center for Health Statistics: National Vital Statistics System	2002-2008
· · · ·	Statistics System	

often prominently cited, particularly in creating a desirable environment for the growth of high-technology and professional services. Competing metro areas that have outperformed Albuquerque most in the last 20 years, particularly Salt Lake City and Colorado Springs, have benefited from great influxes of people attracted to the perceived lifestyles in those areas. In order to test the anecdotal correlation between quality of life and economic growth, an objective "quality of life index" was compiled for this study using various measures of public safety, health, recreation and education. The specific measures are listed along with the sources for the data in Table 2.

The data measures used in this study were taken for the most complete statistical years available across all of the categories for each metro area included in this study and the

relevant statistics

were normalized

U.S. average, and

weighted equally.

The values were

then compiled

into an overall

index, which can

based on the

Chart 6: Correlation of Jobs and Quality of Life



Sources: BLS, Moody's Analytics

Chart 7: High Rates of Violent Crime

Violent crime rate per 100,000 population, 2007-2009



Sources: Robert Wood Johnson Foundation, Moody's Analytics

vith the sources formetro area. Since each county measured in
this study is a predominantly urban county,
comparisons to the overall U.S. average are
relatively low. However, comparisons across
ategories for each
study and the
U.S., as compiled
by the Robert
Wood JohnsonThe quality of life index calculated for
Bernalillo County is the lowest in its peer
group, and significantly lags versus the
primary counties of the metro areas that
have most outperformed it with regard to
employment and income growth. The quality

primary counties of the metro areas that have most outperformed it with regard to employment and income growth. The quality of life index also has a very strong correlation with the pace of private services job growth, the primary growth area setting Albuquerque apart from its peers. The counties measured fell into the exact same rank order in terms of quality of life and annual private services job growth from 1990 to 2012. Bernalillo County's low quality of life index gains clarity when the individual components

be used in objectively comparing the different

metro areas against one another. Because of

data limitations, the quality of life index was

compiled only for the largest county in each

Chart 8: High Instance of Motor Vehicle Fatalities

Motor vehicle crash deaths per 100,000 population, 2002-2008



Sources: Robert Wood Johnson Foundation, Moody's Analytics

Chart 9: Plentiful Recreation

Recreational facilities per 100,000 population, 2009



are examined. In addition to ranking last in high school graduation rates, Bernalillo County ranked last in its peer group in terms of violent crimes committed per capita and motor vehicle fatalities per capita, and second to last in teenage births per capita. Undoubtedly these metrics, particularly related to crime are improving, but significant comparison that cs Albuquerque's relatively poor showing in terms of the quality of life index is a root cause of its economic underperformance. The metro area's poor economic performance is at least partially at fault for its low ranking in the quality of life index as well. Unfortunately, historical data are not robust enough to compare quality of life back to 1990, with job growth in order

progress remains

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parity with peer

Correlation

indicate causation.

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It would be

incorrect to

infer from the

results of this

to examine the impact of one measure on the other. Nevertheless, it is clear that a higher quality of life goes hand in hand with economic outperformance, and can prove to be a key factor in attracting relocating or expanding out of state businesses and workers to a metro area.

What's more, given Albuquerque's unique geographical features and access to plentiful recreation, the metro area has the potential to genuinely compete with peer metro areas in terms of quality of life if certain deficiencies can be addressed. Though outside the scope of this study, improving the quality of life—particularly as measured by the rates of violent crime, motor vehicle fatalities, and high school graduation—has the potential to pay strong economic dividends for the Albuquerque metro area. Any improvement would go a long way toward making the metro area more competitive with its peers in attracting outside talent and investment.

Chapter 4: Getting Ahead

The Albuquerque economy remains on a track of underperformance, though many positive steps have been taken to improve business conditions in recent years. However, there are many upside risks to the forecast that can become reality if appropriate policy measures are taken to create a more dynamic private sector in the metro area. This chapter summarizes the major policy initiatives discussed previously. Economic development policy options should always be considered within a wider context of city, state and federal budgets, and political conditions. Therefore the policy possibilities included in this chapter should not be considered as explicit recommendations but rather as a wide range of options available to city policymakers in addressing the metro area's long-term underperformance relative to that of its peers.

