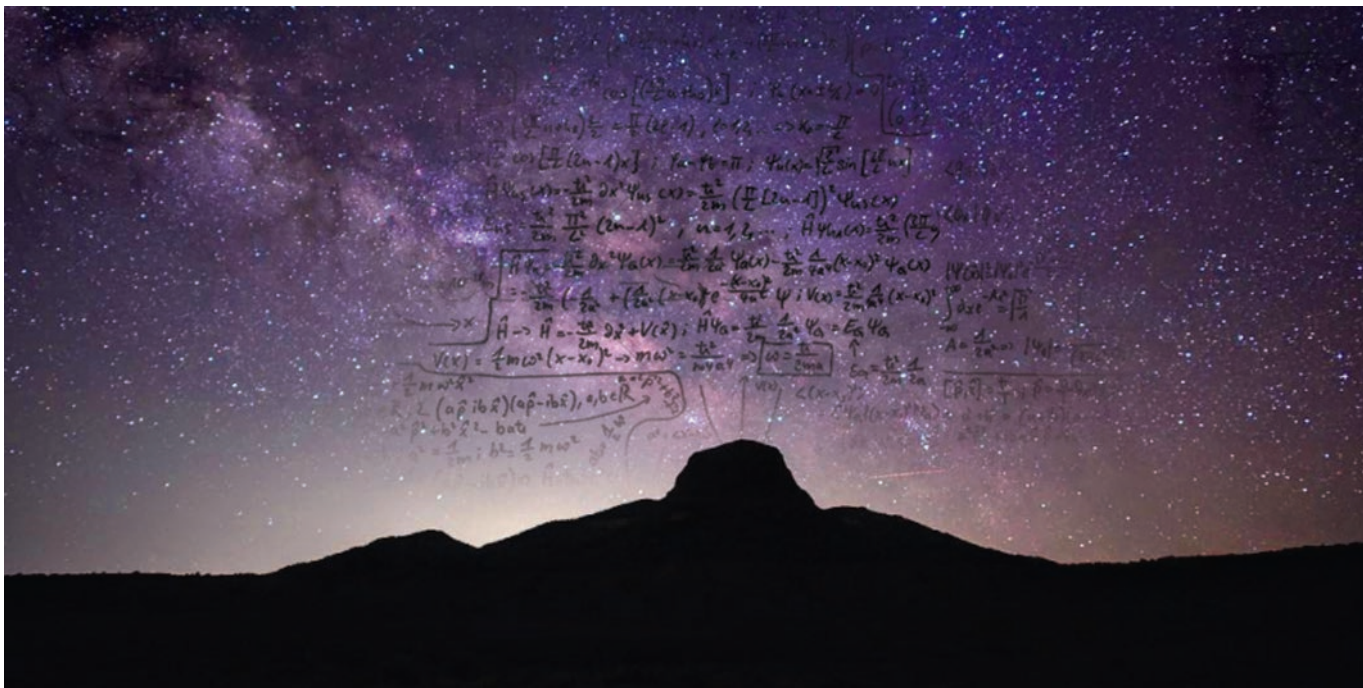


# Projecting Employer-Sponsored Retirement Enrollment in New Mexico (2020-2040)

Prepared for the New Mexico State Treasurer Office's Work & Save Board by the UNM Bureau of Business & Economic Research

Michael O'Donnell, PhD



**BUREAU OF BUSINESS  
& ECONOMIC RESEARCH**

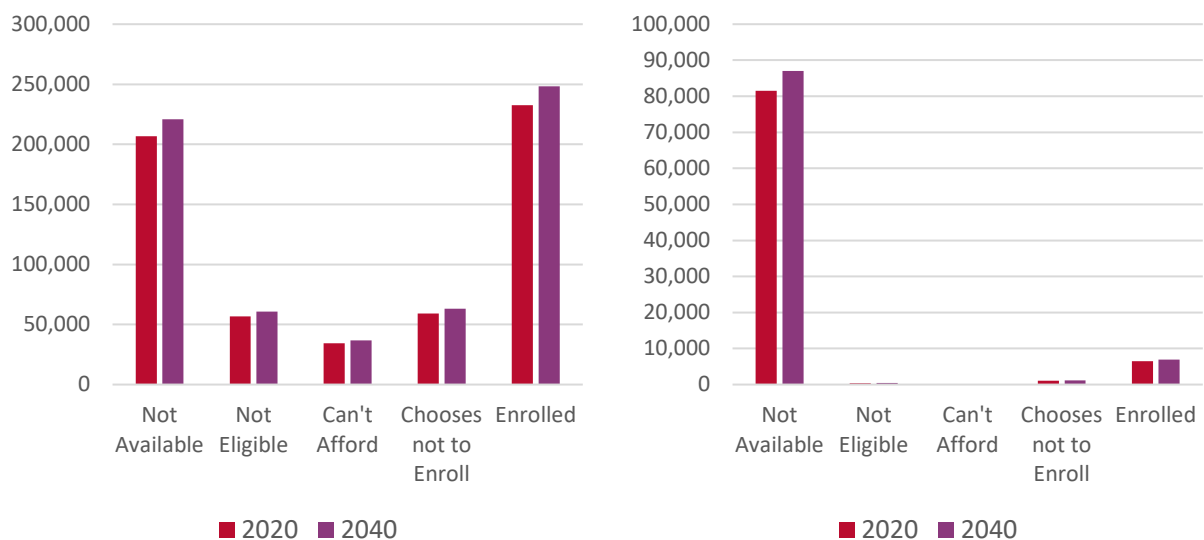
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## Executive Summary

In 2017, the New Mexico State Treasurer’s Office convened the Retirement Income Security Task Force (Task Force). Among other things, the Task Force was charged with estimating the share of workers in New Mexico that have access to an employer-sponsored retirement plan, estimating the share of workers that have access to a plan but did not enroll, and with providing potential frameworks for addressing retirement shortfalls in the state. The present analysis builds on the work done by the Task Force by updating some of the key data on employer-sponsored retirement plan enrollment in New Mexico, and more importantly, by projecting plan enrollment through time.

According to data from the Bureau of Labor Statistics and the US Census Bureau’s Annual Social and Economic Supplements, there were roughly 590,000 workers in the private sector and 90,000 self-employed workers in New Mexico in 2020. Projecting those groups forward to 2040, those worker-cohorts increase to roughly 630,000 workers in the private sector and 96,000 self-employed workers. Applying estimates for retirement plan enrollment from the Social Security Administration’s Supplemental Survey of Income and Program Participation to New Mexico’s workforce and industry composition produces enrollment and non-enrollment (by reason) for New Mexico.

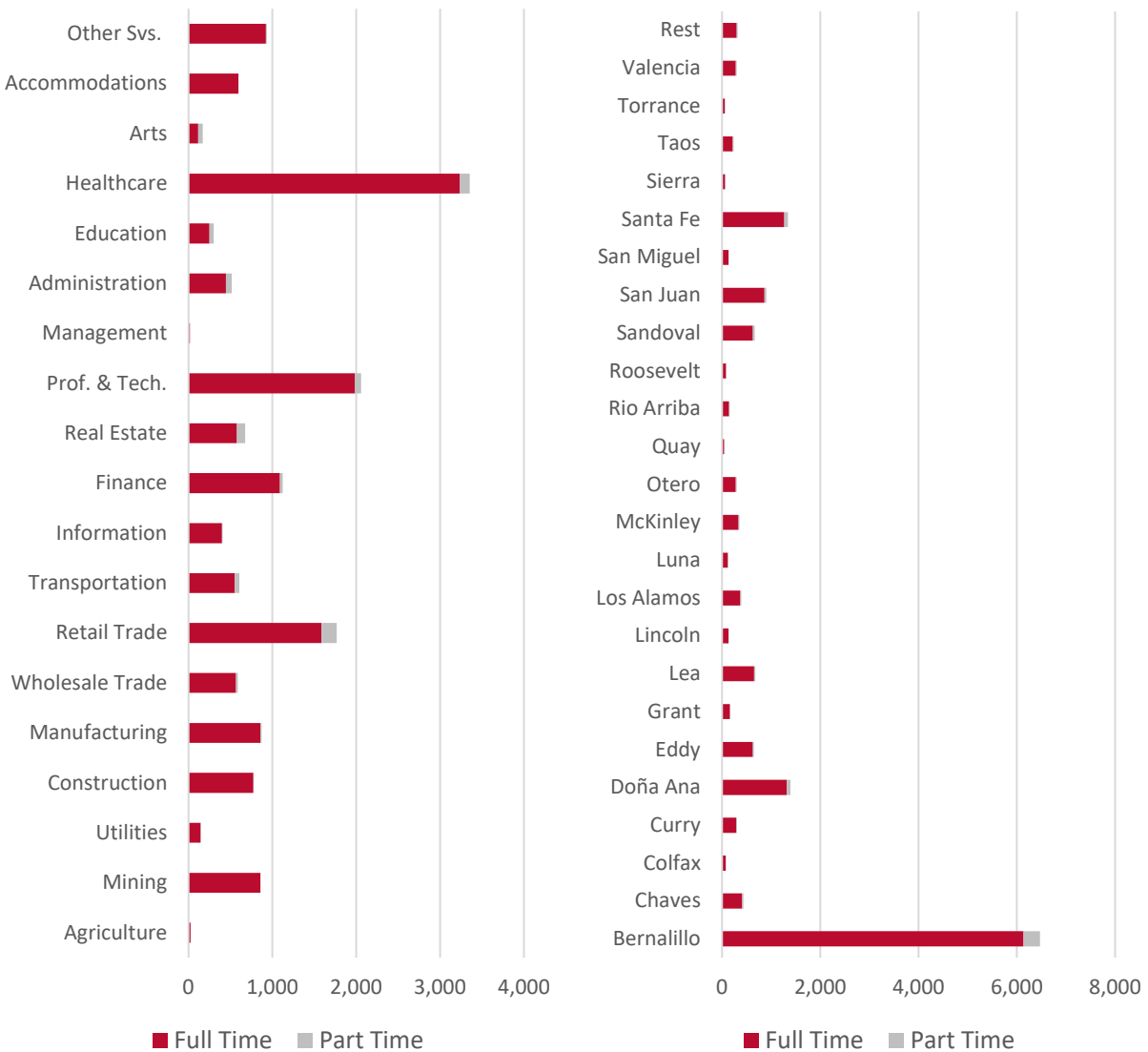
**Figure 1. Estimated Enrollment in an Employer-Sponsored Retirement Plan in 2020 versus 2040, Private-Sector Workers (left) & Self-Employed Workers (right)**



According to these data, approximately 232,600 private-sector workers (39%) in New Mexico are estimated to be enrolled in an employer-sponsored retirement plan; this compares to 45% of private-sector workers nationally. US estimates were assigned to self-employed workers such that approximately 7% of self-employed workers are estimated to be enrolled.

This report also estimates the number of private-sector workers enrolled in an employer-sponsored retirement plan by industry and county broken down by full- and part-time worker status.

**Figure 2. Change in Number of Private-Sector Workers Enrolled in an Employer-Sponsored Retirement Plan from 2020 to 2040 by Industry (left) and County (right)**



Over the period from 2020 to 2040 industries expected to have the largest increase in enrollment tend to be those that have a combination of the largest sizes in terms of the number of workers (such as healthcare) and relatively high rates of enrollment (such as professional & technical services). Geographically, enrollment increases will be greatest in the Metropolitan Statistical Areas (Albuquerque, Santa Fe, Las Cruces, and Farmington MSA's) where the largest densities of population and workers are located in the state.

This report also describes an analysis contemplating the recent legalization of recreational cannabis in New Mexico, which is otherwise not explicitly modeled in the baseline projection. Overall, the scenario estimates that about 51% of the private sector workers that are newly employed as a result of the expansion of recreational cannabis will be enrolled in an employer-sponsored plan, which is higher than the estimated 44% rate for all private-sector workers in the state. Also presented is the manner in which additional scenario analyses may be constructed.

Finally, this report details general strategies for developing possible markets that might be targeted to maximize retirement enrollment. In particular, the report suggests an identification of industries that have a large share of workers and that also have low retirement plan enrollment. However, expectations for expansion must be moderated against the reality that some of the lowest-enrollment industries also have low average wages where workers may not have sufficient disposable income to invest for the future. In addition, some industries that initially appear to be good candidates for targeting are those with very small employers, making it more likely that they might be exempt from some state-initiated retirement plans or programs.

This is the first piece of a three-part study. The second piece will be authored by Boston College's Center for Retirement Research and will estimate some of the financial elements of an expansion of a retirement program in New Mexico, including estimates of Assets Under Management (AUM). The third report produced by the University of New Mexico's Bureau of Business & Economic Research will focus on the issue of retirement underfunding and the likely (future) impact on the state.

## Acknowledgments

This study would not be possible without the hard work, support, and guidance of the New Mexico Treasurer Office's Work and Save Board as well as the formative work conducted by the New Mexico Retirement Income Security Task Force. Thank you to Lisa Massena of Massena Associated, LLC for shepherding this project and for her valuable insights into the retirement landscape in New Mexico and elsewhere. Thank you to the Boston College Center for Retirement Research for being an able and willing partner in this endeavor. Also, thank you to AARP and AARP New Mexico, and in particular DeAnza Valencia, for believing that retirement policy can be improved in New Mexico through data, research, and critical analysis. A special thank you to the New Mexico State Treasurer's Office, and in particular Treasurer Tim Eichenberg and his staff, for recognizing the critical nature of retirement gaps in New Mexico and for providing a platform for New Mexico analysts and stakeholders to think about ways to address it.

I would be remiss if I did not also thank the current and former staff and students at BBER that also lent substantial support to this effort. Thank you Rose Rohrer, Omar Solis, RaeAnn McKernan, Viktoria Gonsior and Jay Maharath. This effort could not have been completed without all of your hard work and encouragement. Finally, thank you to BBER's former director, the late Jeff Mitchell, who originally involved BBER in the Retirement Income Security Task Force in 2017 and strongly believed that BBER had an important role to play in this space.

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## Introduction

In 2017, the New Mexico State Treasurer's Office convened the Retirement Income Security Task Force (Task Force). The Task Force's charge was to, among other things, estimate the share of workers in New Mexico that did not have access to an employer-sponsored retirement plan, estimate the share of workers that had access to a plan but did not enroll, and to provide potential frameworks for thinking about and addressing retirement shortfalls for the working population in the state.

One of the key lessons of the Task Force report was that the share of private-sector workers with an active retirement plan is lower in New Mexico than in the US. This result is driven principally by the distinctive composition of business and the workforce in New Mexico. On average, compared to the US, New Mexico has a somewhat greater share of individuals working in low-wage industries where an employer is less likely to offer a retirement plan. The state has a greater share of part-time workers, who are also relatively less likely than full-time workers to be offered and participate in a plan. However, when offered to private-sector workers, uptake in a retirement plan is similar in New Mexico to the US.

The present analysis builds on the work done by the Task Force by updating some of the key data on employer-sponsored retirement plan enrollment in New Mexico, and more importantly, by projecting plan enrollment over time. This is done using a variety of data sources; principal sources include employment and jobs data from the Bureau of Labor Statistics (BLS) Local Area Unemployment Statistics (LAUS), BLS Quarterly Census of Employment & Wages (QCEW), BLS Current Employment Statistics (CES) and the Bureau of Economic Analysis (BEA) employment series, job forecasts from the University of New Mexico's Bureau of Business & Economic Research (BBER) FOR-UNM model, population estimates and projections from the University of New Mexico's Geospatial & Population Services (GPS), and retirement plan enrollment data from the Social Security Administration's supplemental Survey of Income and Program Participation (SIPP) and the Census Bureau's Annual Social and Economic Supplements (ASEC).

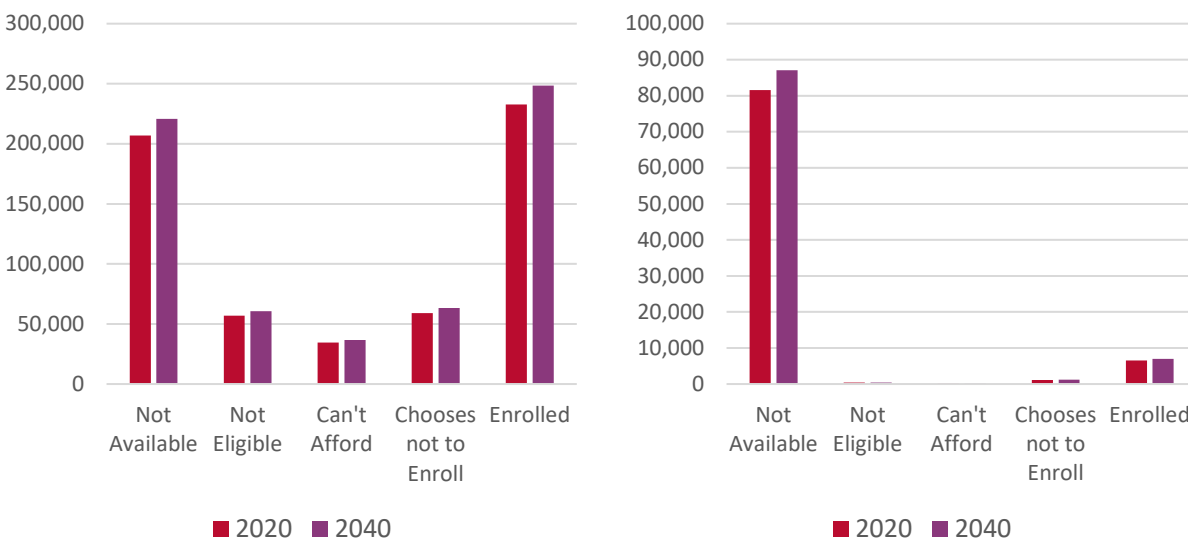
2020 estimates from LAUS suggest that approximately 864,000 persons in New Mexico had at least one part- or full-time job in the year. Note that this is a decline compared to the prior year because of the Coronavirus Pandemic. Data from ASEC on worker-type distributions in New Mexico applied to the LAUS data suggest that of this group there were roughly 590,000 workers in the private sector, 90,000 self-employed workers, and 184,000 workers in the government sector. Using in part the most recent GPS population projections for New Mexico as well as industry forecasts produced by the FOR-UNM



model, roughly 630,000 workers in the private sector, 96,000 self-employed workers, and 197,000 workers in the government sector are projected by 2040.

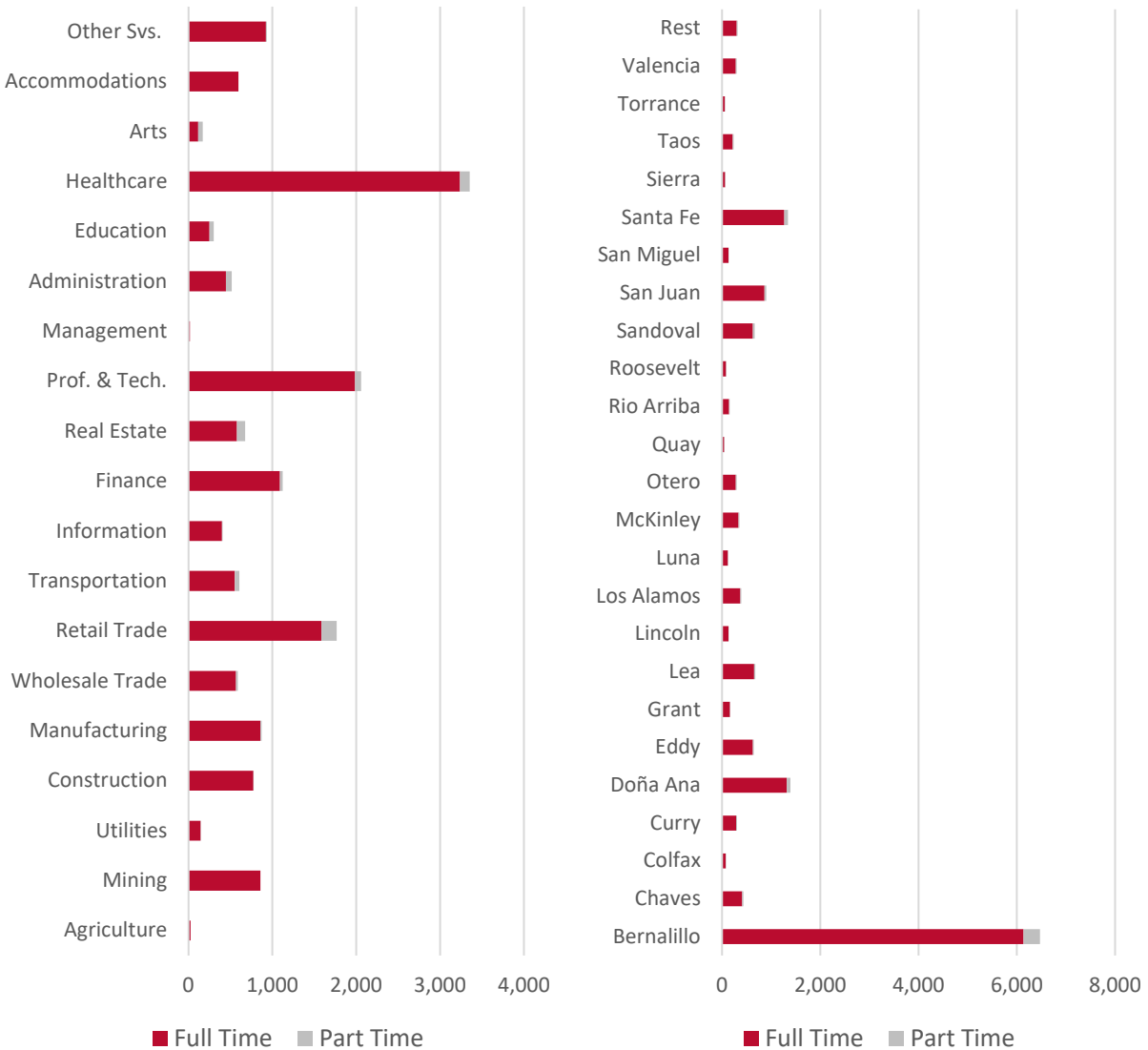
Leveraging private sector worker-industry distributions in New Mexico along with estimates of full-and part-time workers, SIPP retirement plan enrollment rates are applied. For this group, approximately 39% of all private-sector workers are estimated to be enrolled in an employer-sponsored retirement plan. This enrollment number is higher than suggested by ASEC rates (only about 25% in that case); however, the SIPP data are used because they provide greater detail with respect to reasons for non-enrollment, which is critical for this analysis, and because they provide greater detail with regard to retirement plan balances, which will be used in a future analysis. In addition, the enrollment percentage for New Mexico and the US is closer to the 56% US rate estimated in the most recent (2021) National Compensation Survey produced by the Bureau of Labor Statistics (<https://www.bls.gov/ncs/ebs/benefits/2021/employee-benefits-in-the-united-states-march-2021.pdf>). A similar analysis is undertaken for self-employed workers. In total, only about 7% of the self-employed reported being enrolled in an employer-sponsored type plan.