A recurring theme throughout much of the research done for this report was the need to develop economic strength from within. As opposed to focusing primarily on importing industry and businesses with elaborate incentives, at the potential loss of taxpayer dollars, more effective and longer lasting impacts are most often obtained by efforts to develop a fertile business environment at home. Many of these efforts can come directly from the City of Albuquerque and its policymakers, while others fall well beyond their control. Options the city can directly control include:

- » Set up a City Economic Advisory Council. Such a council would include members of each of the city's major economic development institutions and local stakeholders, as well as elected city officials and city economic development staff. Such an effort would assist in formalizing communication and cooperation about city economic development efforts and help to better allocate public and private resources to support those efforts.
- » Work with private industry to secure additional funding and space for business incubation in order to ensure that the future pace of growth is at no risk of being choked off because of a lack of business or logistical resources.
- Improve quality of life metrics to become more competitive with other metro areas. Specific options to improve the metro area's standing with regard to social metrics such as crime, healthcare and education are beyond the scope of this report. However, it is quite clear that Albuquerque's relative underperformance in general quality of living statistics strongly correlates with its relative economic underperformance.

There are also a number of issues well beyond the city's immediate control that can be addressed in collaboration with the state and federal government, either directly or through elected representatives. These include:

- » Encourage the University of New Mexico to keep commercialization near the forefront of its decision- making processes when allocating university research funding and personnel. Areas of research more susceptible to profitable commercialization should be of paramount importance to UNM's research mission.
- » Work closely with Albuquerque Public Schools, the New Mexico Department of Education as well as local higher education institutions and vocational schools to increase high school graduation rates, and college placement. These efforts will pay off in terms of both the quality of life and the local workforce.
- » In conjunction with the relevant state agencies, ensure that public economic development funds are being used effectively. Encourage objective third party performance evaluations of any economic development program receiving public monies. Such evaluations could be performed either directly by the city through an objective third party contractor or through state resources such as the Legislative Finance Committee's performance evaluation unit.
- » Lobby state lawmakers and the State Investment Council to continue to expand its program of direct investment into New Mexico businesses and investment funds. In order to facilitate the flow of new startups being developed by UNM, Sandia and private sources, the credit spigot must remain open. Public investment can be a very efficient way of attracting additional private capital.
- » Encourage the Department of Energy and the National Nuclear Security Administration to expand its commercialization efforts, with particular emphasis on the creation of businesses, at the national labs. Efforts such as the Sandia Science & Technology Park should be expanded and supported in any way possible. Furthermore, the city should encourage the labs to focus resources and research activity in areas most susceptible to commercialization, and to provide adequate incentive for commercializing public research.

Appendix A

U.S. Cost of Doing Business: Costs Fall in 2010

BY TYLER CASE

ne of the most important factors in determining an area's ability to attract capital and labor is its cost structure. For example, China's cheap labor costs and subsidized energy costs have enabled it to attract manufacturers from around the globe. Such comparative advantages are also applicable to regions within the U.S. Many businesses hesitate to make new investments without obtaining tax credits from local or state governments. Furthermore, transformative innovations in communication and transportation technology have enabled businesses to take advantage of the lowest-priced inputs—whether labor, energy or natural resources—wherever such inputs may be located.

The integration of and improvements in information technology have better enabled firms to exploit comparative advantages in the regional business cost structure, allowing business investment to become increasingly mobile. For instance, the South's lower taxes and less expensive wages have attracted investment in less-specialized, nonproprietary professional services such as call centers and back-office operations. In another example, the industrial Midwest houses bountiful reserves of coal that it uses to generate power cheaply. Lower energy costs are a hallmark of energyintensive manufacturing operations such as automobile production.

Business costs do appear to correlate with the pace of economic growth. For example, over the last 15 years, a 10-point increase in a state's business cost index has led to a 0.18-percentage point decline in average annual employment growth (see Chart 1).

Thus, a reliable measure for an area's cost of doing business is important not only for strategic decision-making but also as an indicator of economic prospects. This article presents the methodology, revisions and results of the most recent Moody's Analytics state and metropolitan area cost of doing business index.

Methodology

The Moody's Analytics cost of doing business index compares a state or metropolitan area's average business cost with that of the U.S. For metro areas, labor, energy and tax costs are considered as well as office rents. Because of a lack of office rent data at the state level, only the first three categories are used for states. While no moving average is applied to the index components, the

overall business cost index uses a threeyear moving average. Moving averages are taken to safeguard against volatility, and they produce more consistent and reliable estimates of business costs. The current relative business cost measure is the average of the period from 2008 to 2010. There have been no major changes to the cost of doing business index estimation methodology with this update. This is the fourth year in which a state-specific component weight system was used in lieu of the previous fixed component weighting system. State-specific weights were generated by analyzing interindustry capital flows via IMPLAN modeling software. All metro areas within a state use the state's weight structure, but it is modified to include metro area-specific office rent costs. While revisions to underlying source data resulted in





Sources: Moody's Analytics, BLS

Chart 2: Definition of Unit Labor Cost Index

 $\mathsf{ULC}_k^{\mathsf{Geo}} = \{ *_k (\mathsf{I}_k / \mathsf{Emp}_k) / (\mathsf{Y}_k / \mathsf{Emp}_k)^{\mathsf{Geo}} * (\mathsf{Emp}_k^{\mathsf{US}} / \mathsf{Emp}_K^{\mathsf{US}}) \} / (\mathsf{I}_K / \mathsf{Y}_K)^{\mathsf{US}} \}$

Where: ULC = Unit labor cost

- » Y = Output
- » Emp = Employment
- » I = Wage and salary disbursements
- » Geo = State or metropolitan area
- » US = U.S. average
- » K = Total for all industries
- » k = Three-digit NAICS industry

Source: Moody's Analytics

revised historical estimates for the cost of doing business index and all of the underlying components, no historical changes can be attributed to revisions in the methodology, which was not altered.

The most important expense, and thus the largest component of the cost of doing business index, is the cost of labor. A variety of techniques can be employed in comparing labor compensation across areas. Work published by the Bureau of Labor Statistics, for example, focuses on constructing pay relatives for metropolitan areas using data from the National Compensation Survey.¹ The NCS collects occupational wage data for a number of localities that reflect the employment patterns and occupational mix of each locality. Controlling for location, job attributes and establishment characteristics, pay relatives for occupations within an area can be constructed. The pay relative for the whole economy is then constructed by taking a weighted average of the occupational values, where the weights reflect the national occupational composition as opposed to that of the local economy. However, the results with the NCS data are of limited application because they cover only 81 metropolitan areas and the 2011 budget eliminated an important component of the NCS dataset—the Local Pay Survey.

Furthermore, in order to assess the full cost of labor to firms, wage data must be adjusted for productivity. Hence, our labor labor compensation per dollar of output. Labor compensation is measured as wages and salaries per employee, while output is calculated as gross product per employee. The resultant unit labor cost index accounts for labor productivity and is a more accurate measure of

cost index calculates

labor costs, and thus business location decisions, than labor compensation alone (see Chart 2).

Unit labor costs are created for selected three-digit NAICS industry classifications, with certain industries in retail trade, construction, real estate, services and government excluded from the calculation. Businesses and institutions in these industries serve local demand, and growth in such industries is thus not influenced by the relative costs of doing business across areas. Moreover, businesses in those industries that do locate or expand their operations across regions based on differences in regional labor costs are not influenced by costs in these locally oriented industries. If a three-digit NAICS industry within a metro area has fewer than 100 employees, then unit labor costs in the state are used and not the metro area measure of unit labor costs.

Total unit labor costs are constructed by creating a weighted average of unit labor costs in each three-digit NAICS industry. The weights are equal to the national share of employment in each industry. This adjustment is necessary since unit labor costs vary across industries as a result of the occupational mix of the industry's employment and the capital structure of its operations. For example, productivity in the automotive industry is extremely high compared with that of other industries, whereas it is low in the textile industry. As a result of these industry differences, a region with a high proportion of automotive manufacturing will appear to have lower unit labor costs than a region with a large textile industry. However, such compositional bias can be avoided by using the national share of employment for each industry to weight the unit labor cost components.