**Figure 3. Estimated Enrollment in an Employer-Sponsored Retirement Plan in 2020 versus 2040, Private-Sector Workers (left) & Self-Employed Workers (right)**



In addition to the broad results described above, this report details the enrollment outcomes by industry, county, and by part-time/full-time worker status. Results are also shown assuming a somewhat older population estimate and forecast produced by GPS which begins with a higher starting population and has a more robust rate of population growth.

**Figure 4. Change in Private-Sector Employer-Sponsored Retirement Plan Enrollment from 2020 to 2040 by Industry (left) and County (right)**



Also described is a scenario analysis incorporating the legalization of recreational cannabis in New Mexico, which is not explicitly modeled in the baseline projection. Of interest is the degree to which the expansion might be in industries that are likely to have employers that offer (or do not offer) retirement plans. While low-enrollment industries such as agriculture and retail trade are likely to be impacted in the scenario, relatively high-enrollment industries such as manufacturing and professional & technical services are also likely to be impacted. Overall, the scenario estimates that about 51% of the private-sector workers that are newly employed as a result of the expansion of recreational cannabis will be enrolled in an employer-sponsored plan, which is higher than the estimated 44% rate for all private-sector workers in the state. A follow-up section

describes the manner in which additional scenario analyses may be constructed by adjusting expected industry growth rates and industry-level full- and part-time worker status.

This report proceeds first with a discussion of the data key to generating estimates for retirement enrollment, including descriptions of employment & jobs data, population data, and retirement enrollment data. In the following section, retirement enrollment estimated for 2020 and projections for 2040 are presented, broken down by worker type (full- or part-time), industry, and location (county). The scenario analysis estimating the change in enrollment due to an expansion of the cannabis industry is then presented followed by a discussion of how to generate additional tailored analyses. In the final section of the main report, a brief discussion of possible markets that might be targeted to maximize enrollment is provided. In addition to the report's main body, an appendix that contains a broader discussion of data sources and assumptions used throughout the analysis and a description of the estimation methods used is provided.

This is the first piece of a three-part study. The second piece will be authored by Boston College's Center for Retirement Research and will estimate some of the financial elements of an expansion of a retirement program in New Mexico, including estimates of Assets Under Management (AUM). The third report produced by the University of New Mexico's Bureau of Business & Economic Research will focus on the issue of retirement underfunding and the likely (future) impact on the state.

## Key Data

Projecting the future population enrolled (or not enrolled) in an employer-sponsored retirement program in New Mexico requires an understanding of employment and population trends through time as well as historical estimates for plan availability and enrollment. This section details the key data and data sources used for this projection beginning first by describing employment and jobs in New Mexico, then population sizes and growth expectations, and finally detailing historical estimates for retirement plan enrollment.

### 1. Jobs & Employment

This section details various jobs and employment data and sources. The first subsection focuses on the employment data that are ultimately used to generate estimates and projections of enrollment in an employer-sponsored retirement plan. The second subsection provides additional data and context that is helpful for understanding the employment landscape in New Mexico.

### a. Employment Data Used To Generate Projections

Decomposing historical employment trends through time is a critical first step to projecting future employment growth; for the purposes of the present study, it is also a first step to classifying individuals that are currently enrolled or not enrolled in a retirement plan and to projecting how those groups are likely to change through time. While a few data sources may be used to provide information on enrolled or not enrolled populations at specific points in time (e.g. SIPP and ASEC), those series are somewhat ill-suited for generating employment projections of the type contemplated in this analysis: namely, for developing detailed projections by industry and geography. Instead, various data series from the BLS and BEA are leveraged to develop employment series. Those series are ultimately used in conjunction with relevant SIPP and ASEC data to generate enrollment data and projections.

**Figure 5. Historical Jobs & Employment by Data Source (000's)**

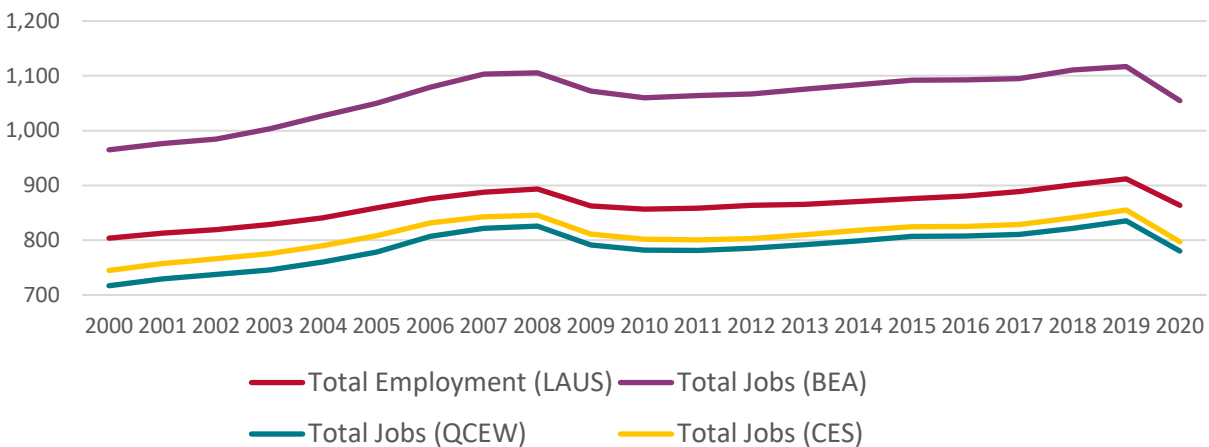
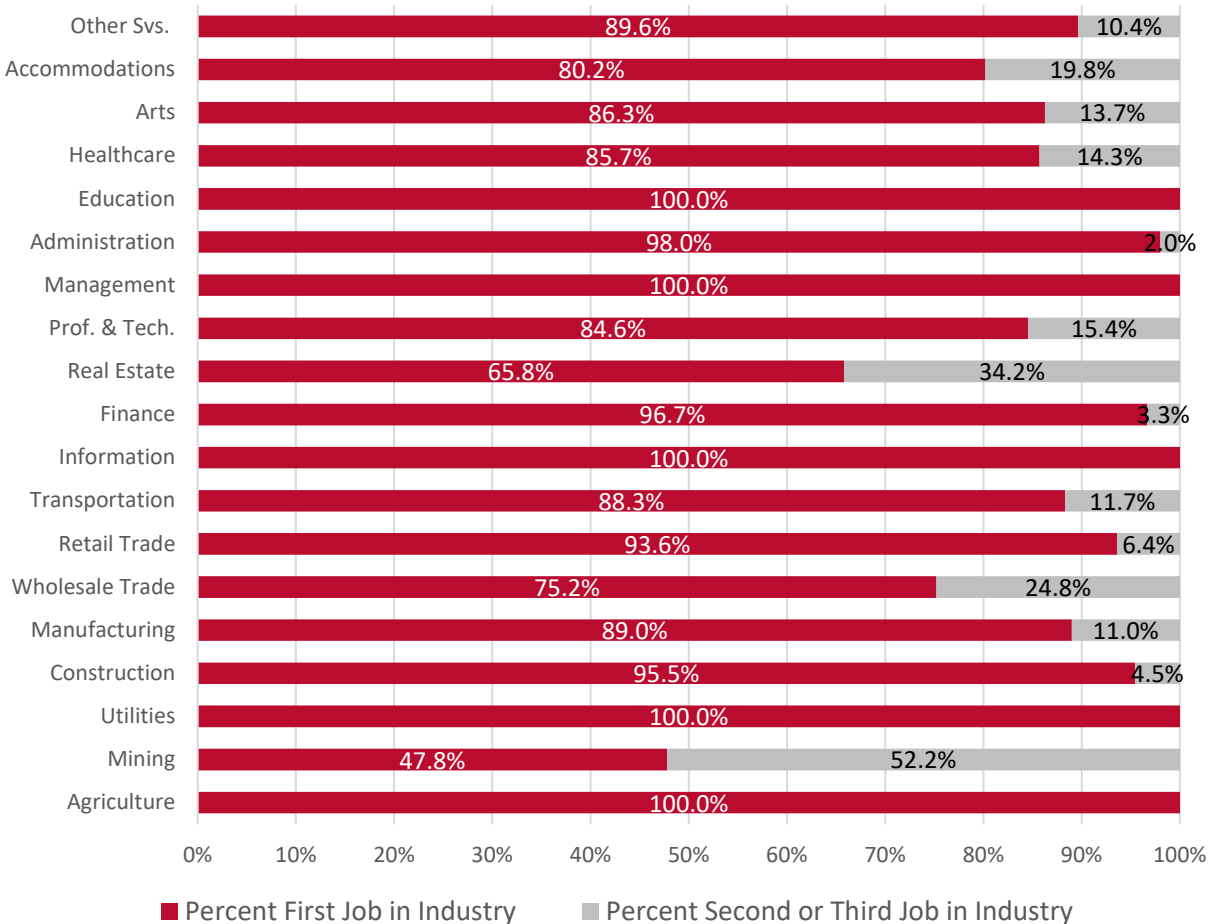


Figure 5 shows the trends for four employment series from 2000 to 2020. Each data series has its own strengths and while each series is distinct, their coverage is generally overlapping. The Total Employment (LAUS) series is based on the Bureau of Labor Statistics' monthly household survey which asks individuals if they are currently working. In other words, this is an estimate of the number of individuals that report having a job. This includes individuals working in the private and government sectors, but it also includes workers reporting that they are self-employed.

The next three series are counts or estimates of total jobs as opposed to an estimate of the total number of people employed. Data is from the employer perspective: that is, the series are generated by either surveying employers or counting employer payrolls. The distinction between the two series types is subtle but important, not only because the LAUS series is a household survey and because data from the other series comes from

employers, but also because in the former series, individuals may have more than one job. According to the US Census Bureau’s 2018 Survey of Income and Program Participation (SIPP), New Mexico had a total of approximately 1.078 million jobs. Of that total, approximately 112,676 of those jobs, or 10.5% of all jobs, were classified as either second or third jobs. Figure 6 shows the proportion of jobs that are classified by first or second (or third) jobs by industry.

**Figure 6. Percent of First, Second or Third Jobs within Each Industry (SIPP, 2018)**



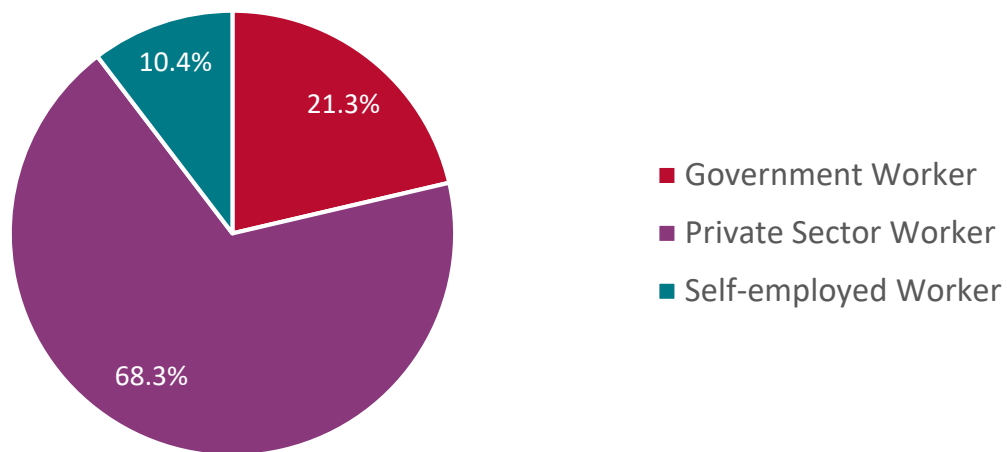
Note that for the purpose of projecting employment and retirement enrollment, “first jobs” (and not second or third jobs) are used because those are the jobs most likely to offer multiple job-holders employer-sponsored retirement plans.

Returning to the Total Jobs data shown in Figure 5, the coverage for the Total Jobs (BEA) series includes all jobs: private sector, government sector, and self-employed proprietors. The coverage for the Total Jobs (QCEW) series includes all individuals working for an employer where their job is covered by unemployed insurance, so private and

government workers that meet that criterion are included. The Total Jobs (CES) series generally includes the individuals in the QCEW series but also includes some jobs and occupations not covered by unemployment insurance.

Since the series have slightly different coverage, each is used in the present analysis for different purposes. The ability to do this is predicated on the fact that the series tend to move together and are highly correlated. In this case, because it is important to have an estimate for the number of working individuals, the Total Employment (LAUS) series is used first. To the LAUS series, the Census Bureau’s Annual Social and Economic Supplement to the Current Population Survey (ASEC) is applied to parse the jobs into three worker-groups: private sector, self-employed, and government workers as shown in Figure 7. Although the percentages shown in the chart are not static through time, they tend to not deviate substantially from year-to-year and any observed deviation may be a function of survey-based uncertainty.

**Figure 7. Proportion of Private Sector, Government & Self-Employed Workers in New Mexico (ASEC, Average 2014-2021)**

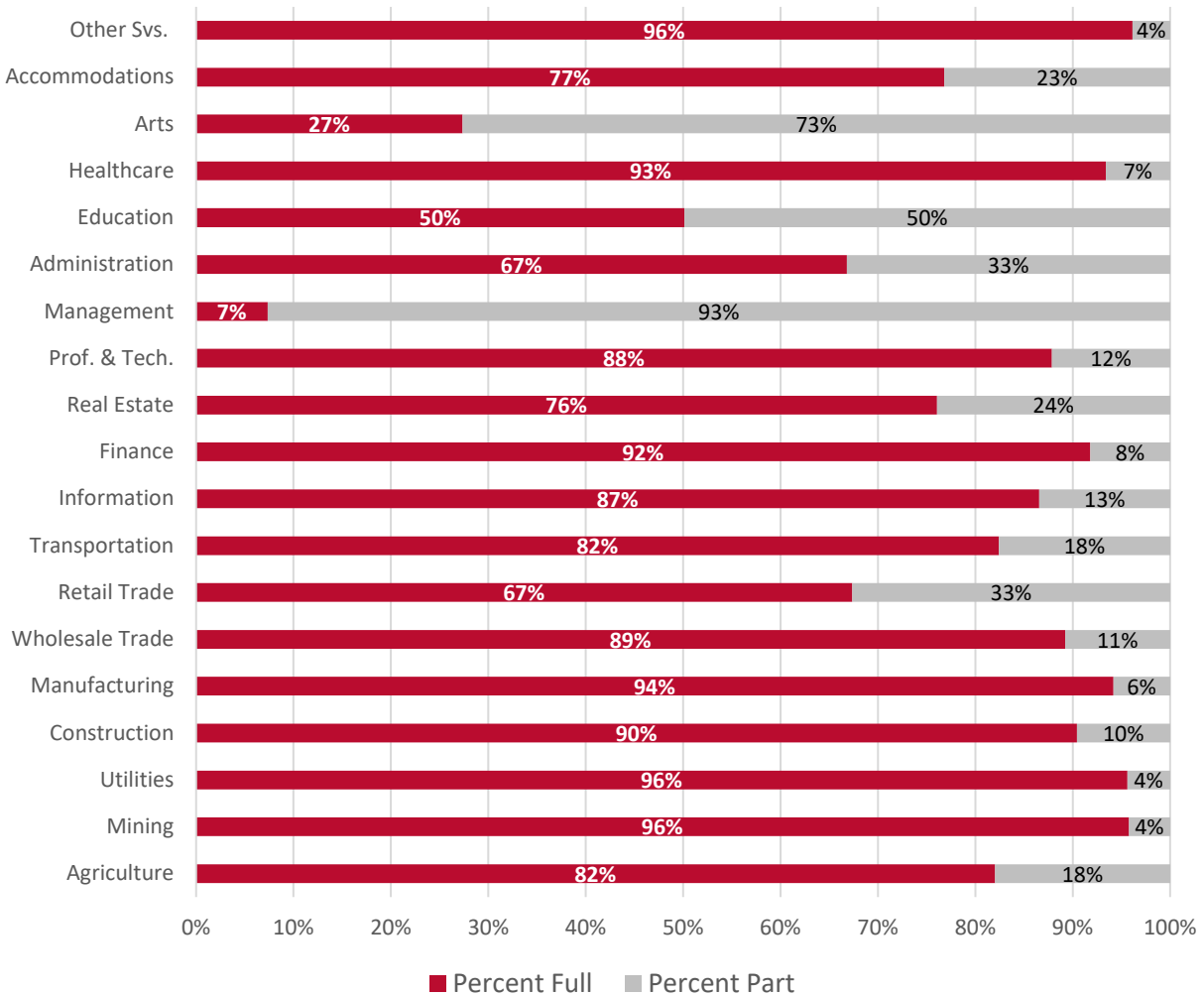


The BEA and QCEW series are used at a later point to assign workers to counties and industries and ultimately for the purpose of projecting.

In addition to the notion that individuals may have multiple jobs, a job may also be full- or part-time. The distinction between full- and part-time employment is important because full-time workers are much more likely to be offered a retirement plan and to accept a plan if offered. Figure 8 shows the distribution of full-and part-time workers by industry. Some notable industries have relatively low full-time workers. For example, only about 67% of workers in the retail trade sector and only 77% of workers in accommodations are full-time. These sectors tend to be low paying, employ a large number of individuals, and with

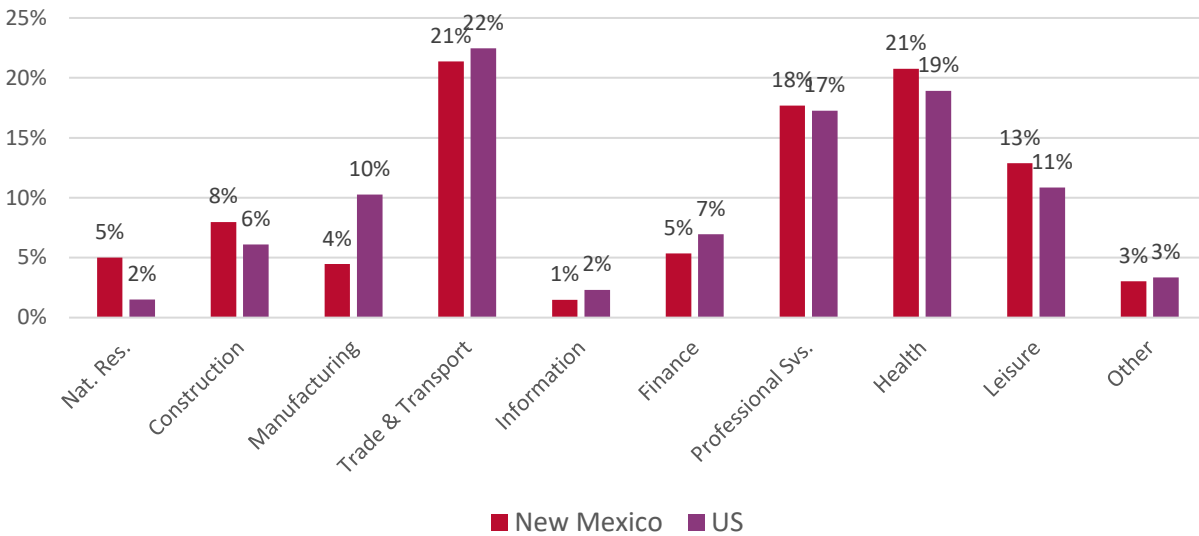
somewhat low percentages of full-time workers, are industries that would be expected to generate a large number of individuals without employer-sponsored retirement plans or without access to plans.

**Figure 8. US Full & Part-time Workers by Industry, Private Sector (SIPP, 2018)**



New Mexico tends to have a somewhat greater share of workers in industries that are less likely to offer an employer-sponsored plan such as leisure & hospitality and the US has a greater share of workers in industries, such as manufacturing, that are relatively more likely to offer a plan. Figure 9 shows broad private-sector industry distributions of jobs (again, this is jobs, not workers).

**Figure 9. New Mexico vs. US Jobs by Broad Industry Distribution (QCEW, 2020)**



We will return to the issue of industry distributions in the Plan Uptake & Enrollment subsection using a different data source (SIPP) that provides an assessment focused on workers rather than jobs.

### b. Other Relevant Employment Data

While the preliminary framework necessary to develop projections is described in the previous subsection, other data are useful to gain a broader understanding of the workforce.