The energy cost index compares the average commercial and industrial electricity costs, in cents per kilowatt-hour, with the national average. The data come from the Energy Information Administration, a division of the Department of Energy. The EIA reports commercial and industrial prices of all major independent and publicly owned utilities, as well as cooperatives. When available, the electricity price of the primary independently owned utility is used for each metro area. Price data from the primary cooperative or publicly owned utility are used for those few areas not served by a privately owned utility.

To avoid compositional bias, the relative importance of commercial and industrial electricity costs is derived from their importance at the national level. This is necessary since industrial rates are lower than commercial rates, and a region with a disproportionate share of one or the other would be biased accordingly. For example, a region with a particularly large portion of industrial consumption, if unadjusted for this compositional mix, would appear to have particularly low rates. However, through a calculation of the average industrial and commercial prices separately, then combining them into one price using their relative share of the national mix, a standardized value is created. The energy cost index for each year is calculated as the region's average compositionally weighted cost divided by the national average (see Chart 3).

The effective tax rate index is measured as the total tax revenue as a percent of total personal income in the area, indexed to the national effective tax rate. This is a top-down measure that uses government revenues to represent the tax burden. This measure includes all taxes, including personal, property and corporate, less severance taxes, corporate license taxes, education, hospital, and intergovernmental transfers. Charges are excluded from the calculation because a good or service is provided for a

¹ Gittleman, Maury B., "Pay Relatives for Metropolitan Areas in the NCS," Monthly Labor Review, March 2005, pp. 46-53.

Chart 3: Definition of Energy Cost Index

 $E^{Geo} = \{(P_i^{Geo} * |) + (P_c^{Geo} * C)\} / \{(P_i^{us} * |) + (P_c^{us} * C)\}$

Where: P = Price in cents per kilowatt-hour

- I = Industrial electricity sales as a share of total U.S. electricity sales
- » C = Commercial electricity sales as a share of total U.S. electricity sales
- » Geo = State or metropolitan area
- » us = U.S. average
- » i = Industrial
- » c = Commercial

Source: Moody's Analytics

charge. Only charges in excess of the value of the goods or services provided would be a burden to businesses.

Business contributions to unemployment and workers' compensation programs also are included because they represent costs for hired labor. However, only the contributions from employers are included in calculating an area's tax burden. Interest earned on unemployment and workers' compensation funds is not included since it has no bearing on business costs. Revenue from miscellaneous insurance trusts was also included as a business cost since payrolls are taxed in some states. This revenue stream funds, among others, retraining and veteran disability benefits and is very small.

Tax revenue includes both state and local sources. Data for state tax revenue come from the Census Bureau's Annual Survey of State Government Finances & Census of Governments, as do the data used to create the effective local tax rate for states. Revenue data for each metro area include the summation of revenues from all city and county revenues within the metro area. The aggregate local effective tax rate is equal to total relevant tax revenues divided by total personal income in each region. An effective tax rate index was created for each year by dividing each state and metropolitan area value by the national value.

The office rent index was not revised from the prior year for 2010. In coming months, Moody's Analytics will re-estimate the office rent component of the index based on data that it is currently in the process of acquiring. Moody's Analytics no longer has access to the dataset that was previously used to compute the office rent index.

The office rent index compares the cost of renting office space in a metropolitan area with the national average. Average gross

rent per square foot for class "A" office space data from Colliers International form the basis of the office rent index. The Colliers data are available for only 54 metropolitan areas and divisions. Composite office rent data were created for seven "super regions" by utilizing office rent data from the member metro areas. The seven super regions are the Northeast, Midwest, South Central, South Atlantic, West, Florida and California. All of the metro areas in these super regions share similar office market dynamics that are unique to that region. Delaware and Eastern Maryland metro areas and divisions were included in the Northeast super region, while metro areas in the Florida panhandle were included in the South Atlantic super region.