For example, Figure 10 shows the distribution of jobs in terms of the percentage of jobs in each age cohort. This table highlights industries within cohorts that have high employment densities. Note that these data include all jobs and all workers; in other words, it included the private sector, self-employed, and government workers. The fact that government workers are included in these data is particularly clear in the education industry which tends to have few private-sector workers but a large number of state & local government workers. Nevertheless, these data are instructive insofar as they help describe the industries that different age cohorts tend to work in.

For the 15-24-year-old cohort, education & accommodations dominate followed by healthcare, retail trade, and arts. For the 25-34-year-old cohort, retail trade has the highest share of jobs, followed by healthcare, arts, accommodations, and professional & technical services. For the 35-64-year-old age cohort, retail trade, education, healthcare, and professional & technical services have the largest shares. For the 65-74-year-old



cohort healthcare & education dominate and for the 75+-year-old cohort, healthcare and professional & technical have the greatest share of workers.

**Figure 10. Employment Industry Distribution by Age Cohort, all Workers (SIPP, 2018)**

Industry	Age Cohort				
	15-24	25-34	35-64	65-74	75+
Agriculture	0.0%	6.0%	1.8%	0.0%	0.0%
Mining	0.0%	0.0%	0.6%	7.1%	0.0%
Utilities	0.0%	0.0%	1.5%	0.0%	0.0%
Construction	0.0%	0.0%	8.2%	0.0%	0.0%
Manufacturing	0.0%	9.3%	4.8%	7.3%	0.0%
Wholesale Trade	0.0%	2.3%	3.5%	0.0%	0.0%
Retail Trade	10.8%	15.0%	16.1%	0.0%	18.5%
Transportation	5.0%	2.9%	3.6%	7.6%	0.0%
Information	0.0%	0.0%	1.4%	0.0%	0.0%
Finance	0.0%	3.5%	4.3%	0.0%	0.0%
Real Estate	0.0%	0.0%	0.7%	0.0%	0.0%
Prof. & Tech.	7.6%	10.2%	11.3%	13.9%	29.5%
Management	0.0%	0.0%	0.0%	0.0%	0.0%
Administration	4.7%	6.4%	5.5%	0.0%	0.0%
Education	21.4%	4.8%	15.0%	33.2%	0.0%
Healthcare	13.8%	11.0%	13.7%	30.9%	26.0%
Arts	10.3%	10.8%	2.1%	0.0%	0.0%
Accommodations	26.5%	10.2%	3.5%	0.0%	0.0%
Other Svs.	0.0%	7.6%	2.6%	0.0%	26.0%
Individuals	98,614	208,843	558,767	45,540	19,073

Figure 11 is related to the previous figure but shows counts of jobs by each industry and for each age cohort. Approximately 82% of jobs appear in the 25-34-year-old and 35-64-year-old age cohorts. The largest number of workers tend to be in healthcare, education, retail trade, and professional & technical services. This result is fairly consistent across age cohorts, though the limited number of workers in the 65-74 and 74+-year-old cohorts, and the associated small sample sizes, make it difficult to ensure that all industries are fully accounted-for.

**Figure 11. Employment Industry Distribution by Age Cohort, all Workers (SIPP, 2018)**

Industry	Age Cohort				
	15-24	25-34	35-64	65-74	75+
Agriculture	0	12,596	9,819	0	0
Mining	0	0	3,341	3,252	0
Utilities	0	0	8,333	0	0
Construction	0	0	45,929	0	0
Manufacturing	0	19,462	27,059	3,308	0
Wholesale Trade	0	4,830	19,639	0	0
Retail Trade	10,680	31,363	89,879	0	3,521
Transportation	4,903	6,033	19,986	3,478	0
Information	0	0	7,670	0	0
Finance	0	7,354	23,999	0	0
Real Estate	0	0	3,691	0	0
Prof. & Tech.	7,504	21,292	62,995	6,334	5,627
Management	0	0	0	0	0
Administration	4,647	13,361	30,721	0	0
Education	21,062	9,978	83,959	15,114	0
Healthcare	13,579	22,881	76,572	14,054	4,963
Arts	10,126	22,594	11,488	0	0
Accommodations	26,114	21,202	19,364	0	0
Other Svs.	0	15,897	14,323	0	4,963
<b>Individuals</b>	<b>98,614</b>	<b>208,843</b>	<b>558,767</b>	<b>45,540</b>	<b>19,073</b>

Employer size is another metric useful for understanding worker composition and the likelihood of retirement plan availability and enrollment. Figure 12 shows a comparison of the distribution of private sector establishments (top chart) and employees (bottom chart) using two different data sources: the Census Bureau’s Business Dynamics Statistics (BDS) and the QCEW data. The BDS data shows averages from 2011 to 2018 and the QCEW shows averages from 2011 to 2018. While the trends are generally similar for both data series, they are not identical. Overall, the QCEW data is slanted somewhat toward the smaller employers/establishments in terms of the number of establishments and the number of jobs. With respect to the number of jobs, the data suggest that somewhere between 6% and 8% of jobs are with employers with fewer than five employees and somewhere between 12% and 17% of jobs are with employers with fewer than 10 employees. Differences between the two series are partly the result of the manner in which the data are collected (a survey in the case of BDS account in terms of QCEW); however, the larger difference is how employers are counted – i.e. with regard to whether they are categorized at the employer level or the work establishment level. Nevertheless, distributions, especially with regard to the smallest employers, are generally similar.

**Figure 12. Distribution of New Mexico Private Sector Establishments (top) and Employees (bottom) by Number Employed at Establishment (BDS, 2011-2018) & (QCEW, 2011-2021)**

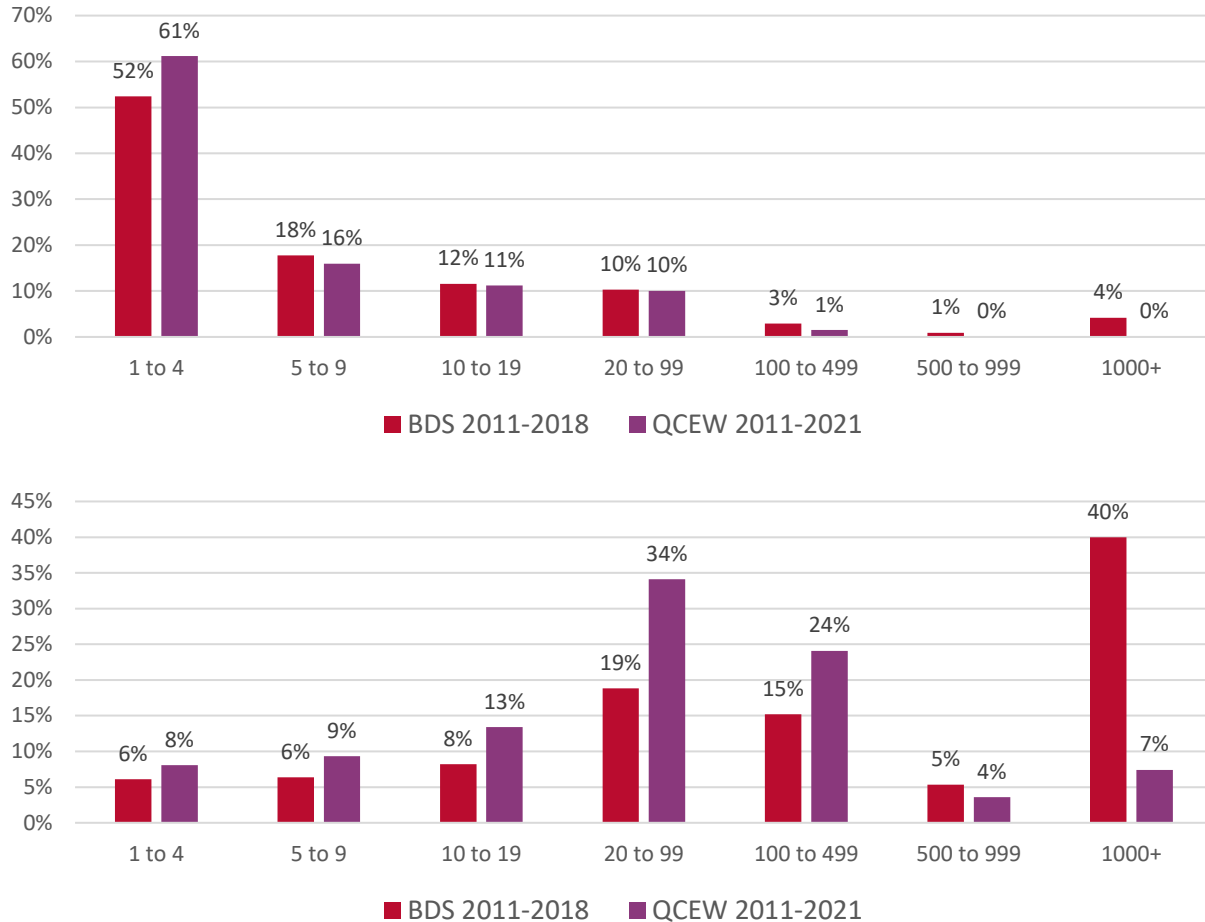
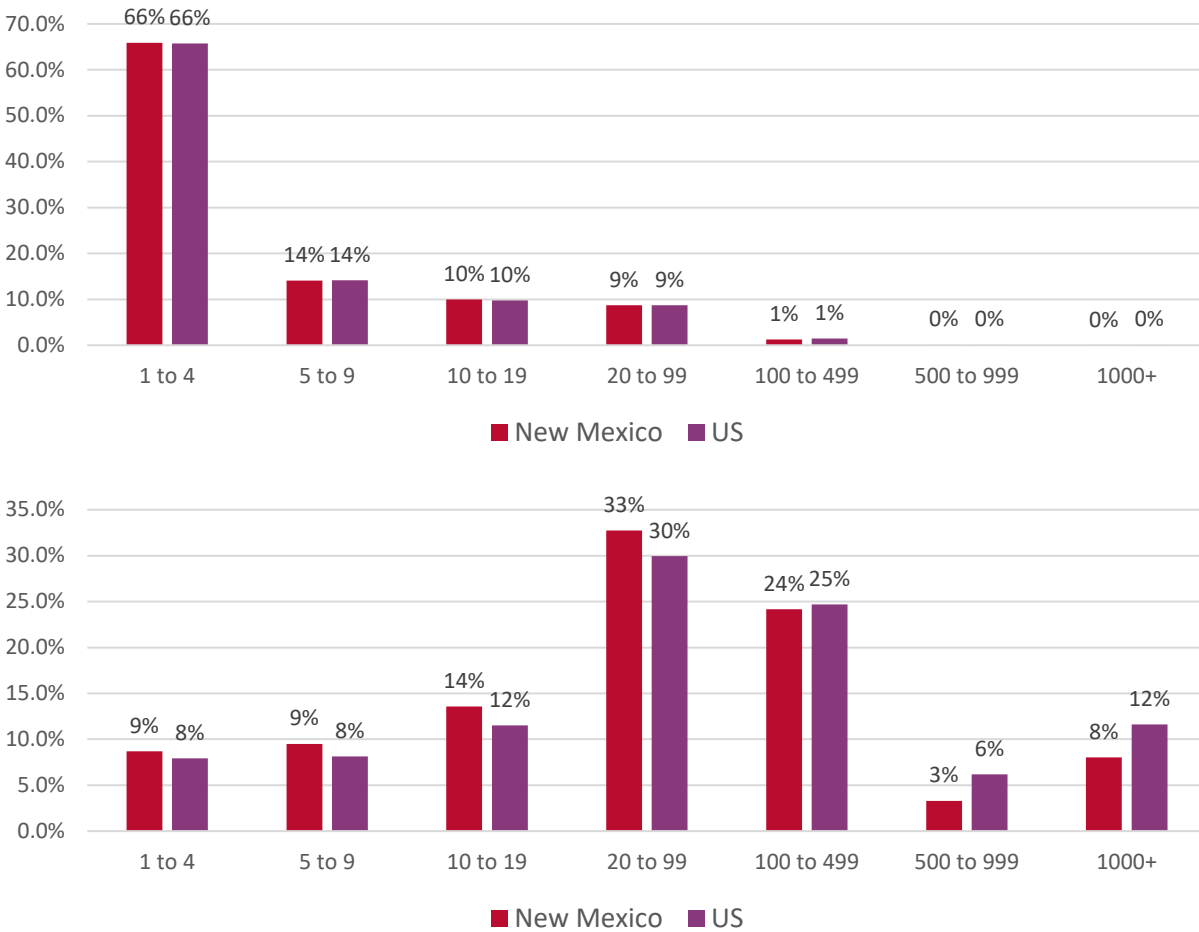


Figure 13 shows a comparison of the distributions of US and New Mexico employers (top chart) and jobs (bottom chart) using the most recent QCEW (2021Q1) data. In general, the distribution of employers categorized by the number of employees is similar in New Mexico and the US. These updated data suggest that roughly two-thirds of employers have fewer than five employees; compared to the average QCEW data over the period from 2011 to 2021 shown in Figure 12, the concentration of very small employers has increased.

Despite the fact that the majority of employers are of the type that has less than five employees, only 9% of jobs in New Mexico and 8% of jobs in the US are accounted-for by those very small employers. In terms of overall trends, jobs in New Mexico compared to the US tend to come from relatively smaller employers. In particular, 65% of all private-sector jobs in New Mexico are from employers with fewer than 100 employees versus

58% in the US.

**Figure 13. Distribution of US and New Mexico Private Sector Establishments (top) and Employees (bottom) by Number Employed at Establishment (QCEW, 2021Q1 only)**



An important caveat to the 2021Q1 QCEW data is that those data were collected after the start of the Coronavirus Pandemic. It is unclear whether the most recent data and new data trends are representative and will continue to carry forward into the future.

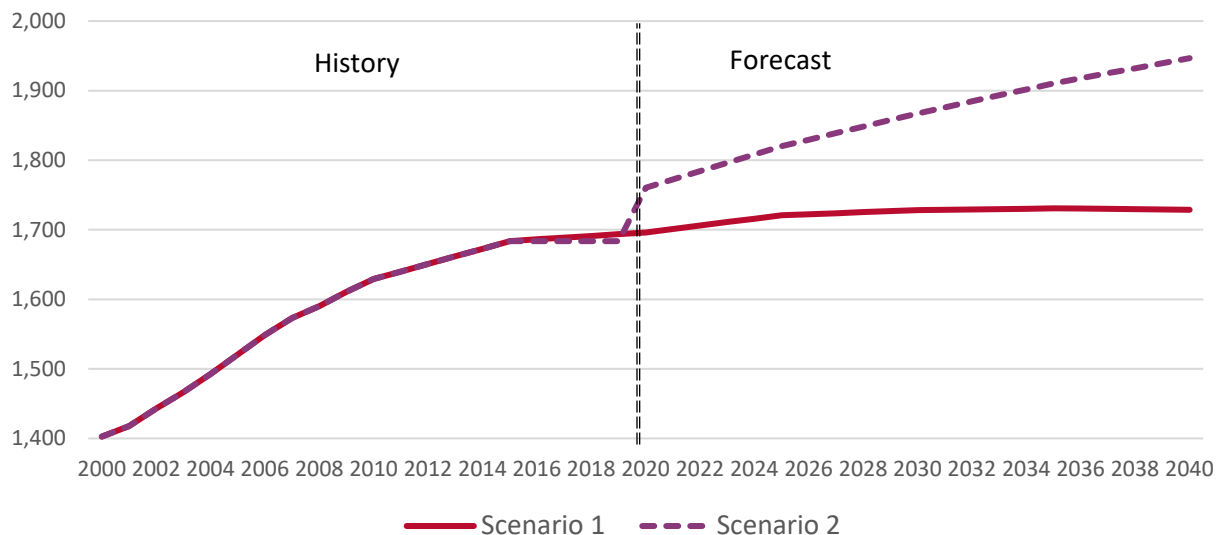
## 2. Population

New Mexico population estimates and projections are generated by the University of New Mexico's Geospatial & Population Services (<https://gps.unm.edu/>). These population data are used as a key input to the development of projections for the number of working individuals over time.

a. Population Data Used For Projections

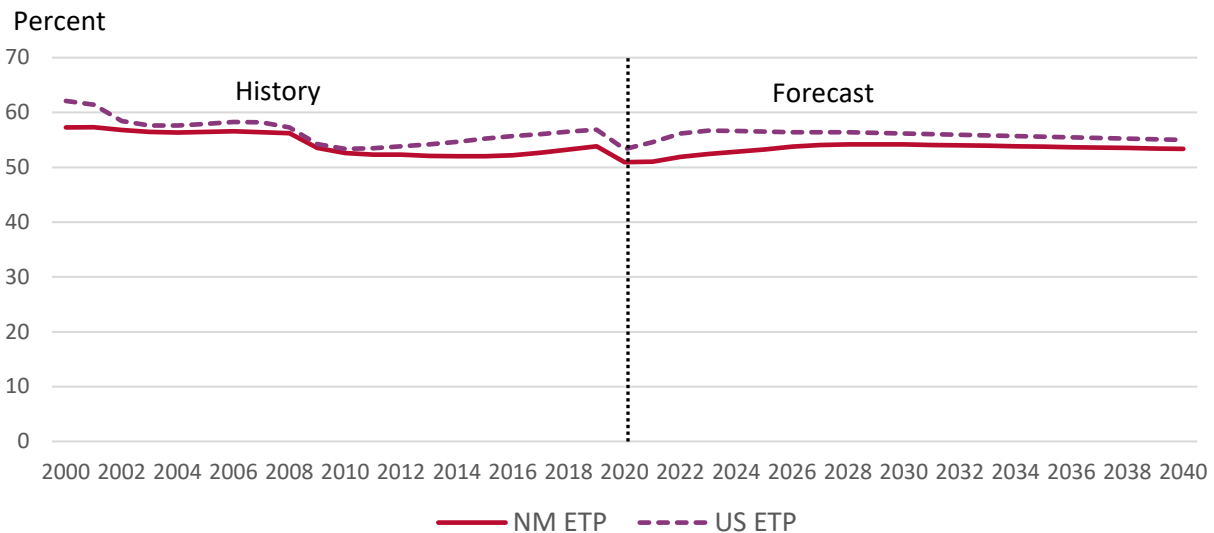
Figure 14 shows the projected New Mexico population for persons at least 15 years old. This lower limit on age is used because their projections use the age cohort of 15-19 years old; this cohort was retained to ensure that individuals aged 18 and 19 years old were included. Two scenarios are shown. Scenario 1 is the most up-to-date projection developed by GPS and accounts for current population estimates, recent population growth trends, and a slow expectation for population growth. Scenario 2 is a somewhat older population projection, has a relatively higher starting population level in 2020, and a more rapid rate of growth over the period. By the end of the projection, Scenario 1 has a population of 1.729 million persons and Scenario 2 has a population of 1.947 million persons.

**Figure 14. New Mexico Population Projection Trends (000's of Persons) – 2 scenarios, ages 15, University of New Mexico Geospatial & Population Service**



The historical population projection data, in concert with historical employment data, lay the foundation for developing an employment-to-population ratio for New Mexico. In concert with a published US employment-to-population ratio and published New Mexico job projections for the period 2021-2026, the New Mexico ratio is projected forward as shown in Figure 15. Details for this process are described in the Technical Appendix.

**Figure 15. NM & US Employment-to-Population Ratios (NM aged 15+; US aged 16+)**



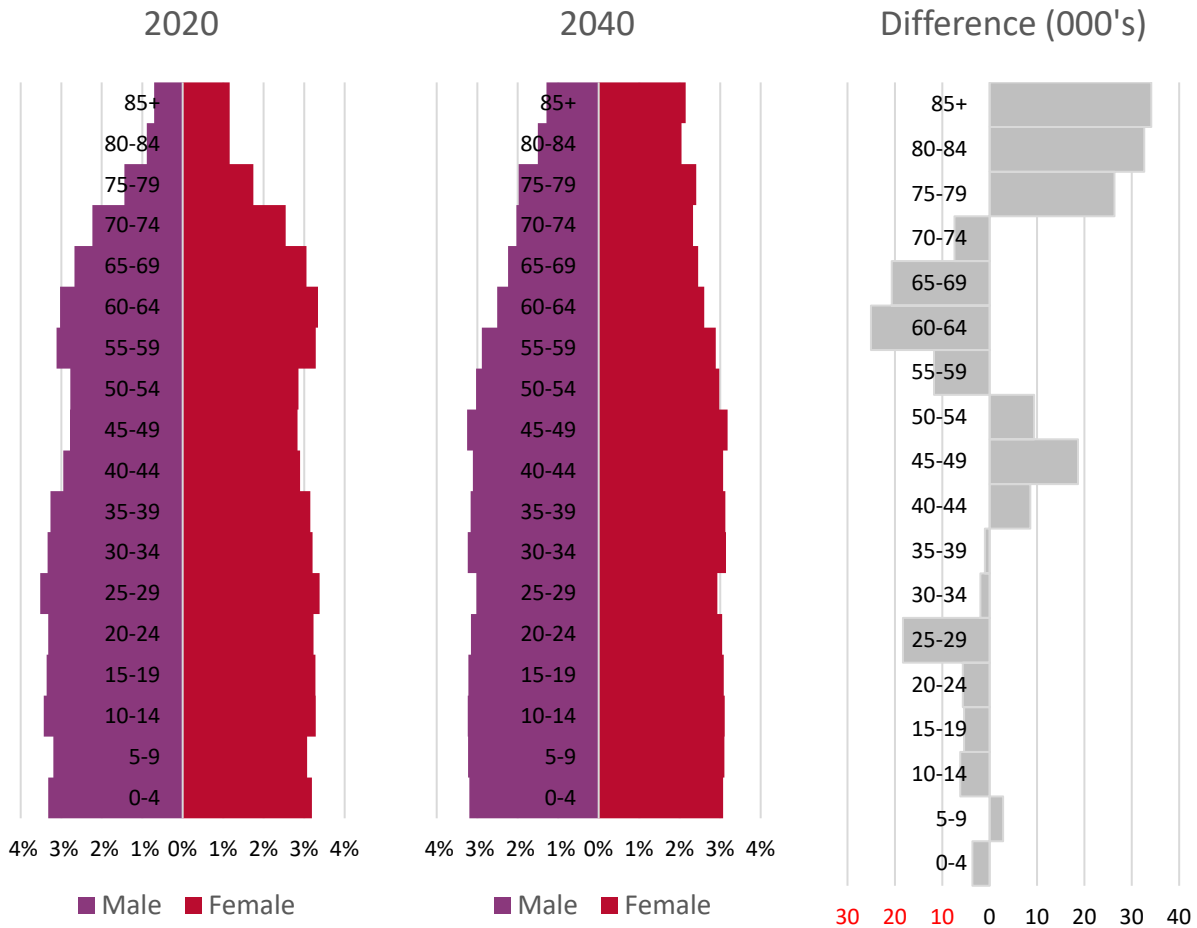
Note that New Mexico’s employment-to-population ratio tends to fall below the US ratio in part because the state historically tends to lag, but also because the population used to generate the ratio for New Mexico includes individuals that are aged 15 years old whereas the US ratio includes ages 16+. Individuals aged 15 years are probably less likely than average to be employed, thus increasing the number in the denominator of the calculation and bringing down the rate somewhat.

The New Mexico projected employment-to-population ratio is applied to the projected population scenarios to generate employment estimates. The employment estimates are then adjusted to account for the private sector, government, and self-employed workers according to the percentages shown in Figure 7, and jobs are assigned to each industry and county and by full-time and part-time workers. Results from this process are described in the Employment Projections section.

**b. Disaggregated Population Data**

In addition to the aggregate population data described above, GPS develops population estimates and projections by age cohort and geography. Figure 16 shows GPS’s most recent population estimates for 2020 and projections for 2040 (Scenario 1).

**Figure 16. Population Distribution and Difference in Population by Age Cohort from 2020 to 2040, UNM Geospatial & Population Services – Scenario 1**



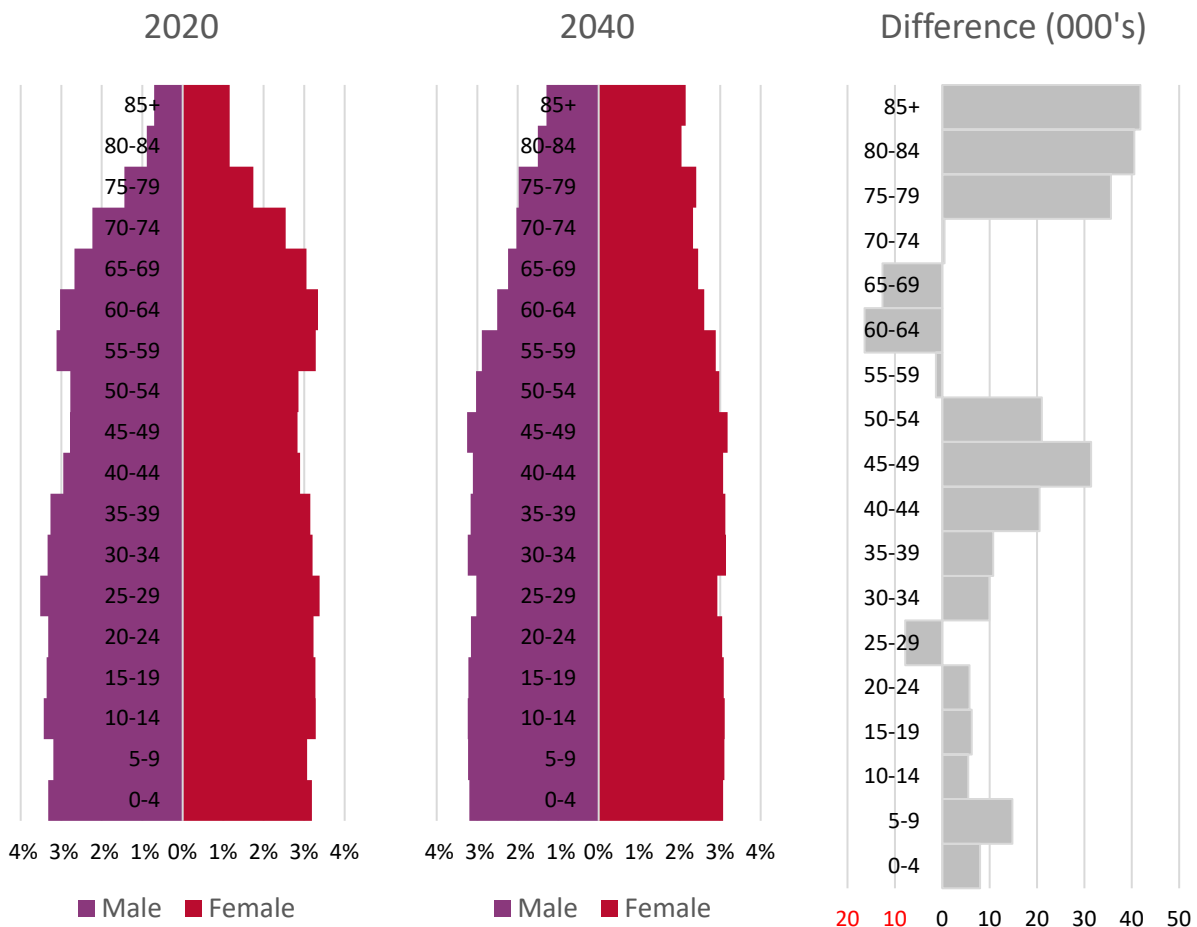
The population pyramids suggest that there will be a “slimming” of the population such that relatively young and working-age individuals will move into middle and older age but will not be replaced. The projected trend in this scenario (which is the most up-to-date scenario) is very slow population growth from 2020 to 2040. Overall, this scenario assumes that the population will increase from about 2.107 million persons in 2020 to about 2.133 persons in 2040, or by only 1.2%. This is slow by historical standards but not inconsistent with the state’s experience following the Great Recession. The age cohorts experiencing the largest gains over the period are those aged 75 years or above, though there is a marginal increase to the 40-54-year-old age cohort. Most other groups decline in population.

While this population outlook is generally consistent with recent history, it is possible that the outlook is somewhat pessimistic as the (much) longer-term trend for population

growth in New Mexico has been more rapid, and in fact, prior estimates for population growth have been more robust.

To that end, the following figure shows GPS's previous population pyramids (Scenario 2). While the general age distribution is similar to the distribution in Scenario 1, this scenario calls for greater overall population gains over the period. In particular, the population increases from 2.187 million in 2020 to 2.401 million in 2040, or by about 9.8%.

**Figure 17. Population Distribution and Difference in Population by Age Cohort from 2020 to 2040, UNM Geospatial & Population Services – Scenario 2**



In Scenario 2, the estimated 2020 population (2.187 million) is above the 2020 population in Scenario 1 (2.107 million). As Scenario 1 is more recent, it uses relatively more up-to-date estimates for the population in that year. In addition, while the population size begins with a higher base in Scenario 2 (i.e. with a larger population level), population growth is much faster in that scenario than Scenario 1 (9.8% in Scenario 2 versus 1.2% in Scenario



1) which contributes to an ending population-level much higher in Scenario 2 than Scenario 1.

Although it is possible to roughly match the current total population to current population age cohorts, and it would be helpful to match projected employment to the projected population cohort, it is not a straightforward effort. First, survey-based data that tabulates industry and age cross-sections for New Mexico are subject to substantial statistical error due to small sample sizes. This error is exacerbated when adding an additional cross-section of retirement plan enrollment, which is necessary for the current study. Second, just because the age and industry cross-sections are currently distributed in a particular way that does not mean that future distributions will be similar. Although that result would certainly not be out of the realm of possibility, the sparse data and statistical challenges make imposing this assumption potentially error-prone.

### 3. Plan Availability and Enrollment

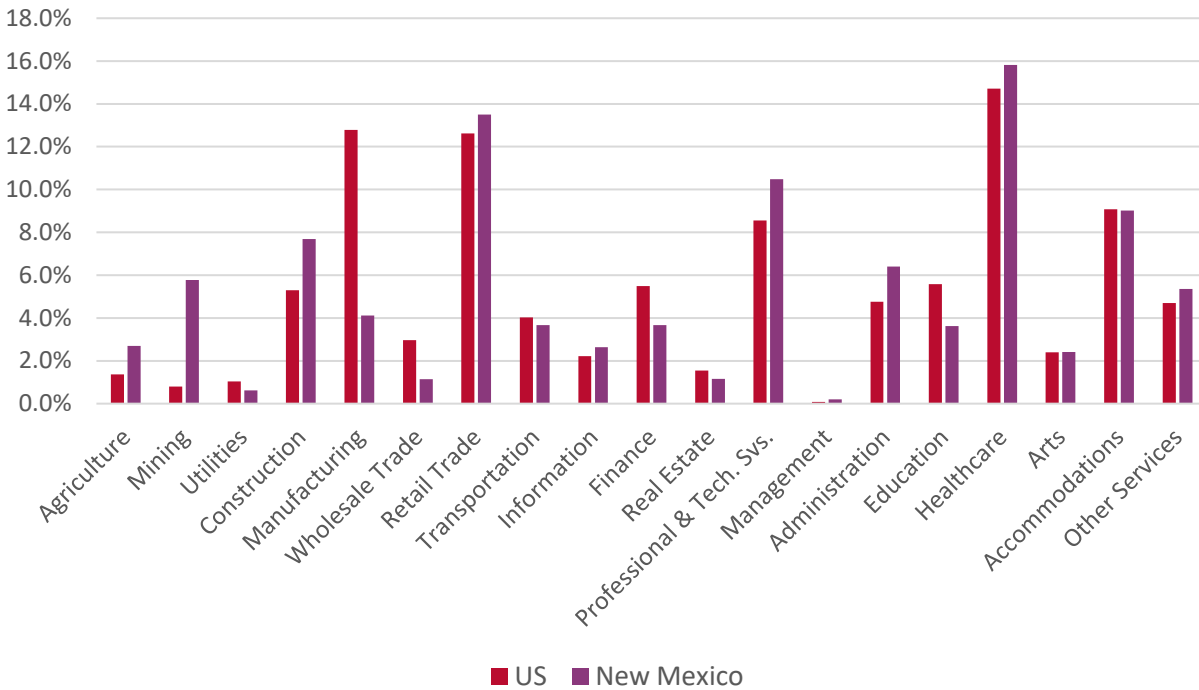
This section describes the manner in which the jobs data are matched to the retirement plan enrollment data. Much of the work is done using the SIPP (2014) data, so the first subsection broadly describes the various series relevant to that analysis. The second subsection addresses the ASEC data, which also provides estimates for retirement enrollment.

#### a. Availability and Enrollment Data Used for Projections

National and state data were collected on employer-sponsored retirement plan availability and enrollment for full- and part-time private-sector workers by industry. US distributions were initially used because New Mexico data were hindered by small sample sizes and sparse data, making the direct use of state-based enrollment data impractical.

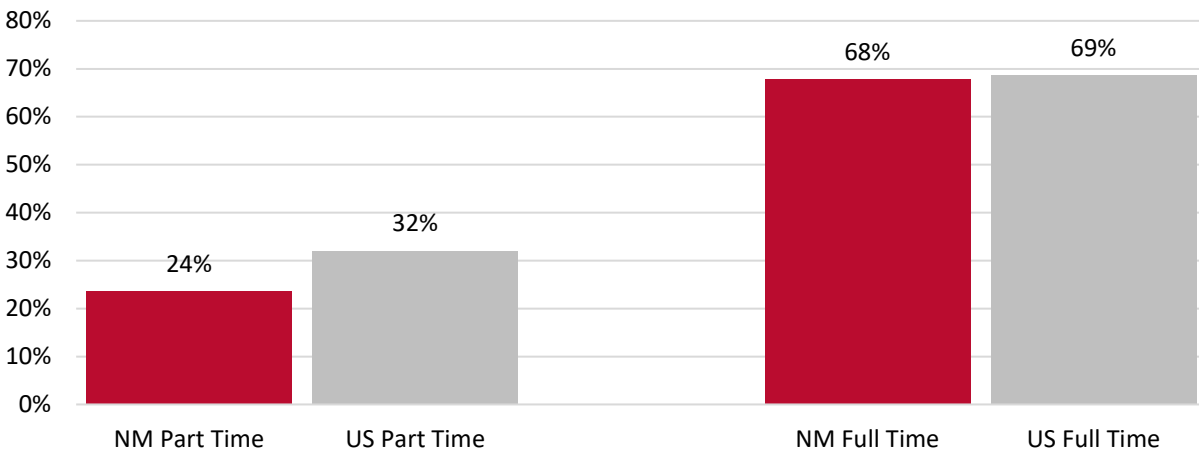
The difference in the way that the estimation plays out, and the manner in which the projections evolve, is predicated somewhat upon the industrial differences in New Mexico compared to the US. Figure 18 shows the percent of all private-sector workers in the US and New Mexico by industry. Workers in New Mexico are disproportionately distributed into industries with relatively larger shares of part-time workers. Overall, according to the 2014 SIPP data, approximately 73% of workers in the US work in full-time jobs whereas about 67% of New Mexico workers work in full-time jobs. Comparable ASEC data for 2020 also suggest that New Mexico has a greater share of part-time workers (19% versus 16%).

**Figure 18. Proportion of Private-Sector Workers by Industry – New Mexico versus US (SIPP, 2014)**



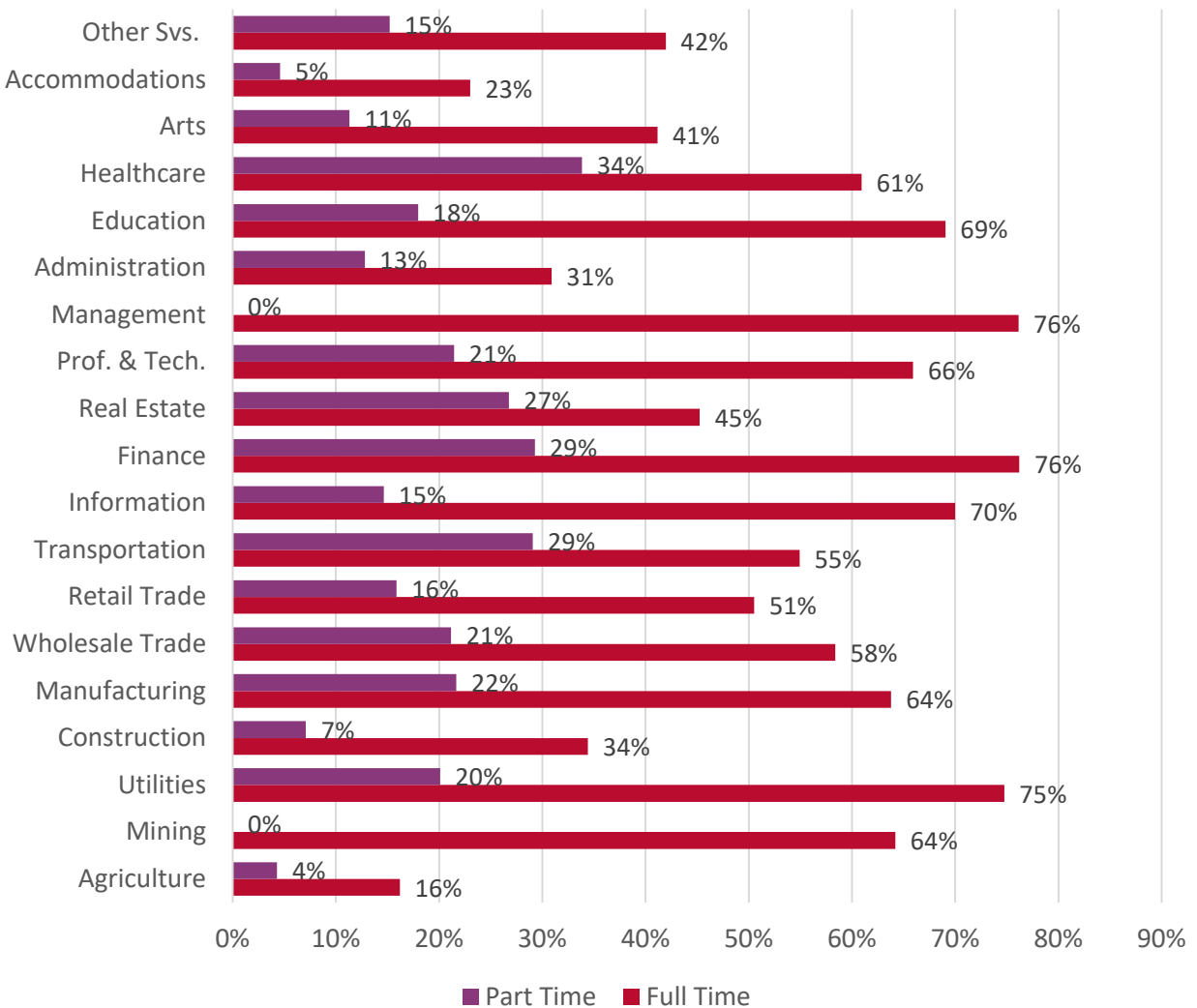
Part-time workers are less commonly eligible for employer-based retirement plans. Figure 19 shows that nationally 69% of full-time private-sector workers have access to a retirement savings plan, compared to 32% of their part-time counterparts. New Mexico has a similar percentage of full-time workers (68%), but the percentage of part-time workers who have access in the state is only 24%. Compounding the difference between New Mexico and the US is that New Mexico has a relatively larger share of workers that work part-time.

**Figure 19. Eligibility of Private-Sector Employer Retirement Plan by Full-Time and Part-Time Status (SIPP, 2014)**



Using the same SIPP data, Figure 20 shows the percent of full- and part-time workers that are enrolled in a retirement plan by industry. These data provide a broad snapshot of industry-level enrollment. In general, full-time workers are more likely than part-time workers to be enrolled in an employer-sponsored retirement plan in each industry.

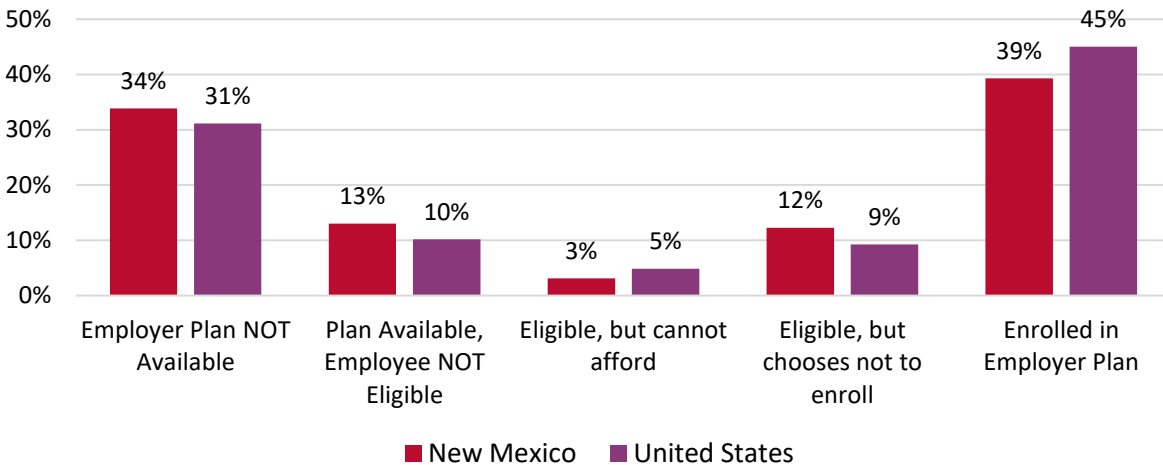
**Figure 20. Percent of US Private-Sector Full-Time & Part-Time Workers with a Retirement Plan by Industry (SIPP, 2014)**



In this case, the term “with a retirement plan” includes individuals that have access to, qualify for, and take advantage of an employer-sponsored retirement plan. Individuals that do not have a retirement plan include people that either do not have access to a plan, cannot afford to enroll in a plan, or have access to a plan and qualify but choose to not take advantage.

Because a combination of US and New Mexico data is used in this analysis, it is helpful to compare trends for aggregate enrollment data for both places. That comparison is shown in Figure 21.

**Figure 21. Retirement Plan Status for Private-Sector Workers (SIPP, 2014)**



A difference between New Mexico and the US is the lack of plan availability to the worker (i.e., the employer does not offer a plan or the employer offers a plan but the employee is not eligible; 47% in New Mexico versus 41% nationally). Interestingly, fewer New Mexicans identify affordability as a barrier to participation (3% versus 5%) but a greater number indicates a decision not to participate for other reasons. (12% versus 9%).

After an initial round of estimates and analysis using only the US enrollment data, it was discovered that the enrollment percentages applied to New Mexico were approximately five percentage points too high. Therefore, the enrollment percentages (by industry) were uniformly adjusted down by five points and the reason for non-enrollment was redistributed according to their relative proportions within the industry. Figure 22 shows the New Mexico adjusted enrollment percentages by the industry for full-time workers.