After composite office rent series are created for the seven geographical areas, the ratio of office wage and salary disbursements to office-using employment is taken to derive a wage rate for each super region and each metro area in that region. A normalized wage rate is then calculated by dividing the wage rate of the metro area by the wage rate of the super region. The office rent for a metro area is set to the product of the super region's composite office rent and the metro area's normalized wage rate in the prior year. This value is then indexed to the national average of the 54 areas for which data are available.

The utilization of metro-specific office wage rates in estimating metro-specific office rent is supported by regression analysis. A significant correlation exists between wage rates and office rents in the 54 areas for which office rent data are available. Wage rates more accurately predicted office rents when a time lag of 12 months was applied; thus, this approach is adopted in the office rent index algorithm.

In metropolitan divisions where data were not reported by Colliers but were reported for the dominant metropolitan division in the combined statistical area, office rent in the unreported division was set equal to the product of the office rent in the dominant area and the lagged normalized wage rate in the unreported division. For example, office rent in Bethesda MD was set equal to the product of Washington DC's office rent and the lagged ratio of Bethesda's wage rate to Washington DC's. Office rent in the Bethesda-Washington DC combined statistical area was set equal to the employment-weighted average of office rent in each metropolitan division. The values for the Bethesda metro division and the Washington DC combined statistical area are indexed to the national average in the same fashion as nondivision metro areas.

In New York, data were reported for both the midtown and downtown office markets. A weighted average of the two office rent series was computed for the New York metropolitan division based on the total amount of rentable office space in each area as reported by Colliers. Bridgeport CT's office rent index is based on its historical relationship with the New York market, according to the National Real Estate Index.

Revisions

Revisions to underlying source data produced changes in many historical series. Namely, the Bureau of Economic Analysis released its annual revisions to gross state and metropolitan product estimates, which altered the estimates of previous data in the state and metropolitan unit labor cost indices. New metropolitan area and state gross product data typically produce the greatest shifts in the business cost index, since they directly affect the unit labor cost component, which has the largest weight in the overall index. Unit labor costs are defined as total wage and salary payments per dollar of output. Thus, an upward revision to GSP



Chart 4: Oregon, Delaware Buck Coastal Trend

without a corresponding revision to wages and salaries will lower the estimated unit labor cost of an area and thereby lower the relative cost of doing business. Of the three components of unit labor cost, GDP tends to be subject to the most revision. Revisions to total employment and wages are typically much smaller, especially on an annual basis. Employment can be revised, though, particularly in the metro areas and at the three-digit NAICS level of detail. The index uses the Moody's Analytics employment estimates, and at the three-digit level, data reporting can become spotty for individual metro areas. When the Bureau of Labor Statistics, in its Quarterly Census of Employment and Wages, changes reporting areas or industries, entire series might be affected.

On top of normal yearly revisions, time periods when the economy is in flux tend to be the most subject to revision, making the changes relatively large. In contrast to the previous year, in 2009, GSP was revised down in the vast majority of states. Fortyfour of the 50 states plus the District of Columbia suffered downward revisions to GSP in 2009. Oregon and North Carolina enjoyed the largest upward GSP revisions, while Oklahoma and Wyoming received the largest downward revisions, partly because of their small size and volatile, commoditydependent industrial structures. Commodity states received the largest downward revisions, with West Virginia and South Dakota rounding out the bottom four. Washington was among the states with the largest upward employment revisions, which increased dens, while Wyoming and Texas had the top two upward revisions. Revisions to the tax component of the index provide further evidence of a narrowing difference in business costs between traditionally high-cost states on the coasts and lower-cost states in the South and Mountain West caused by the disruptive nature of the Great Recession.

unit labor costs

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the largest upward

revisions in overall

The tax compo-

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Massachusetts and

California boast the

revisions in tax bur-

largest downward

high and low tax

Metropolitan areas also experienced large shifts in their unit labor cost index. Anchorage and Fairbanks AK received downward revisions to unit labor costs, making them two of the top three metro areas in terms of downward revisions in business costs. Several Virginia metropolitan areas—Harrisonburg, Virginia Beach, Winchester and Lynchburg had significant downward revisions to unit labor costs in 2009. The largest upward revisions to unit labor costs were among smaller Tennessee metropolitan areas; Clarksville, Cleveland, Jackson and Morristown were all Volunteer State metro areas among the top 10 upward revisions to both unit labor cost and overall costs of doing business. Columbus GA and Yuma AZ also had significant upward revisions.