**Figure 22. New Mexico Adjusted Estimated Enrollment or Non-Enrollment by Industry Full Time Workers (SIPP, 2014)**

	Not Available	Not Eligible	Can't Afford	Choose not to Enroll	Enrolled
Agriculture	78%	1%	3%	7%	11%
Mining	14%	9%	3%	14%	59%
Utilities	19%	2%	2%	8%	70%
Construction	52%	5%	2%	11%	29%
Manufacturing	20%	7%	5%	9%	59%
Wholesale Trade	28%	8%	5%	6%	53%
Retail Trade	28%	10%	7%	10%	46%
Transportation	33%	3%	6%	9%	50%
Information	13%	1%	7%	14%	65%
Finance	10%	6%	4%	9%	71%
Real Estate	39%	4%	13%	5%	40%
Prof. & Tech.	18%	5%	4%	12%	61%
Management	0%	0%	0%	29%	71%
Administration	45%	8%	6%	15%	26%
Education	14%	8%	4%	10%	64%
Healthcare	23%	7%	6%	8%	56%
Arts	43%	8%	6%	7%	36%
Accommodations	50%	9%	9%	14%	18%
Other Svs.	47%	5%	3%	8%	37%

Figure 23 shows the New Mexico adjusted distribution of enrollment and reasons for non-enrollment by the industry for part-time workers. Comparing full- to part-time, a smaller share of part-time workers are enrolled and a high percentage of workers are either not eligible or do not have a plan available.

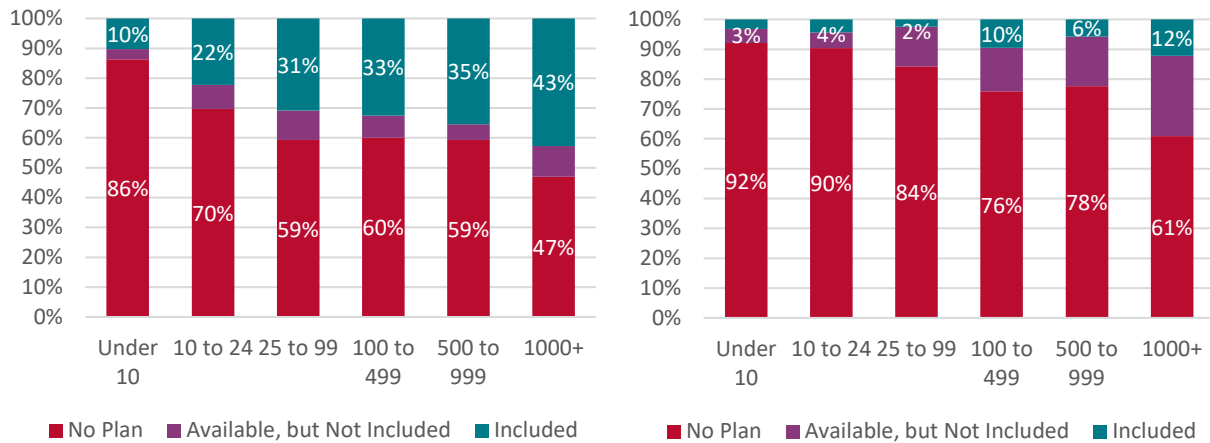
**Figure 23. New Mexico Adjusted Estimated Enrollment or Non-Enrollment by Industry Part-Time Workers (SIPP, 2014)**

	Not Available	Not Eligible	Can't Afford	Choose not to Enroll	Enrolled	
Agriculture	86%	7%	3%	4%	0%	100%
Mining	64%	36%	0%	0%	0%	100%
Utilities	70%	0%	0%	15%	15%	100%
Construction	80%	8%	6%	4%	2%	100%
Manufacturing	58%	12%	3%	10%	17%	100%
Wholesale Trade	61%	13%	6%	4%	16%	100%
Retail Trade	36%	36%	4%	13%	11%	100%
Transportation	35%	24%	8%	8%	24%	100%
Information	41%	30%	14%	5%	10%	100%
Finance	38%	29%	4%	4%	24%	100%
Real Estate	58%	11%	6%	4%	22%	100%
Prof. & Tech.	48%	18%	2%	15%	16%	100%
Management	38%	0%	63%	0%	0%	100%
Administration	65%	13%	6%	8%	8%	100%
Education	37%	31%	6%	13%	13%	100%
Healthcare	36%	19%	5%	11%	29%	100%
Arts	52%	27%	4%	11%	6%	100%
Accommodations	66%	21%	5%	8%	0%	100%
Other Svs.	62%	21%	1%	6%	10%	100%

### b. Other Enrollment Data

As already alluded to in the Employment section, employer size likely impacts retirement plan availability and enrollment. Figure 24 leverages ASEC data to show average retirement plan availability and inclusion by employer size over the period from 2019 to 2021 for full- and part-time workers in New Mexico.

**Figure 24. Proportion of Private Full-Time (left) and Part-Time (right) Workers in New Mexico with Employer-Available Retirement Plan by Employer Size (ASEC, Average 2019-2021)**



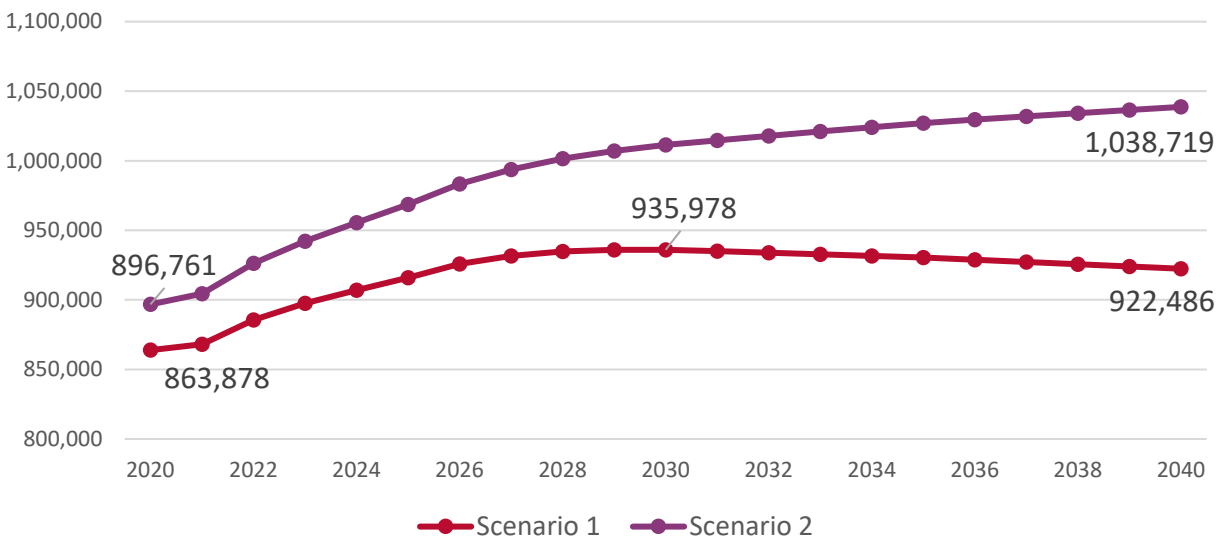
As described elsewhere in this report, full-time workers tend to be more likely to be offered a plan and are more likely to be included in a plan compared to part-time workers. In addition, plan availability and inclusion tend to increase with employer size.

## Employment & Retirement Enrollment Projections

Population data in addition to historical job and employment data (by industry and geography) were compiled to generate employment projections for New Mexico. As discussed in the Employment section, the New Mexico projected employment-to-population ratio (Figure 15) is applied to the projected population scenarios (Figure 14) to generate employment estimates. The employment estimates are then adjusted to account for private sector, government, and self-employed workers (Figure 7) and jobs are assigned to each industry and county by full- and part-time worker status. The Appendix details the specific modeling strategies and approaches used to develop estimates.

Figure 25 shows two employment projections. Scenario 1 is based on the most recent GPS population projections and Scenario 2 is based on GPS’s earlier, more rapidly growing, population projections. Both scenarios follow similar paths over the period from 2020 to 2026, though Scenario 2 begins above Scenario 1 in 2020. The scenarios diverge around 2027 as the rate of increase slows in Scenario 1. The employment path for Scenario 2 is above the Scenario 1 path because the underlying population levels are higher in that scenario.

**Figure 25. Projections for Total Employment (Persons) – Two Scenarios**

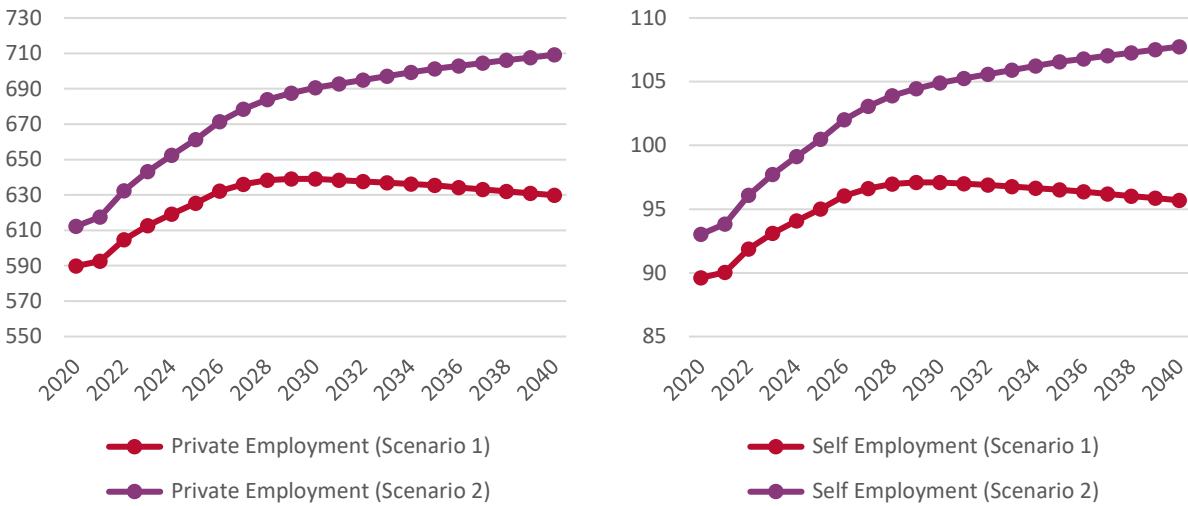


In 2020, total employment in New Mexico is estimated to be 863,878 persons in Scenario 1 and 896,761 persons in Scenario 2. Scenario 1 reaches a peak of 935,978 persons in 2030, then with falling population growth and a flagging employment-to-population ratio, that number falls to 922,486 persons. Scenario 2, however, reaches a peak in 2040 with 1.039 million persons as the rate of population growth overcomes the slowing employment-to-population ratio. That puts Scenario 2 more than 116,000 workers ahead of Scenario 1. Even discounting the nearly 33,000-person advantage that Scenario 2 had at the beginning of the projection in 2020, Scenario 2 ends the period on net with about 83,000 more workers.

Total employment is distributed between the private sector (68.3%), self-employed (10.4%), and government sector (21.3%) workers according to the ASEC data in Figure 7, and the private sector employment and self-employed series are shown in Figure 26.



**Figure 26. Projections for Private-Sector Workers (left) and Self-Employed Workers (right) in 000's of Persons – Two Scenarios**

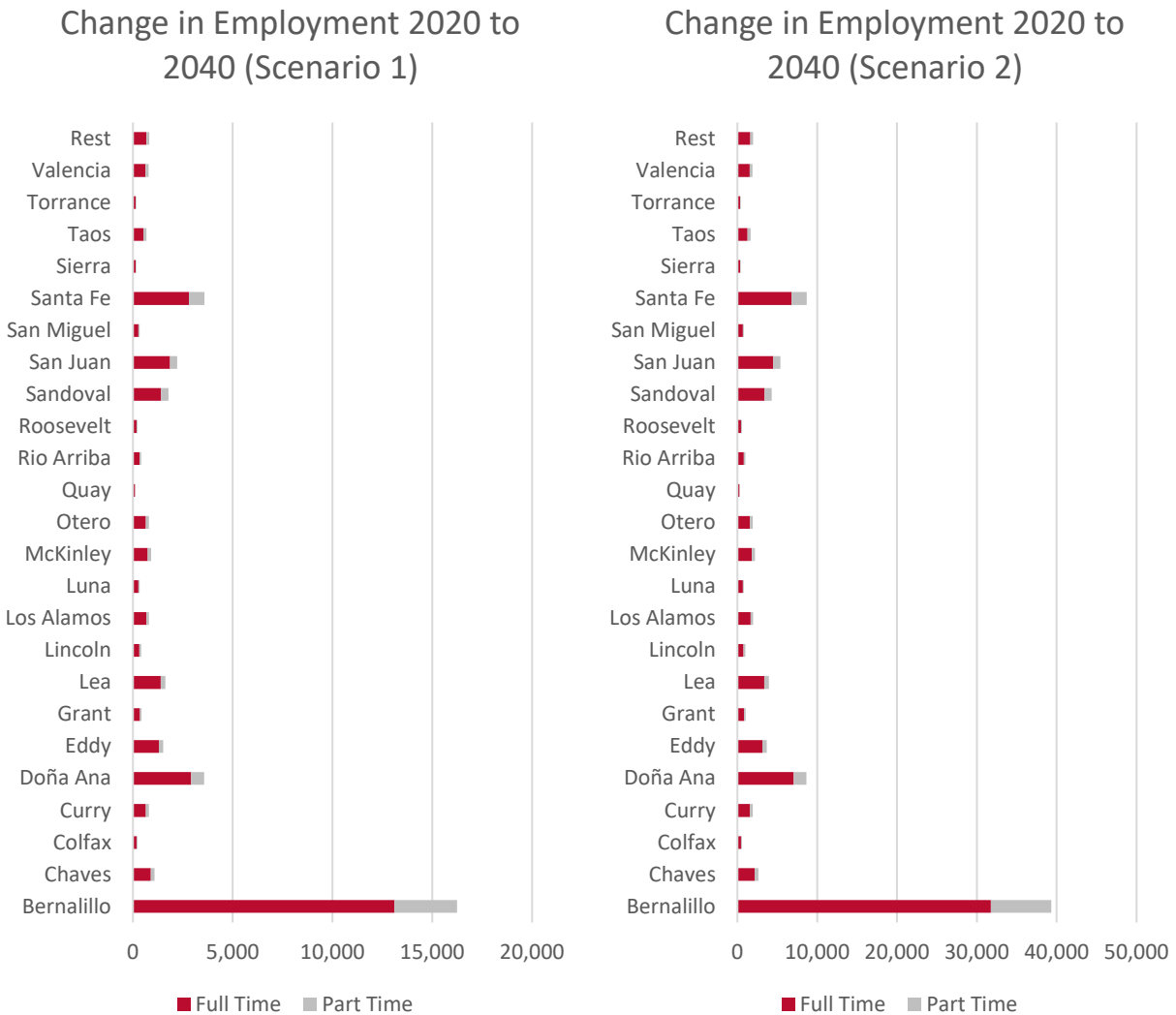


## 1. Private Sector Projections

Leveraging the private sector employment projections, employment is distributed to geographic area and then to industry based on the historical concentrations for each. In addition, workers are assigned to full- or part-time worker-groups according to the SIPP data shown in Figure 8. Proceeding in this fashion allows for not only the development of static baseline estimates for employer-based retirement plan enrollment (described in this section) but also for the creation of tailored scenarios described in the Scenario Analysis section.

Figure 27 shows the projected increase in workers from 2020 to 2040 by county. Note that not all counties are displayed; non-displayed counties are aggregated into the region denoted as “Rest.” This is because those counties tend to be small in terms of jobs and population and also tend to have sparse, or non-disclosed, data with respect to industry distributions, making it impossible to accurately allocate jobs to specific industries in those areas.

**Figure 27. Change in Private Sector Employment by Place – Two Scenarios**

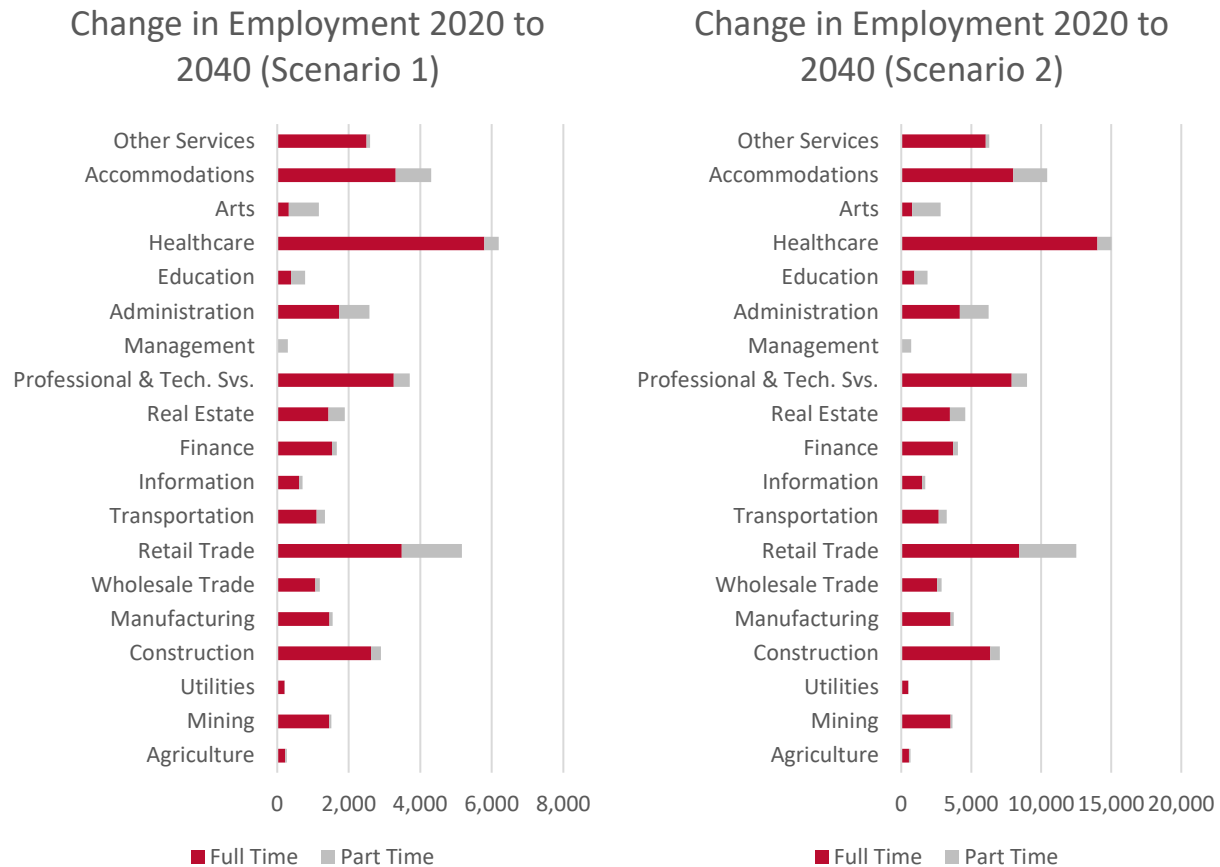


Unsurprisingly, the counties with the largest worker increases from 2020 to 2040 are those with the largest populations and are generally within counties that are currently defined as being in the state’s four metropolitan statistical areas (Albuquerque, Las Cruces, Santa Fe, and Farmington MSAs). In this case, about 70% of the gain occurs in those areas.

Each place has a different proportion of full- and part-time workers which is based on the varied industry compositions in the counties. For example, approximately 19% of the workers are part-time statewide. A county such as Los Alamos, where a good share of individuals in the county are likely to work full-time in the professional & technical services industry at Los Alamos National Laboratory, has a relatively lower percentage of part-time workers (16%). On the other hand, Santa Fe County, which has a large number of

individuals working in retail trade and leisure & hospitality-related industries, has a relatively larger share of part-time workers (22%). Figure 28 shows the statewide breakout of full- and part-time employment by industry.

**Figure 28. Change in Private Sector Employment by Industry – Two Scenarios**



Applying the enrollment percentages shown in Figures 21 and 22 to the industry employment estimates for 2020 and the projections for 2040, it is possible to generate industry-level employer-based retirement plan enrollment estimates for the new workers.

The estimates for 2020 full- and part-time workers are shown in Figure 29. Overall, of the 589,853 private-sector workers, approximately 232,597 (39%) are estimated to be enrolled in an employer-sponsored retirement plan. 263,653 workers (45%) reported that a retirement plan was not available or that the employer had a plan but that the worker was not eligible. 34,447 workers (6%) said that they could not afford to enroll in the employer’s plan and 59,156 workers (10%) indicated that they chose not to enroll in the employer’s plan.