Results

After peaking in 2006, both average and median state business costs continued to fall in 2010. The Northeast remains the highest-cost region in the country in which to do business (see Table 1 and Chart 4). This year there was some movement among the top 10 most expensive states in which to do business. Hawaii overtook Massachusetts as the most expensive state. Nine of the top 10 most expensive states are in the Northeast. Hawaii went up slightly in both taxes and its already-exorbitant energy costs, while Massachusetts experienced an improvement in taxes large enough to flip the two. No new states cracked the top 10 this year, but Vermont moved up four slots and now has the sixth highest business costs in the nation, because of increases in all three components of the index-unit labor costs, taxes, and energy costs—and the highest average change in the three components. California maintained its ranking of 11th from the prior year because of an increase in unit labor costs that swamped drops in its energy and tax costs. New York retained the dubious distinction of having the highest tax burden in the country. The relative ranking of other top 10 states moved around somewhat. Maryland and Maine each moved down to make way for Vermont. Costs rose in most states for all three components, but the largest proportion of states posted increased tax costs. This is fairly intuitive, as state and local governments had to impose additional taxes to close large budget gaps and the return of expansion in 2010 halted the cyclical decrease in tax revenue.

South Dakota, North Carolina and North Dakota remain the least expensive states in which to do business. Both of the Dakotas' composite indexes were unchanged, and North Carolina's was slightly lower, thanks to lower unit labor costs.

The metropolitan area ranking is also dominated by the Northeast (see Table 2 and Chart 5). New York maintains its designation as the most expensive metro area in the nation; business costs are 45% higher in New York than they are nationally. Office space and labor costs are significantly more expensive in New York than in most parts of the nation, and energy is very costly as well. Energy costs rose in 2010, because oil prices spiked in the first half of the year. Boston, Cambridge MA, Bridgeport CT and Washington DC round out the top five, as San Francisco fell out of the top five. Washington DC moved up one place to the fifth spot. As a testament to the pervasiveness of higher business costs in the Northeast and West, only two metro areas outside those regions are within the top 24.

U.S.=100 U.S.=100 0 69 to <86 0 86 to <100 100 to <150 Source: Moody's Analytics

Chart 5: Northeast Corridor Remains Costliest

Chart 6: A More Competitive Industrial Midwest





Source: Moody's Analytics

The highest of these is Houston, which rose one spot to become the 18th most expensive metropolitan area in the nation.

Cost of doing business, 2010

The West has the second highest costs after the Northeast. California ranks as the 11th most expensive state in which to do business, and three of the top 10 metro areas are located within California. The rather small El Centro CA metro area remained in the top 10 this year because of rising labor costs. Business costs vary considerably throughout the state. With the exception of El Centro, it is mainly California's large urban centers such as San Francisco, San Jose, Oakland and Los Angeles that have some of the highest costs in the nation, whereas the business costs of most of the less urbanized metropolitan areas are much lower. Mainly because of lower unit labor costs and office rents, 18 of California's 28 metropolitan areas and divisions have business costs below the national average.

Washington and Arizona are notable for having the largest increases in unit labor costs. Wyoming's tax component again increased significantly. Property taxes have continued to rise in excess of incomes. As such, Wyoming experienced a significant rise in tax costs that did not abate in 2009 or 2010. Florida's tax component ranking increased the most, while that of Massachusetts declined the most. The relative tax burden increased in Florida because of increases in the required contributions to the state's unemployment insurance fund. The state's sharp recession caused a flood of unemployment insurance claims that left a significant gap in the unemployment insurance fund, which had to be filled by federal loans. As part of a corporate tax reform package, Massachusetts rates dropped from 9.5% to 8.75% in 2010, leading to the decline in the tax component of business costs.