**Figure 29. Estimated Enrollment for Private-Sector Workers in 2020**

Industry	Full Time					Part Time				
	Not Available	Not Eligible	Can't Afford	Choose not to Enroll	Enrolled	Not Available	Not Eligible	Can't Afford	Choose not to Enroll	Enrolled
Agriculture	2,553	42	83	245	368	622	53	21	25	0
Mining	3,080	1,990	569	3,080	12,651	599	342	0	0	0
Utilities	583	49	46	233	2,103	97	0	0	21	21
Construction	20,218	1,893	947	4,260	11,385	3,279	338	225	161	85
Manufacturing	4,285	1,580	1,033	1,960	12,637	769	156	46	136	221
Wholesale Trade	4,408	1,176	735	980	8,356	1,146	246	116	79	306
Retail Trade	14,233	5,087	3,626	4,979	23,340	8,981	8,938	1,087	3,118	2,700
Transportation	5,276	432	951	1,470	8,103	1,228	841	279	280	834
Information	1,205	100	602	1,245	5,851	577	419	202	64	135
Finance	2,206	1,444	842	2,006	16,073	776	585	84	85	490
Real Estate	8,171	772	2,724	968	8,510	3,847	742	371	246	1,446
Prof. & Tech.	8,754	2,462	1,860	5,690	29,236	3,174	1,212	139	1,021	1,093
Management	0	0	0	92	226	1,501	0	2,502	0	0
Administration	11,350	1,989	1,638	3,861	6,585	8,248	1,628	733	1,031	985
Education	814	449	253	548	3,678	2,129	1,784	329	728	740
Healthcare	19,779	5,579	5,071	7,173	47,699	2,179	1,145	281	688	1,741
Arts	2,007	389	273	329	1,698	6,427	3,416	466	1,366	788
Accommodations	24,552	4,327	4,421	6,679	8,780	9,721	3,071	673	1,240	0
Other Svs.	17,124	1,861	1,210	2,978	13,585	913	306	9	93	150
<b>Total</b>	<b>150,597</b>	<b>31,622</b>	<b>26,885</b>	<b>48,776</b>	<b>220,863</b>	<b>56,214</b>	<b>25,219</b>	<b>7,562</b>	<b>10,379</b>	<b>11,735</b>

Figure 30 shows the breakdown of workers enrolled in an employer-sponsored retirement plan assuming Scenario 1 population growth. In 2040, 248,377 private-sector workers (out of a total of 629,870 workers) are estimated to be enrolled in a plan. 281,540 workers are estimated to not have a plan available or that they are not eligible; 36,784 are estimated to not be able to afford to enroll, and 63,169 are estimated to choose to not enroll.

**Figure 30. Projected Enrollment for Private-Sector Workers in 2040 Scenario 1**

Industry	Full Time					Part Time				
	Not Available	Not Eligible	Can't Afford	Choose not to Enroll	Enrolled	Not Available	Not Eligible	Can't Afford	Choose not to Enroll	Enrolled
Agriculture	2,726	45	89	262	393	665	56	22	27	0
Mining	3,289	2,125	607	3,289	13,509	639	365	0	0	0
Utilities	622	52	49	249	2,245	103	0	0	22	22
Construction	21,590	2,022	1,011	4,549	12,157	3,502	360	240	172	91
Manufacturing	4,576	1,687	1,103	2,093	13,494	821	166	49	145	236
Wholesale Trade	4,707	1,255	785	1,046	8,923	1,224	262	124	84	326
Retail Trade	15,199	5,432	3,872	5,317	24,923	9,591	9,545	1,161	3,329	2,884
Transportation	5,634	461	1,016	1,570	8,653	1,312	898	298	299	890
Information	1,287	107	643	1,330	6,248	617	447	216	68	144
Finance	2,356	1,542	899	2,142	17,164	828	624	89	90	523
Real Estate	8,725	824	2,908	1,034	9,087	4,108	792	396	262	1,544
Prof. & Tech.	9,348	2,629	1,987	6,076	31,220	3,390	1,295	148	1,090	1,167
Management	0	0	0	98	242	1,603	0	2,672	0	0
Administration	12,120	2,124	1,749	4,123	7,032	8,808	1,738	782	1,101	1,052
Education	870	480	270	585	3,927	2,273	1,905	351	777	790
Healthcare	21,121	5,957	5,416	7,659	50,935	2,327	1,223	300	735	1,859
Arts	2,143	416	291	352	1,813	6,864	3,647	497	1,459	841
Accommodations	26,218	4,621	4,721	7,132	9,376	10,380	3,279	719	1,324	0
Other Svs.	18,285	1,988	1,292	3,180	14,507	975	327	10	99	160
<b>Total</b>	<b>160,814</b>	<b>33,768</b>	<b>28,709</b>	<b>52,086</b>	<b>235,847</b>	<b>60,028</b>	<b>26,930</b>	<b>8,075</b>	<b>11,084</b>	<b>12,531</b>

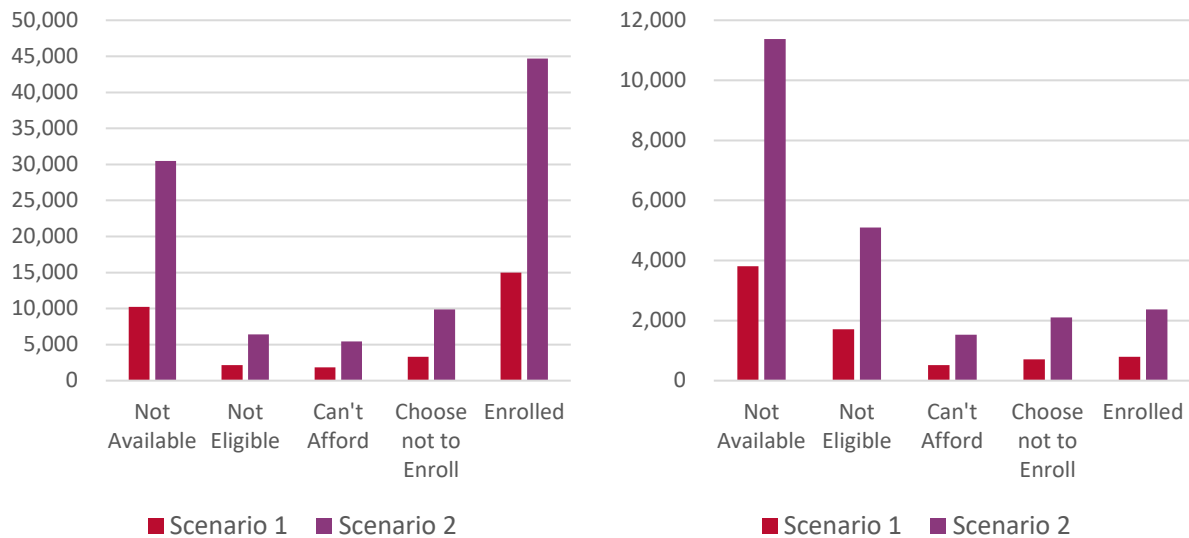
The same procedure is undertaken using the Scenario 2 population projections and is shown in Figure 31. In this scenario, of the 709,233 private-sector workers in 2040, 279,673 are estimated to enroll in an employer plan; 317,014 are workers are estimated to not have a plan available or that they are not eligible for the employer’s plan; 41,418 are estimated to not be able to afford the employer’s plan, and 71,128 are estimated to choose to not enroll in a plan.

**Figure 31. Projected Uptake for Private-Sector Workers in 2040 Scenario 2**

Industry	Full Time					Part Time				
	Not Available	Not Eligible	Can't Afford	Choose not to Enroll	Enrolled	Not Available	Not Eligible	Can't Afford	Choose not to Enroll	Enrolled
Agriculture	3,069	50	100	295	443	748	63	25	31	0
Mining	3,703	2,393	684	3,703	15,211	720	411	0	0	0
Utilities	701	59	55	280	2,528	116	0	0	25	25
Construction	24,310	2,277	1,138	5,122	13,689	3,943	406	271	193	103
Manufacturing	5,152	1,900	1,242	2,357	15,194	924	187	55	163	266
Wholesale Trade	5,300	1,413	883	1,178	10,048	1,378	295	140	94	367
Retail Trade	17,114	6,117	4,360	5,987	28,063	10,799	10,747	1,307	3,749	3,247
Transportation	6,344	519	1,144	1,768	9,743	1,477	1,011	336	337	1,002
Information	1,449	121	724	1,497	7,035	694	503	243	76	162
Finance	2,653	1,736	1,013	2,411	19,327	933	703	100	102	589
Real Estate	9,824	928	3,275	1,164	10,232	4,625	892	446	295	1,739
Prof. & Tech.	10,526	2,960	2,237	6,842	35,154	3,817	1,458	167	1,228	1,314
Management	0	0	0	110	272	1,805	0	3,009	0	0
Administration	13,647	2,392	1,970	4,643	7,918	9,918	1,957	881	1,240	1,185
Education	979	540	304	658	4,422	2,560	2,145	395	875	890
Healthcare	23,782	6,708	6,098	8,624	57,352	2,620	1,377	338	827	2,093
Arts	2,413	468	328	396	2,041	7,728	4,107	560	1,643	947
Accommodations	29,521	5,203	5,316	8,031	10,557	11,688	3,692	809	1,491	0
Other Svs.	20,589	2,238	1,455	3,581	16,334	1,097	368	11	112	180
<b>Total</b>	<b>181,077</b>	<b>38,022</b>	<b>32,326</b>	<b>58,648</b>	<b>265,563</b>	<b>67,591</b>	<b>30,324</b>	<b>9,092</b>	<b>12,480</b>	<b>14,109</b>

The previous three figures show the estimates and projections for the number of individuals working in each industry and whether they are enrolled in a retirement plan. Figure 32 compares the change in the number enrolled (or not enrolled) from 2020 to 2040 under the two scenarios.

**Figure 32. Increase in Private Sector Full-Time (left) and Part-Time (right) Enrollment and Non-Enrollment in an Employer-Sponsored Retirement Plan from 2020 to 2040 under Two Scenarios**



Because the population projection under Scenario 2 is higher than Scenario 1, the bars corresponding to that Scenario are uniformly above the Scenario 1 bars. However, the difference between the two scenarios is only a matter of scale, and the two scenarios are the same in terms of distribution. For example, the percent of full-time private-sector workers enrolled in an employer plan is 39% in both cases, the percent of full-time private-sector workers not eligible to enroll or working for an employer without a plan, is 45% in both cases, etc. In fact, these are the same percentages that would be computed for the 2020 workers. In other words, the same assumptions that are used to distribute enrollment in 2020 are used to distribute enrollment in the two scenarios.

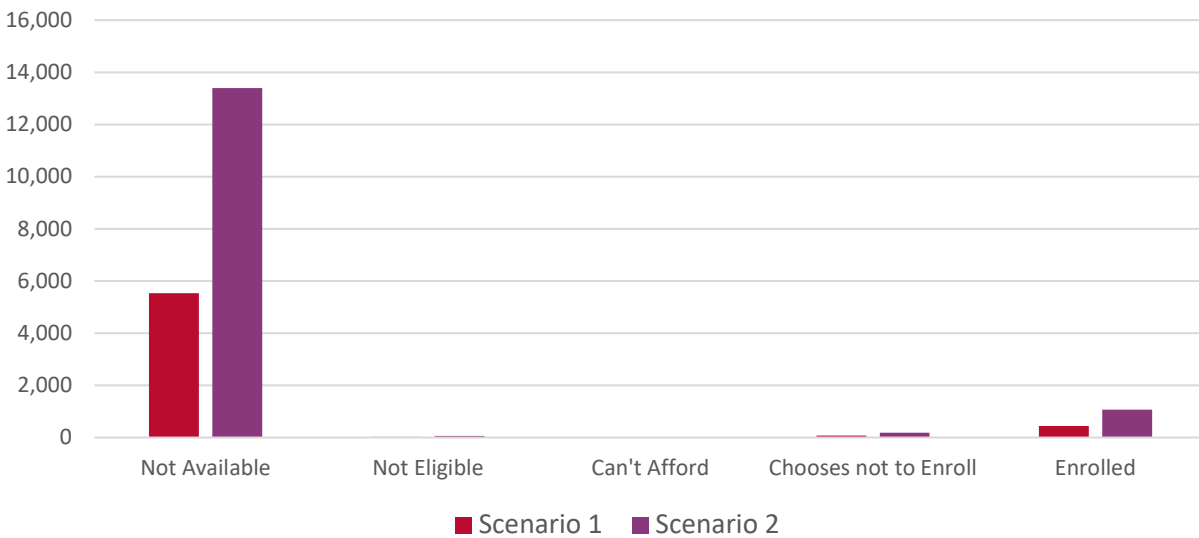
In addition, consistent with the enrollment distributions, the proportion of part-time workers enrolling in plans (11%) is lower than full-time workers (46%), and the proportion of part-time workers that are not eligible for the employer’s plan or work for an employer that does not have a plan (73%) is higher than for full-time workers (38%).

## 2. Self Employed Projections

Using the projections for the number of self-employed workers (shown in Figure 26), it is possible to estimate retirement plan enrollment for this group. This is done by leveraging the same SIPP (2014) dataset that has already been described, but by only selecting those workers indicating that they are self-employed. According to those data, only about 7% of workers indicated that they were enrolled in an employer-sponsored plan and about 91% reported that a plan was not available or that they were not eligible for a plan. The

high “not available” percentage is probably unsurprising as the relevant SIPP question asks whether an employer provides its workers with a pension or retirement plan and the subset of workers discussed in this subsection only includes workers classified as self-employed. In other words, they generally do not work for an “employer.” Figure 33 shows how self-employed enrollment is likely to change from 2020 to 2040 under the two population scenarios.

**Figure 33. Increase in Self-Employed Enrollment and Non-Enrollment in an Employer-Sponsored Retirement Plan from 2020 to 2040 under Two Scenarios**



## Tailored Scenario Analysis

While everything discussed so far related to a baseline scenario for employment and enrollment in an employer-sponsored retirement plan, it is possible to also create tailored scenarios. The following subsection provides an example of a scenario that may be developed using the assumption of an expansion of the marijuana and hemp industry in New Mexico. The Scenario Analysis Tool subsection briefly describes a Microsoft Excel tool that may be leveraged to generate a new scenario or to perform a sensitivity analysis based on changed assumptions related to employment growth and the ratio of full-time and part-time workers

### 1. Defined Scenario – Expansion of the Cannabis Industry

In this scenario, an effort is made to model the effect of the expansion of the recreational cannabis industry in New Mexico. This effort relies on the baseline estimates already discussed as well as outside employment projections for the industries likely to be

affected. In this case, a 2016 report titled “Legalization of Cannabis for Social Use – New Mexico Market Analysis” produced by O’Donnell Economics and Strategy is used to identify the number of jobs and likely industries impacted. That report estimated that the legalization of cannabis in New Mexico would create 6,600 jobs in cannabis production and manufacturing and 4,780 jobs in a combination of industries including professional services, construction, cultivation supplies, and equipment for the production and consumption of cannabis. The report notes that indirect and induced jobs (i.e. “economic impacts”) are not included in the analysis.

While that report does not provide a breakdown of the industry proportions for the 6,600 jobs and the 4,780 jobs affected by legalization, the present analysis assumes that the jobs are distributed according to the relative employment sizes of each industry. Specifically, the jobs are distributed according to Figure 34.

**Figure 34. Assumed Industry Distribution of 11,380 Cannabis-related Jobs**

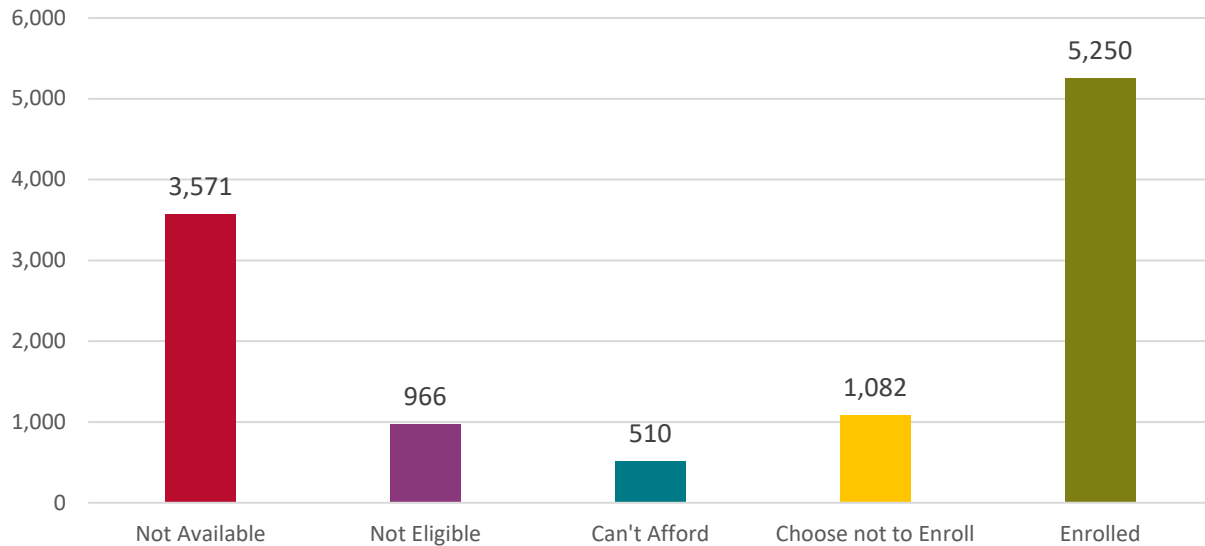
Industry	Jobs
Agriculture	987
Construction	957
Manufacturing	6,123
Wholesale	392
Retail Trade	1,700
Professional & Tech Svs.	1,221
<b>Total</b>	<b>11,380</b>

Note that manufacturing has a disproportionate number of jobs for the full 11,380 jobs. That is because manufacturing is implicated in 6,600 cannabis production and manufacturing jobs and the 4,780 estimated other jobs.

After assigning jobs to the appropriate industries, Figure 35 shows how this scenario changes the number of private-sector workers enrolled (or not enrolled) in an employer-sponsored plan using population Scenario 1. The same exercise can be done using population Scenario 2; however, here the first population scenario is used.



**Figure 35. 2040 Change in Private Sector Enrollment Status versus 2040 Baseline Scenario 1**



The distribution of the industries likely to be affected in this case are those with relatively high retirement plan enrollment; that is, manufacturing and professional & technical services account for about 57% of all jobs gained. As a result, the enrolled percentage is greater than the New Mexico average already estimated in the baseline case for all private-sector workers (46% versus 39%).

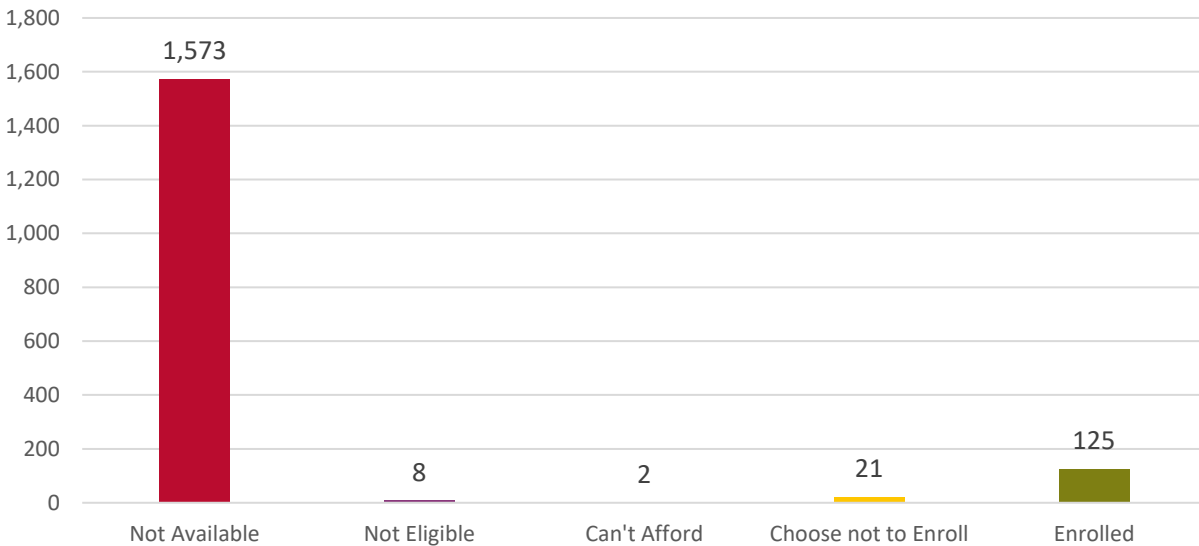
In addition, as shown in Figure 36, jobs are allocated to the counties based on where those industries have the greatest concentrations, and enrollment and non-enrollment distributions vary by county based on which industries are disproportionately affected in those places.

**Figure 36. 2040 Change in Private Sector Employment & Enrollment Status vs. 2040 Baseline Scenario 1**

County	Enrolled	Not Enrolled	Total	% Diff. in Enrolled	% Diff. in Not Enrolled
Bernalillo	2,240	2,265	4,505	2.2%	1.5%
Chaves	147	176	322	2.2%	1.7%
Colfax	27	39	66	2.2%	1.6%
Curry	114	180	293	2.4%	2.3%
Doña Ana	455	667	1,121	2.1%	2.0%
Eddy	162	195	357	1.6%	1.4%
Grant	36	56	92	1.4%	1.4%
Lea	147	189	336	1.4%	1.3%
Lincoln	35	65	100	1.6%	1.5%
Los Alamos	117	101	218	1.9%	1.5%
Luna	116	167	283	5.8%	5.1%
McKinley	162	169	331	2.9%	1.9%
Otero	57	102	159	1.2%	1.3%
Quay	12	24	36	1.7%	2.0%
Rio Arriba	45	72	116	1.9%	1.8%
Roosevelt	61	84	144	4.4%	3.7%
Sandoval	397	376	774	3.8%	2.2%
San Juan	233	295	527	1.6%	1.4%
San Miguel	27	39	66	1.2%	1.2%
Santa Fe	328	385	713	1.5%	1.1%
Sierra	19	21	41	1.9%	1.3%
Taos	69	91	160	1.9%	1.3%
Torrance	28	63	91	2.8%	3.8%
Valencia	131	148	279	2.8%	2.0%
Rest	87	161	248	1.8%	2.0%
<b>Total</b>	<b>5,250</b>	<b>6,130</b>	<b>11,380</b>	<b>2.1%</b>	<b>1.6%</b>

Because the model is structured such that the count of self-employed workers is a function of private-sector workers, output in terms of employment and retirement plan enrollment is also generated for self-employed workers. Depending on the particular analysis undertaken, and the assumptions used in that analysis, it may be appropriate to ignore those results (if that is done, the percent of self-employed workers to total workers will change, by implication). Nevertheless, the output generated from the cannabis scenario is shown in Figure 37.

**Figure 37. 2040 Change in Self-Employed Enrollment Status vs. 2040 Baseline Scenario 1**



This analysis is done for illustrative purposes and a complete analysis focused specifically on the industry would be required to more fully capture the likely impacts. One thing to note is that the report used to generate the inputs for this analysis indicated that the job gains were likely to occur in the first year after legalization, whereas the present analysis assumes that the number of jobs will be reached by the end of the period (2040). By implication, this assumes that there would be no job addition over the period beyond what was assumed to occur in the first year in the original report. Nevertheless, the analysis provides a rough guide of what may be expected in terms of retirement plan availability and enrollment, and scenarios may be adjusted and modified where appropriate.

## 2. Scenario Analysis Tool

The Scenario Analysis Tool is designed to develop tailored projections for employment and retirement plan enrollment based on adjusting industry-level employment growth assumptions and the distribution of full- and part-time workers by industry. Note that this model does not directly account for “economic impacts” in the manner in which an Input-Output model (I-O) would account for impacts. In an I-O model, it would be possible to make a change to model input, and through a process of model solving and re-solving, economic reverberation via induced and implied impacts could be estimated. For economic impacts to be introduced into the present model, it would be necessary to use separate I-O modeling software (such as IMPLAN) to generate estimates of which auxiliary industries would likely be affected if some industries were directly impacted. The output from that estimation (in terms of jobs) could be inputted into the present scenario tool to more fully capture overall effects.

As will be shown in Figures 38, 39, and 40, light blue cells are able to be modified to develop alternative scenarios. No other cell should be changed as they are typically dependent on other elements and functions located in hidden tabs elsewhere in the Excel workbook. In general, the scenarios are designed to compare outcomes of the 2040 Baseline Scenario and the 2040 Alternative Scenario. Note that this is distinct from the discussion of Population Scenario 1 and Population Scenario 2 throughout this report. In that case, Scenario 1 and Scenario 2 are simply the assumed population levels through time. The Scenario Analysis Tool allows the user to toggle between the two population scenarios; whichever of those two are chosen by the dropdown menu, that scenario effectively become the baseline scenario.

**Figure 38.** Population Scenario Selector

Population Scenario	Scenario 1
---------------------	------------

After selecting Population Scenario 1 or Population Scenario 2, scenario analysis begins with the table shown in Figure 39. By way of illustration, the cannabis scenario is used.

**Figure 39. Industry Growth Rate Input Table for Cannabis Industry Scenario**

Adjust Industry Growth Rates (and Year Change Begins)						
Industry	Adjust Year	Compound Growth to Adjusted Year	Adjust Growth After Year	Compound Growth from Adjusted Year to 2040	2040 Baseline Job Levels	Net Job Change vs. Baseline Scenario
Agriculture	2021	0.02%	1.10%	1.42%	4,285	987
Mining	2021	0.02%	0.00%	0.32%	23,823	0
Utilities	2021	0.02%	0.00%	0.32%	3,366	0
Construction	2021	0.02%	0.11%	0.43%	45,694	956
Manufacturing	2021	0.02%	1.19%	1.51%	24,371	6,123
Wholesale Trade	2021	0.02%	0.11%	0.43%	18,737	392
Retail Trade	2021	0.02%	0.11%	0.43%	81,252	1,700
Transportation	2021	0.02%	0.00%	0.32%	21,031	0
Information	2021	0.02%	0.00%	0.32%	11,106	0
Finance	2021	0.02%	0.00%	0.32%	26,258	0
Real Estate	2021	0.02%	0.00%	0.32%	29,681	0
Professional & Tech. Svs.	2021	0.02%	0.11%	0.43%	58,350	1,221
Management	2021	0.02%	0.00%	0.32%	4,615	0
Administration	2021	0.02%	0.00%	0.32%	40,630	0
Education	2021	0.02%	0.00%	0.32%	12,228	0
Healthcare	2021	0.02%	0.00%	0.32%	97,531	0
Arts	2021	0.02%	0.00%	0.32%	18,322	0
Accommodations	2021	0.02%	0.00%	0.32%	67,770	0
Other Services	2021	0.02%	0.00%	0.32%	40,822	0

The differences are compared to the ending job levels; that is, the 2040 Baseline Scenario versus the 2040 Alternative scenario that is generated by altering the growth rates. Note that the growth rates were chosen by the user such that the “Net Change vs. Baseline Scenario Column” roughly reflect the values shown in Figure 34. In other words, Agriculture is adjusted by 987 jobs, construction by 956 jobs, manufacturing by 6,123 jobs, etc.

While the current analysis assumes a certain number of jobs by industry at the end of the period, that type of estimate is not necessary to adjust the assumptions; rather, a growth rate for a particular industry may be chosen and adjusted based on the assumption that it may grow faster (or slower) than the baseline scenario. The Net Job Change vs. Baseline Scenario column is useful because it shows how many more (or less) jobs there will be in the changed industry compared to the Baseline Scenario in 2040. In other words, it allows the user to quickly determine whether the adjusted rate of growth is too fast (or slow).

Although not shown explicitly in this analysis, it is also possible to change the year in which the change in growth rates occur by changing the values in the “Adjust Year” column. This could be useful if it is believed that a particular industry would be primed to grow after a certain year.

In addition to adjusting the industry growth rates, it is also possible to adjust the proportion of full- and part-time workers at the industry level as shown in Figure 40. This option is included because the full-time/part-time worker distribution is critical for estimating enrollment percentages.

**Figure 40. Adjustment of the Percent of Full-time Workers in New Mexico by Industry**

<b>Adjust Percent Full Time by Industry</b>			
<b>Industry</b>	<b>Baseline % Full Time</b>	<b>Adjust % Full Time</b>	<b>New % Full Time</b>
<b>Agriculture</b>	82.0%	<b>0%</b>	82%
<b>Mining</b>	95.8%	<b>0%</b>	96%
<b>Utilities</b>	95.6%	<b>0%</b>	96%
<b>Construction</b>	90.4%	<b>0%</b>	90%
<b>Manufacturing</b>	94.2%	<b>0%</b>	94%
<b>Wholesale Trade</b>	89.2%	<b>0%</b>	89%
<b>Retail Trade</b>	67.4%	<b>0%</b>	67%
<b>Transportation</b>	82.4%	<b>0%</b>	82%
<b>Information</b>	86.6%	<b>0%</b>	87%
<b>Finance</b>	91.8%	<b>0%</b>	92%
<b>Real Estate</b>	76.1%	<b>0%</b>	76%
<b>Professional &amp; Tech. Svs.</b>	87.8%	<b>0%</b>	88%
<b>Management</b>	7.4%	<b>0%</b>	7%
<b>Administration</b>	66.8%	<b>0%</b>	67%
<b>Education</b>	50.1%	<b>0%</b>	50%
<b>Healthcare</b>	93.4%	<b>0%</b>	93%
<b>Arts</b>	27.4%	<b>0%</b>	27%
<b>Accommodations</b>	76.8%	<b>0%</b>	77%
<b>Other Services</b>	96.2%	<b>0%</b>	96%

Note that each of the entries in the “New % Full Time” column cannot exceed 100%. If 100% is exceeded, error messages will appear.

Figure 41, which actually appears at the top of the Excel sheet, shows aggregate enrollment & non-enrollment data for quick reference. Nothing in these cells should be changed by the user; the cells should automatically update when assumptions for employment growth or the full-time percentages are adjusted.

**Figure 41. Top-level Enrollment & Non-Enrollment Data**

Top-line comparison: Baseline vs. Alternate - Private Sector Workers								
	Private Sector Workers				Self Employed Workers			
	2020	2040 Baseline	2040 Alternate	Gain/Loss	2020	2040 Baseline	2040 Alternate	Gain/Loss
Enrolled	232,597	248,377	253,627	5,250	6,497	6,938	7,063	125
Not Enrolled	357,255	381,493	387,623	6,130	83,118	88,757	90,360	1,604
<b>Total</b>	589,853	629,870	641,250	11,380	89,615	95,694	97,423	1,729

Specifically, the cells below the columns titled 2020, 2040 Baseline, and 2040 Alternative contain the count of workers that are enrolled, not enrolled, and the sum of those two groups. The Gain/Loss column shows the increase or decrease in the enrolled, not enrolled, and total worker populations when comparing the 2040 Alternative and 2040 Baseline Scenarios.

In addition to the top-line comparisons shown in Figure 41, the Excel sheet also includes multiple pertinent charts (similar to those shown in Figures 36 and 37) and graphs that are updated when new scenarios are generated.

## Identification of Industries to Target

Identification of target markets is no easy task as there are multiple challenges that potentially limit the expansion of private-sector retirement plan availability and enrollment. Nevertheless, probably the most efficient method is to jointly identify industries that have a large share of workers and industries that have low retirement plan enrollment. While this section does not explicitly select which industries should be targeted, it presents a general framework for developing a targeting strategy.

To that end, Figure 42 shows the proportion of private-sector workers in each industry in New Mexico, the percent of part-time workers, the percent of workers that work for an employer that does not have a retirement plan available to them, the percent of workers enrolled in a retirement plan, and the average weekly wage (per job) in each industry. The data are sorted accordingly in the “% Not Available” column.

While 81% of the private-sector workers in the agriculture sector do not have a plan available, the small size of the industry (with respect to the number of private-sector employees) perhaps makes this industry one that should not be chosen as the primary focus of targeting efforts. Accommodations, administration, and construction are larger industries comprising 11%, 6%, and 7% of all private-sector employees, respectively, and each of these industries only has about 40% of their workers that have a retirement plan available. In addition, those industries tend to have low enrollment percentages (14%, 20%, and 27%, respectively).

**Figure 42. Summary of New Mexico Private Sector Employment, % of Employees Working for an Employer Where a Retirement Plan is Unavailable, % of Employees Enrolled in a Retirement Plan, and Wage Statistics in 2020 (SIPP 2020, QCEW 2020)**

Industry	% of Private Sector	% Part Time	% Not Available	% Enrollment	Average Weekly Wage
Agriculture	1%	18%	81%	9%	\$692
Arts	3%	73%	71%	14%	\$507
Accommodations	11%	23%	66%	14%	\$386
Administration	6%	33%	61%	20%	\$844
Construction	7%	10%	60%	27%	\$1,048
Other Svs.	6%	4%	53%	36%	\$753
Retail Trade	13%	33%	49%	34%	\$626
Real Estate	5%	24%	49%	36%	\$894
Education	2%	50%	45%	39%	\$868
Wholesale Trade	3%	11%	40%	49%	\$1,241
Transportation	3%	18%	39%	45%	\$999
Management	1%	93%	35%	5%	\$1,558
Healthcare	15%	7%	31%	54%	\$893
Manufacturing	4%	6%	30%	56%	\$1,244
Prof. & Tech.	9%	12%	29%	56%	\$1,770
Mining	4%	4%	27%	57%	\$1,752
Utilities	1%	4%	23%	67%	\$1,830
Information	2%	13%	22%	58%	\$1,198
Finance	4%	8%	20%	67%	\$1,423

Industries such as arts and other services are relatively small in terms of the number of private-sector workers; however, those industries have a large share of workers with no plan available. Given the relatively large numbers of remaining industries that have a small number of employees, it might make sense to focus on somewhat larger industries even if plan availability and enrollment in those industries is somewhat high. In particular, retail trade and healthcare, which comprise 13% and 15%, respectively, of all private-sector workers, might be a good place to focus because a modest increase in the percent enrolled can translate to a reasonable gain in the number enrolled.

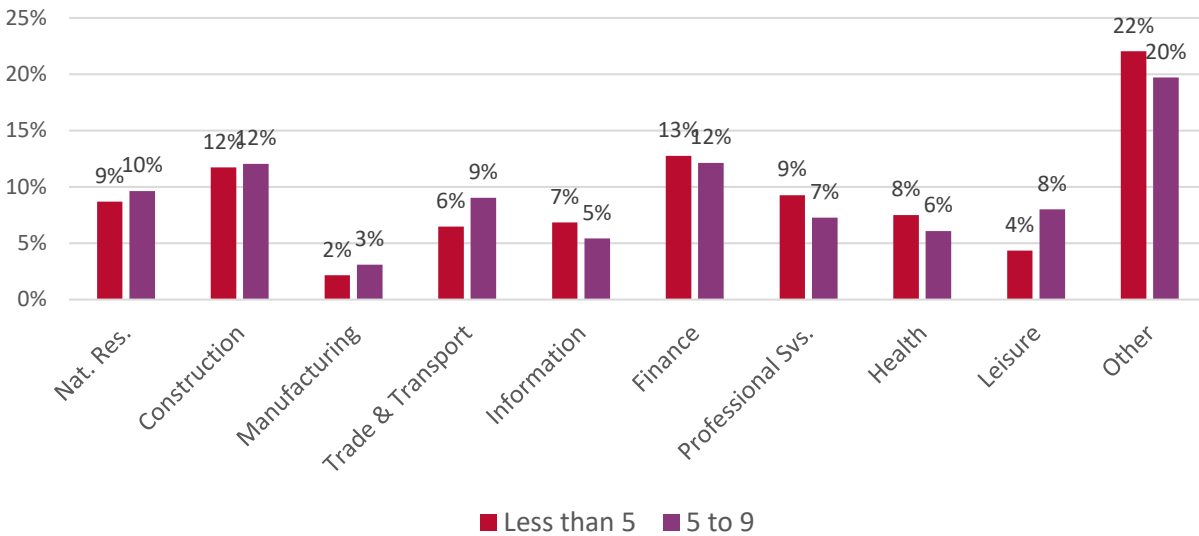
However, an important issue with regard to likely enrollment is whether a worker feels as though they have sufficient disposable income to contribute to a retirement plan. Industries such as accommodations and retail trade have low average wages which may limit uptake even if a plan is offered.

Another potential difficulty is the overall design of the retirement system in the state. Specifically, if something like a state-supported retirement plan is adopted, a practical reality is that some employers may receive exemptions from participating in the plan. One exemption that has been discussed is for employers that have less than a particular number of employees. Figure 43 shows the proportion of jobs in each broad industry for



employers that have less than five and between five and nine employees according to the new newest QCEW data.

**Figure 43. US Proportion of Jobs at Employers with Fewer than 5 Jobs and between 5 and 9 Jobs to Total Jobs by Broad Industry Designation (2021Q1 QCEW)**



Although it was noted that the construction industry has low plan availability and low enrollment rates, a good portion of the jobs in the industry are with employers with fewer than 10 workers (24% of the total). Similarly, because other services has low plan availability, it might also be considered a good place to target; however, a large share of workers in that industry work for employers with less than 10 workers (42%).

While this section specifically addressed the private-sector workforce, facilitating access to plans for the self-employed workforce can also help to address enrollment gaps. In particular, enrollment estimates suggest that only about 7% of the about 90,000 self-employed workers in the state are enrolled in an employer-type plan. Facilitating plan access and encouraging enrollment and retirement savings can help to reduce the future fiscal burden on the state.

## Appendix

This Appendix contains two subsections. The first subsection discusses some of the data and assumptions used in this analysis; differences between SIPP and ASEC estimates are the focus. The second subsection provides a brief technical description of the estimation methodology used to project employment and retirement plan enrollment.

### 1. Discussion of Data Sources, Accuracy & Assumptions

This analysis makes use of many sources of data. Some of the data challenges inherent in the use of different data sources have already been discussed, especially in relation to employment, job, and population data. However, data on retirement plan uptake and enrollment, which are critical to developing the estimates and projections used in this report, are provided by two possible sources: the Annual Social and Economic Supplement (ASEC) and the Social Security Administration Supplement to the Survey of Income and Program Participation (SIPP). The differences in the data sources are covered in our 2018 Retirement Taskforce report; however, because these data are key to the present analysis, descriptions are also provided here.

The ASEC supplement to the U.S. Census Bureau's Consumer Population Survey (CPS) is a yearly survey of nearly 100,000 US households (over 150,000 people) to obtain detailed data on work experience, income, migration, and noncash benefits, such as an employer-provided pension plan. The U.S. Census Bureau releases the ASEC every March for the U.S. Bureau of Labor Statistics. The SSA supplement to the Survey of Income and Program Participation (SIPP) is a survey of 29,789 US households (approximately 62,544 people) that provides detailed information on retirement savings, pensions, disability, health status, and marital history. The U.S. Census Bureau conducted phone interviews between September and November 2014 for the Social Security Administration. These data – at least the portion related to retirement enrollment – have not yet been updated.

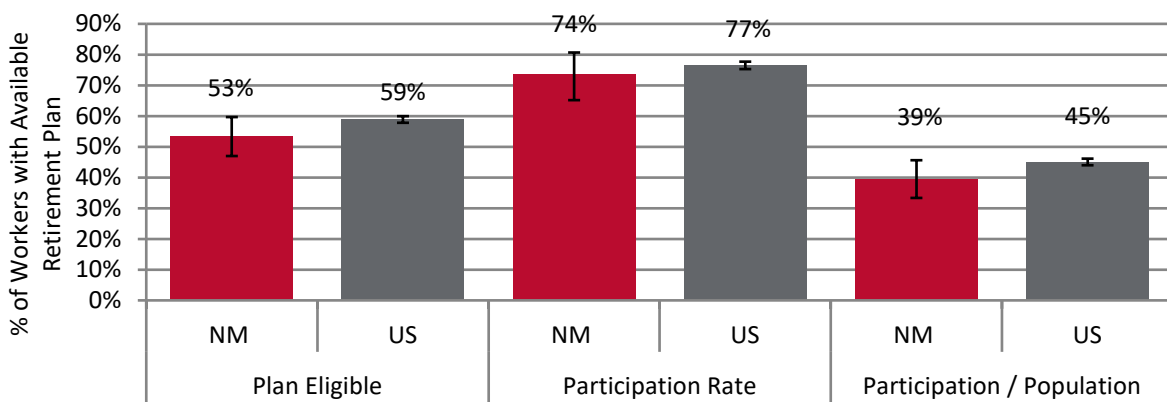
The ASEC and the SIPP each have distinct advantages and disadvantages which are relevant to the present analysis. The ASEC survey is conducted each year (through 2021) whereas the most recent SIPP data on retirement plan enrollment is relatively dated (2014). Another difference is concerning the phrasing of the question of retirement savings access and participation. Both data sources ask the initial question if anyone in their company has access to a retirement savings plan, and a follow-up question to see if the respondent is included in the plan. However, these two questions do not address if someone in the company has a plan, but the respondent is not eligible for the plan himself. The ASEC dataset leaves this question unclear, but the SIPP dataset has additional

questions that ask if a person has a plan available to anyone at their establishment but does not participate and the reason why. The inclusion of the reasons allows us to better analyze the reasons as to why someone does not participate in a retirement savings plan. A third difference concerns additional variables that are found in the SIPP dataset, and not found in the ASEC dataset. For example, the SIPP dataset provides information on items such as the amount of retirement cash savings that private-sector workers have available. The last major difference between the two datasets is regarding the sample sizes. Since the ASEC interviewed more households, it has more data to utilize. More data can decrease the width of the confidence interval and reduce uncertainty, compared to the smaller SSA dataset, which will have a larger confidence interval width and increased uncertainty.

Compared to the rest of the United States, New Mexico has a smaller proportion of private-sector workers who have a retirement plan available to them at work, and a slightly smaller share of workers that take advantage of available programs (lower ‘take-up’ rate). Combined, this means that a lower percentage of workers in New Mexico participate in employer-based retirement savings programs. This finding is supported by both ASEC and SIPP datasets, though terms and coverage are slightly differently defined.

According to the SIPP, the take-up rate of eligible workers with access to a retirement savings plan is 3% lower in New Mexico than in the United States (74% vs 77%). Data from the ASEC indicate that the take-up rates of eligible workers are the same for both New Mexico and the United States (74% each).