Arizona was the biggest mover among states because of rising unit labor costs that moved up the ranking of this component to 16th from 28th. Several metro areas in Arizona and Texas moved from the second quintile into the first quintile because of labor cost and tax increases. Phoenix, Flagstaff, Prescott and Yuma AZ moved up in the rankings because of increased labor costs. Nevada's ranking fell the furthest thanks to falling energy costs.

All western states besides California and Hawaii have below-average business costs. The Mountain West states have much lower business costs than the Pacific states even though cost index increases in Colorado, Wyoming and Montana were among the largest in the nation.

Similarly, the Midwest is a generally high-cost area in the Great Lakes region, but the Plains states maintain lower business costs. Business costs in Michigan, Wisconsin and Illinois, which represent the traditional manufacturing belt, are at or above the national average, owing to the preponderance of union employment. Conversely, low unionization rates, among other factors, contribute to nearly homogenous, belowaverage business costs throughout the Plains states. South Dakota maintains the lowest rank; North Dakota, Iowa and Nebraska are not far behind.

The South ranks the lowest, on average, among the four regions of the country, although its advantage appeared to shrink somewhat this year. Louisiana, Georgia and Florida all were in the top third of states in terms of increases in their composite index. Low unionization rates, low taxes, cheap energy, and low-cost labor have historically been the reasons most of the southern states have had below-average business costs, but while labor costs fell elsewhere, they stayed steady or rose in some southern states. Many southern states did have an advantage in energy costs, particularly Louisiana, Oklahoma, Texas and Mississippi, where energy costs fell considerably in 2009. Low taxes, another traditional advantage of southern business cost structure, have become less distinct. The tax component of the index increased in 13 of 14 southern states, staying the same only in North Carolina.

Southern business costs have risen over time as demand for labor, energy and office space has increased. Businesses have taken advantage of the South's desirable business conditions, but in doing so have driven up costs. The Great Recession further leveled the playing field between the South and areas in the West and Midwest, which experienced deeper recessions that generated productivity gains. One lasting effect of the Great Recession could be the slowing of the process of labor migration from higher-cost regions of the nation such as the Northeast and Midwest to the low-cost South (see Chart 6).

Table 2: 2010 U.S. Metropolitan Area Relative Business Costs

	Cost of Doing Business		Unit Labor Cost		Energy Cost		State & Local Tax		Office Rent	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank
El Paso TX	77	369	86	354	97	170	70	356	52	351
Oklahoma City OK	81	320	96	259	76	323	67	381	71	143
Albuquerque NM	87	224	100	188	87	258	78	309	60	267
Colorado Springs CO	90	157	109	30	79	310	68	367	74	125
Salt Lake City UT	86	231	101	149	69	356	90	203	68	172
Tucson AZ	90	153	100	172	104	140	84	265	67	185

Source: Moody's Analytics

Appendix B

TL					
	Colorado Springs		Salt Lake City		Albuquerque
Fixed charge (\$1.196/day; inside city rate)	\$35.88	Fixed charge (\$.341/day; inside city rate)	\$10.23	Fixed charge (industrial rate)	\$123.71
Usage charge (\$0.0302/ cubic foot)	\$242.26	Usage charge (industrial rate = \$.97/100 cubic feet)	\$77.81	Usage charge (\$1.555 per unit; unit = 748 gallons = 100 cubic feet)	\$124.74
Pre-tax amount	\$278.14	Pre-tax amount	\$88.04	Pre-tax amount	\$248.45
No sales tax or franchise fee		No sales tax		Sales tax (5.125%)	\$12.73
		Franchise fee (6%)	\$5.28	Franchise fee (4%)	\$9.94
Post-tax amount	\$278.14	Post-tax amount	\$93.33	Post-tax amount	\$271.12
Per 100 cubic feet charge	\$3.02	Per 100 cubic feet charge	\$0.97	Per 100 cubic feet charge	\$1.555

Appendix B: Sample Industrial Water Bills

Assumptions: 30-day winter month, 1.5" service connection, 2,000 gallons per day (267.4 cubic feet per day)

About Moody's Analytics

Economic & Consumer Credit Analytics

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