**Figure 44. Plan Eligibility and Participation Comparison (SIPP 2014)**

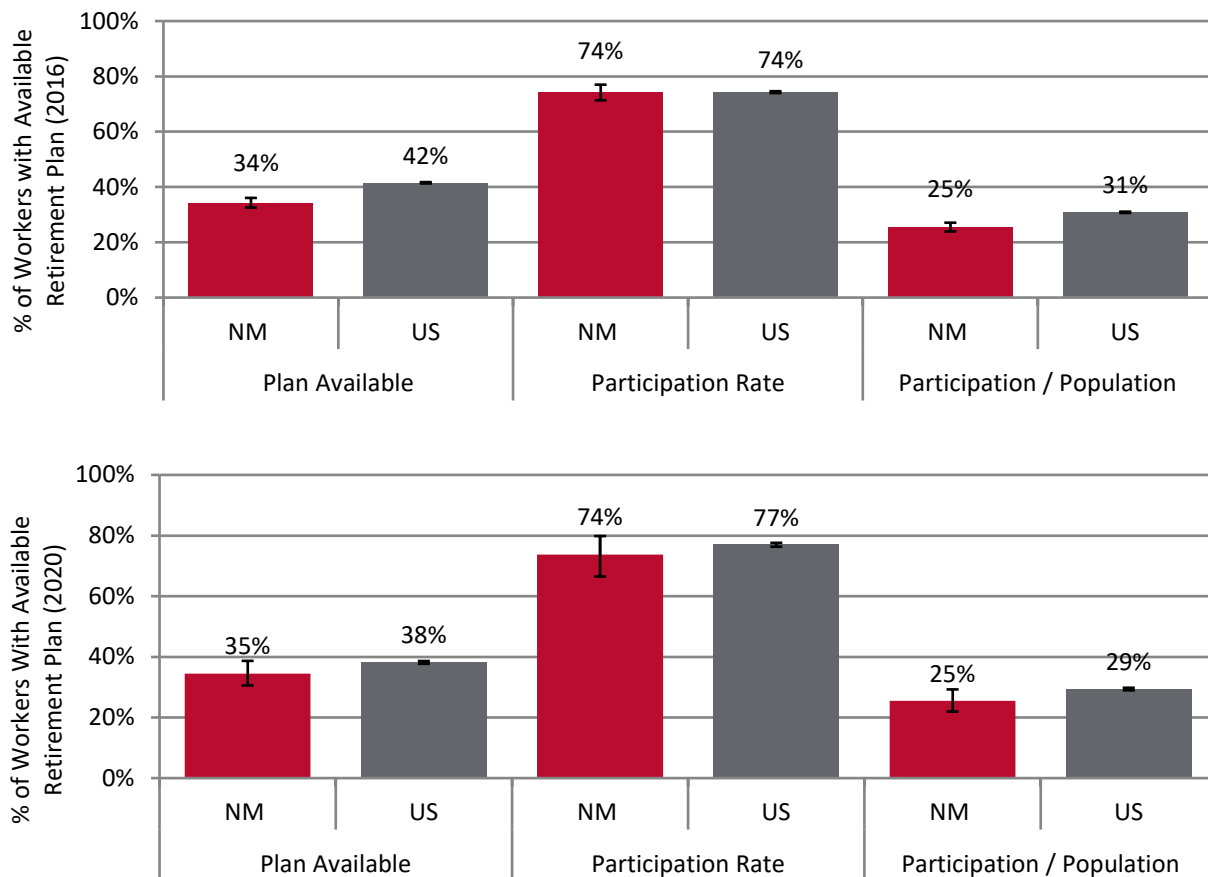


Although take-up rates are similar in New Mexico and the United States in both datasets, plans are generally less available in New Mexico. According to the SIPP, 53% of private-sector workers in New Mexico had a plan available, compared to 59% nationwide.

Consequentially, just 39% of private-sector workers in New Mexico are enrolled in a plan, compared to 45% nationally.

Figure 3 shows the analogous data from the ASEC survey, which is based on a larger sample size. ASEC shows that the New Mexico/US gap in plan availability has fallen from 2016 from 8% to 3%, though whereas the US participation rate has increased, the New Mexico rate has stagnated. Similarly, the proportion of private-sector workers participating in a retirement plan is lower in New Mexico than in the United States (25% versus 31% in 2016 and 25% to 29% in 2020), which supports the proposition that New Mexico trails the US.

**Figure 45. Plan Availability and Participation Comparison in 2016 (top) 2020 (bottom) (ASEC 2016 & 2020)**



While there are many assumptions that undergird this report, due to the nature of the analyses undertaken, many different data sources are leveraged. Some sources are based on surveys conducted irregularly, at different times, may be somewhat dated, have

disparate coverage, and subject to survey error. Every effort was made to ensure that the data used were as comparable as possible.

To that end, probably the most critical assumptions are those the one raised in this section and in the Other Enrollment and Uptake Data subsection. That is, that the SIPP data rather than the ASEC data are used to distribute retirement plan enrollment. This is done because the SIPP data have a richer fabric for understanding the reasons for non-enrollment and those data provide greater information on retirement account funds, which will be useful for a follow-up analysis.

The second major assumption is that US data on the retirement plan enrollment is used because industry-level New Mexico data are sparse, and hence, unreliable. Some of the impact of using the US proportions is moderated because of the New Mexico-specific industry distribution; however, the effort is imperfect. Still, the US data provide the best useable estimates. Note that this is an issue with both the SIPP and ASEC data (despite larger sample sizes in the latter dataset).

One final note is that although newer SIPP data has been released, those data do not include the SSA supplement required to assess retirement enrollment.

## 2. Model Development & Estimation

Several steps were taken to develop estimates and projections of New Mexico jobs, employment, and retirement plan enrollment. This section describes some of the key steps and data leveraged in that process.

### *NM Employment Projections from 2021-2026*

The first key source used to develop employment projections is output from the FOR-UNM forecasting model which provides a forecast for the state of New Mexico in terms of the number of jobs in the state (currently) through 2026. Undergirding this model, in part, is the Bureau of Labor Statistics (BLS) Quarterly Census of Employment & Wages (QCEW) data, which provides counts of jobs that are covered by standard unemployment insurance (UI). While the coverage includes private sector and government workers, it only includes workers covered by UI and does not include self-employed workers. In addition, the dataset counts the number of jobs in the state which is different from the number of workers (because individuals may have multiple jobs).

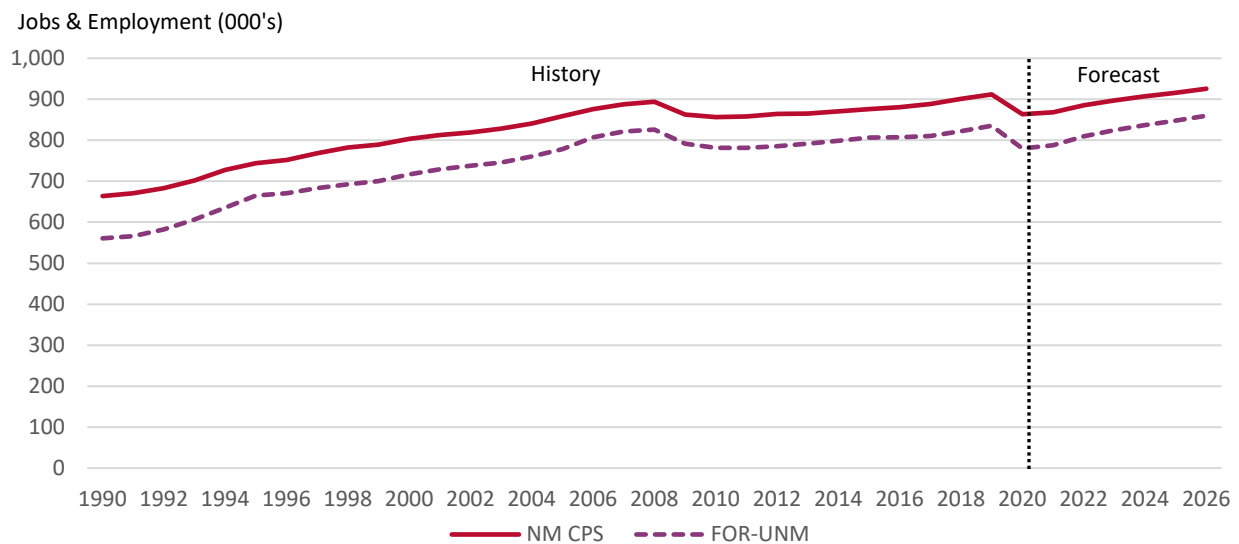
Whereas the QCEW series counts the number of jobs (and informs the FOR-UNM model), the Current Population Survey (CPS) also produced by BLS contains data on the number

of people employed. This series includes people employed in the private and government sectors, covered (or not covered) by UI, and self-employed. The CPS data is useful because it can be statistically related to the historical QCEW data and FOR-UNM forecast to generate a projection for the number of individuals working in New Mexico (and not just the number of jobs) over the period from 2021-2026. In particular, the following model is estimated:

$$NMCP S_y = \alpha + \beta_1 FORUNM_y + u_y$$

Where *NMCP S* is the historical number of individuals working in New Mexico from 1990 to 2020, *FORUNM* is the number of jobs according to the QCEW from 1990 to 2020, *u* is the error term assumed to follow an ar(1) process, the index *y* reflects the year,  $\alpha$  is the estimated intercept parameter, and  $\beta_1$  is the parameter estimated by the model using least squares. The estimated parameters are then applied to the FOR-UNM projections for 2021 to 2026 to generate employment levels over the same period.

**Figure 46. Jobs & Employment in New Mexico, History & Forecast**



The value of allowing the FOR-UNM model to drive the results of the employment forecast is that it captures well the near-term expectations for the state economy – this is especially true as the state claws its way out of the COVID-19 pandemic.

In addition to the CPS data collected on employment, also collected is historical data for the employment-to-population ratio data. This metric compares the number of people working in the state to the noninstitutionalized population aged 16 and older. This series is leveraged in another subsection in concert with population data and projections to more directly tie population to employment levels.

### *NM Population Projections from 2021-2040*

Also fundamental to this analysis are population estimates and projections produced by UNM Geospatial & Population Service (GPS, <https://gps.unm.edu/pru/projections>). GPS projections are provided at five-year intervals to 2040, by age cohort, and at the county geographic scale. In this analysis, linear interpolation is applied to convert the five-year interval data to annual.

### *NM Employment-to Population Ratios 2026-2040*

An employment to population ratio is estimated in an effort to tie population levels to employment levels according to the following equation,

$$NMETP_y = \frac{NMCPS_y}{NMPOP_y}$$

Where *NMETP* is the computed employment-to-population (ETP) ratio, *NMCPS* is the number of people employed, and *NMPOP* is the population of individuals above a particular age,<sup>1</sup> all in year *y*. Critically, the ETP ratio is computed using the historical employment and population data.

Although state-level population projections already exist (from GPS), the state's future ETP ratio is not known, so it must be projected. At first glance, this is a fairly straightforward modeling exercise: in principle, all that is needed is to statistically relate the historical NM and US ETP ratios, and then project an NM ETP ratio using the estimated coefficients and a projection for US ETP. Unfortunately, this process is complicated by several factors.

First, the denominator of the ETP ratio is typically measured in terms of the number of non-institutionalized persons that have attained at least 16 years of age. However, the GPS population data is provided for age cohorts aged 15 and above – in other words, if the GPS estimates and projections are used in the ETP ratio calculation, the size of the denominator will be larger than the officially defined ETP ratio denominator, thereby causing the ratio to be relatively smaller. This difficulty is overcome by consistently using the population sizes for all persons aged 15 and older. This includes the population data & projections from GPS over the period from 2010 to 2040 as well as historical data from the US Census Bureau's intercensal tables from 2000 to 2009

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<sup>1</sup> Typically, the population considered in the employment-to-population ratio is all non-institutionalized individuals over the age of 15; however, the reason for the vagueness of the phrase "above a particular age," will soon become clear.

(<https://www.census.gov/data/tables/time-series/demo/popest/intercensal-2000-2010-state.html>).

As such, the generation of an NM ETP ratio is staged in the following way. First, the population series for New Mexico residents aged 15 years old and above is generated by appending the GPS population series from 2010 to 2040 to the Census Bureau's intercensal tables from 2000 to 2009. For each respective year, this series is divided by the BLS employment series (2000 to 2020) and projection (2021 to 2026) discussed above to create an NM ETP ratio from 2000 to 2026. This series is then projected forward for the period from 2027-2040.

This leads to the second major complication: in order to project a series for New Mexico, it is helpful to have another reliable (projected) series for the same variable – in this case, a projection for the US ETP ratio. Luckily, historical data and projections for national population and employment exist, so the US ETP ratio can be computed; in this analysis, the US ETP ratio is computed from data provided by IHS Markit (IHS).<sup>2</sup> Specifically, projected employment and population data for non-institutionalized individuals of at least 16 years of age are used to generate projected US ETP ratios for the period from 2021 to 2031, the last year of the IHS forecast. For the period from 2031 to 2040, the US ETP ratio is projected forward using a simple trend. Using this data, the following model is estimated.

$$NMETP_y = \alpha + \beta_1 USETP_y + u_y$$

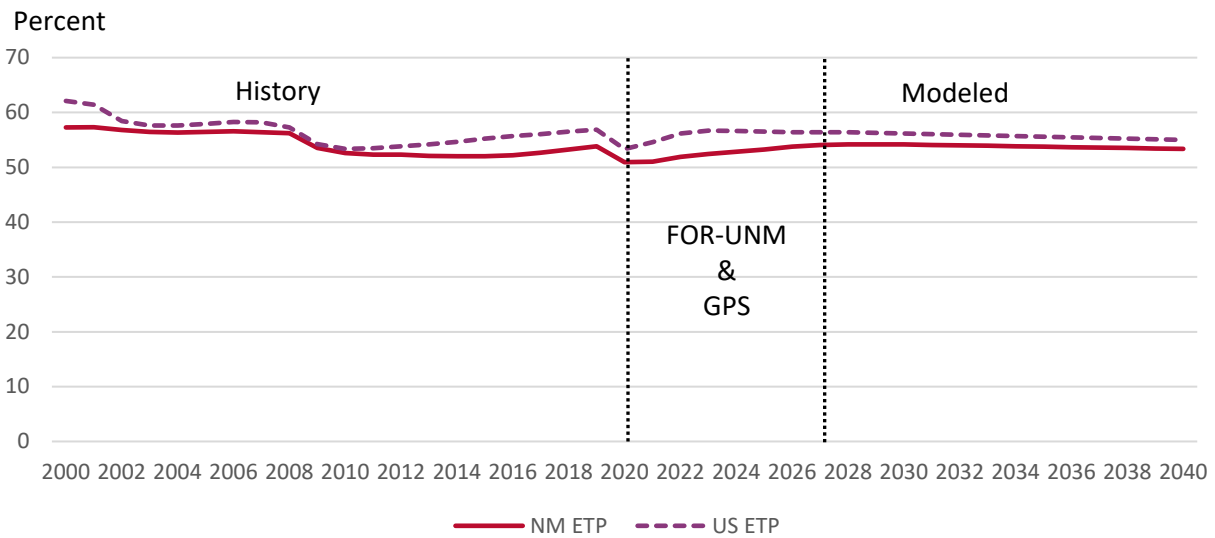
Where *NMETP* is the historical employment-to-population ratio for New Mexico, *USETP* is the employment-to-population ratio for the United States, *u* is the error term assumed to follow an ar(1) process, the index *y* reflects the year,  $\alpha$  is the estimated intercept parameter, and  $\beta_1$  is the parameter estimated by the model using least squares. The estimated parameters are then applied to the projected US ETP ratio to generate a projected NM ETP ratio from 2027 to 2040.

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<sup>2</sup> IHS Markit develops detailed national and international macroeconomic forecasts. Their forecasts are used as the key input to the New Mexico quarterly FOR-UNM model.



**Figure 47. NM & US Employment-to-Population Ratios (NM aged 15+; US aged 16+)**



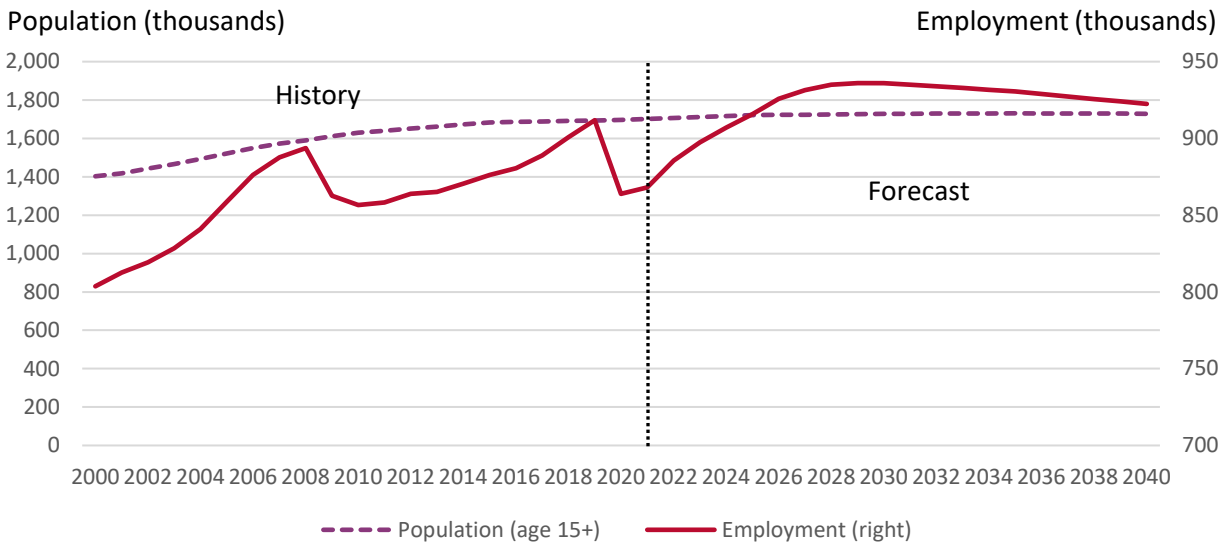
*Estimating NM Employment 2026-2040*

Leveraging projections for the NM ETP ratio and the NM population series, it is possible to generate a projection for employment by rearranging the NM ETP formula.

$$NMCPS_y = NMETP_y * NMPOP_y$$

In other words, the ETP ratio is multiplied with the population projection. Note that the employment series incorporates all employed persons, including private-sector workers, government workers, and self-employed (proprietors).

**Figure 48. New Mexico Population (15+) and Employment Projections**



The combined impact of a tepid projection for the ETP ratio and the slow population projection causes the employment series to decline after peaking in 2029 at just under 936,000 jobs. Hence, increased population or ETP ratio expectations will operate to elevate employment levels.

Note that only discussed here is what was defined as population Scenario 1 in the main body of the text. To generate the other baseline scenario, population Scenario 2 is used instead – that series is multiplied with the NM ETP ratio.

*Accounting for Private Sector, Government, and Self-Employed Workers*

Workers are first categorized by worker type according to the ASEC on private sector (68.3%), government (21.3%), and self-employed (10.4%) workers in New Mexico. This analysis assumes that the percentages stay consistent across years.

*County-level Employment Projections from 2021-2040*

State-level employment projections are allocated to the counties to generate total employment levels for each county. This is done by leveraging the employment ratios from the FOR-UNM forecast (2021-2026) for each forecasted geography – in this case, the forecasted geographies include the Albuquerque Metropolitan Statistical Area (MSA), which contains Bernalillo, Sandoval, Valencia, and Tarrant counties, the Santa Fe MSA (Santa Fe County), the Las Cruces MSA (Dona Ana County), the Farmington MSA (San Juan County), the combined area of Lea & Eddy counties, and the remainder of the counties in the state. These calculated ratios are applied to the state total employment

levels to allocate employment to each defined area. The data are then allocated to the counties based on the relative sizes of the counties in terms of job counts. For the period from 2027 to 2040, these ratios are assumed to hold constant in the baseline scenario.

**Figure 49. List of Defined Counties**

Bernalillo  
Chaves  
Colfax  
Curry  
Doña Ana  
Eddy  
Grant  
Lea  
Lincoln  
Los Alamos  
Luna  
McKinley  
Otero  
Quay  
Rio Arriba  
Roosevelt  
Sandoval  
San Juan  
San Miguel  
Santa Fe  
Sierra  
Taos  
Torrance  
Valencia  
Rest

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*Industry-level Employment Projections from 2021-2040 (by County)*

While it is possible to generally understand total employment for each county, county-level industry disaggregation is complicated because data for some industries in some counties are not disclosed – that is, not made available. Non-disclosure is typically done in instances where there are small number of employers (or employees) in a particular industry and in a particular place, such that it would be possible to determine the number of employees, or other key statistics, for those small number of employers. In other words, it is done to keep employee-level information as confidential as possible.

In order to overcome this, counties with a relatively large number of non-disclosed industries are effectively lumped together by subtracting industry employment in the counties where there is complete (or nearly complete) industry-level employment data from the New Mexico industry-level data.<sup>3</sup> That leaves as a remainder a composite geography with complete data at the industry level. However, it is important to note that the individual counties that are aggregated do not necessarily behave in a similar fashion and in many cases are geographically distant; what they have in common is that they generally tend to be rural and have low populations.

In any event, the process for sharing county-level total employment out to industries proceeds in a similar fashion to that described as sharing total employment to the counties so that industries within high (or low) concentrations within particular counties are accurately accounted for. Industry composition is assumed to stay constant through time under the baseline scenario.

#### **Figure 50. List of Defined Industries**

Agriculture  
Mining  
Utilities  
Construction  
Manufacturing  
Wholesale Trade  
Retail Trade  
Transportation  
Information  
Finance  
Real Estate  
Professional & Technical Services  
Management  
Administration  
Education  
Healthcare  
Arts  
Accommodations  
Other Services

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#### *Accounting for Part-time and Full-time Workers*

Although the enrollment analysis required the older SIPP (2014) data, industry-level full- and part-time worker status data were obtained for US workers from SIPP (2018) and

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<sup>3</sup> Imputation is done in a few cases where industry-level data at the county-level is nearly complete.

applied to the New Mexico employment data. The proportions of full- and part-time workers were assumed to remain constant through time.

### *Allocating Retirement Plan Enrollment Data*

SIPP (2014) estimates on US retirement plan enrollment (or non-enrollment by reason) for full- and part-time private-sector workers by industry were multiplied with the estimated number of New Mexico private-sector full-time and part-time workers by industry to generate estimates of the number of workers who are enrolled (or non-enrolled) in an employer-sponsored retirement plan. A key challenge is that the US enrollment rates tend to be higher than the New Mexico rates; in particular, it was discovered after an initial estimation that the number of enrolled private-sector workers was approximately five percentage points too high. Therefore, US enrollment rates were reduced by five points to better approximate New Mexico rates. These adjusted rates were again multiplied with the appropriate data to generate counts of workers enrolled (or non-enrolled) in an employer-sponsored retirement plan

Note that this study assumes that enrollment rates are constant through time.

