

GUNNISON COPPER 2025 ECONOMIC IMPACT STUDY



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The Team would like to thank all who helped in making the 2025 Gunnison Copper Economic Impact Study possible, with special thanks to Craig Hallworth of Gunnison Copper, and Cortez Smith & Dr. Price Fishback of the University of Arizona.

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Executive Summary

The Gunnison Copper Project presents a transformative opportunity for Arizona and the broader U.S. economy. Utilizing nationally accepted economic modeling tools - regression-based forecasting, RIMS II multipliers, and the IMPLAN model - this report estimates the project's cumulative impact on output, labor income, employment, and tax generation across national, state, and county levels.

The analysis begins by estimating the average annual effects of Gunnison Copper's operations:

- Average annual revenue: \$625 million
- Average annual employment (direct): 524 jobs
- Average annual labor income (direct): \$50 million

After applying consistent multiplier logic across all models, the combined direct, indirect, and induced average annual effects are:

- National-level: \$1.43 billion in output, 2,676 job-years, \$209 million in labor income
- Arizona-level: \$978 million in output, 1,739 job-years, \$129 million in labor income
- District 6 / Cochise County: \$880 million in output, 765 job-years, \$64 million in labor income

The key findings from the analysis are as follows:

- **National-level outcomes** indicate a total present value (NPV) output of **\$14.6 billion**, supporting over **53,521 job-years** and generating **\$2.07 billion** in labor income.
- **Arizona state-level impacts** show **\$10.01 billion** in output, **34,783 job-years**, and **\$1.28 billion** in income.
- **Cochise County and District 6** are poised to benefit from **\$9.02 billion** in direct and multiplier output, and over **15,308 job-years**, with the most concentrated local economic stimulus.

These figures represent a high-confidence economic forecast informed by an integrated modeling strategy and current market benchmarks

Situation

The Gunnison Copper Project, located in Cochise County, Arizona, represents a significant long-term investment into a conventional mining operation with open pit mining, heap leach, and SX/EW refinery to produce finished copper cathode on-site with direct rail link. The mine is expected to provide stable employment opportunities, support local procurement, and stimulate regional economic growth over the coming decades.

Cochise County, with a population of approximately 126,000, has faced economic fluctuations tied to historical declines in mining and manufacturing. The introduction of the Gunnison Copper operation offers a strategic reversal of this trend, contributing to both employment and income stability.

At peak operation, the mine is projected to support up to 733 direct job-years. These roles span skilled and semi-skilled categories and are expected to generate multiplier effects across the county's service, trade, and utility sectors.

This report aims to estimate the economic contributions of Gunnison Copper across three dimensions- income, employment, and output- using a triangulation of methods: regression-based modeling, BEA RIMS II multipliers, and IMPLAN input-output analysis. These models together provide a comprehensive view of both direct and spillover effects tied to the mine's construction and operational phases.

Methodology

Modelling Frameworks

This study combines three rigorous approaches. We use the different models to show the impact of different approaches and because the models were focused on different aggregation levels, including national, Arizona, Congressional District 6, and Cochise County:

1. **Regression Analysis:** The analysis is based on data from 1990 through 2020 for all counties with populations between 60,000 and 200,000 people in 1990 in the U.S. The regression model quantifies the relationship between changes in economic activity associated with increases in manufacturing and mining employment, while controlling for permanent features of counties, time trends within each county, and changes in socio-economic activity in the states. It focuses on the impact on per capita personal income and nonindustrial employment as outcomes. The data sources include the U.S. Bureau of Labor Statistics, Census Bureau, and the national consumer price index. This is the only analysis that provides estimates for Cochise County.
2. **RIMS II (Regional Input-Output Modeling System):** Developed by the Bureau of Economic Analysis, RIMS II uses multipliers to estimate how spending in one industry ripples through the rest of the economy at the state level. To capture the full range of economic activity generated by the mine we use their **Type I** and **Type II** multipliers for output, earnings, and employment. The Type I multiplier combines direct and indirect effects of inter business activity. The Type II multiplier includes the Type I effects and adds an induced effect associated with purchases in the state by employees. This analysis is restricted to the state of Arizona because the RIMS II model does not provide multipliers for copper mines in Cochise County.
3. **IMPLAN (Impact Analysis for Planning):** IMPLAN has developed a commonly used model that follows the supply chain and expenditures by employees to build up multipliers. The IMPLAN model follows a similar process to the one followed by the RIMS II model of starting with a direct effect and then providing Type I and Type II multipliers to show indirect and induced effects. The IMPLAN estimates are provided at the national, Arizona, and Arizona Congressional district 6 level. IMPLAN's estimates do not include multipliers for copper mining specifically for Cochise County.

Treatment of Initial Capital Expenditures

For the purpose of estimating economic impacts, we treated the initial capital expenditures associated with construction and infrastructure development (excluding mining equipment) as revenue inputs into the RIMS II and IMPLAN modeling frameworks. This treatment reflects standard economic modeling practices, where such upfront construction-related spending generates measurable activity across multiple sectors (e.g., engineering, construction services, materials, logistics), similar to ongoing operating revenue.

By applying the same mining-sector multipliers to both initial capex and operating expenditures, we capture the full range of direct, indirect, and induced effects associated with the project's early-stage investment. This approach enables a more accurate estimation of short-term economic impacts during the construction phase, particularly in terms of job creation, income generation, and supply chain stimulation.

Definition of Economic Effects

Type I Multiplier: Direct Plus Indirect Effects

The Type I multiplier is the sum of the direct and indirect impacts:

- **Direct effects** represent the immediate economic activity generated by the mine's operations, such as jobs at the mine, wages paid to employees, and purchases of goods and services (e.g., machinery, fuel, engineering services).
- **Indirect effects** capture the economic activity generated as the mine's suppliers purchase additional inputs and hire workers to meet the mine's demand. This includes second-order effects across the supply chain. For example, the metal fabricator supplying machinery to the mine will in turn purchase steel, transportation, and services, creating additional regional employment and income.

Together, these effects illustrate how the mine's core operations stimulate interconnected industries within the local and state economy.

- **Type II Multipliers:** Direct Plus Indirect Plus Induced Effects
- **Type II multipliers** build upon Type I multipliers by incorporating **induced effects**, which reflect household-level spending by employees:
- **Induced effects** result from increased household income as employees of both the mine and its suppliers spend their wages on goods and services. This includes spending on housing, healthcare, food, education, and retail, which further supports local businesses and generates additional employment across a range of sectors.

By including induced effects, Type II estimates offer a more complete view of the mine's total contribution to the regional economy. This layer highlights how income earned through the mine's activity circulates through the broader community, supporting jobs and income in consumer-facing sectors.

Results and Interpretation

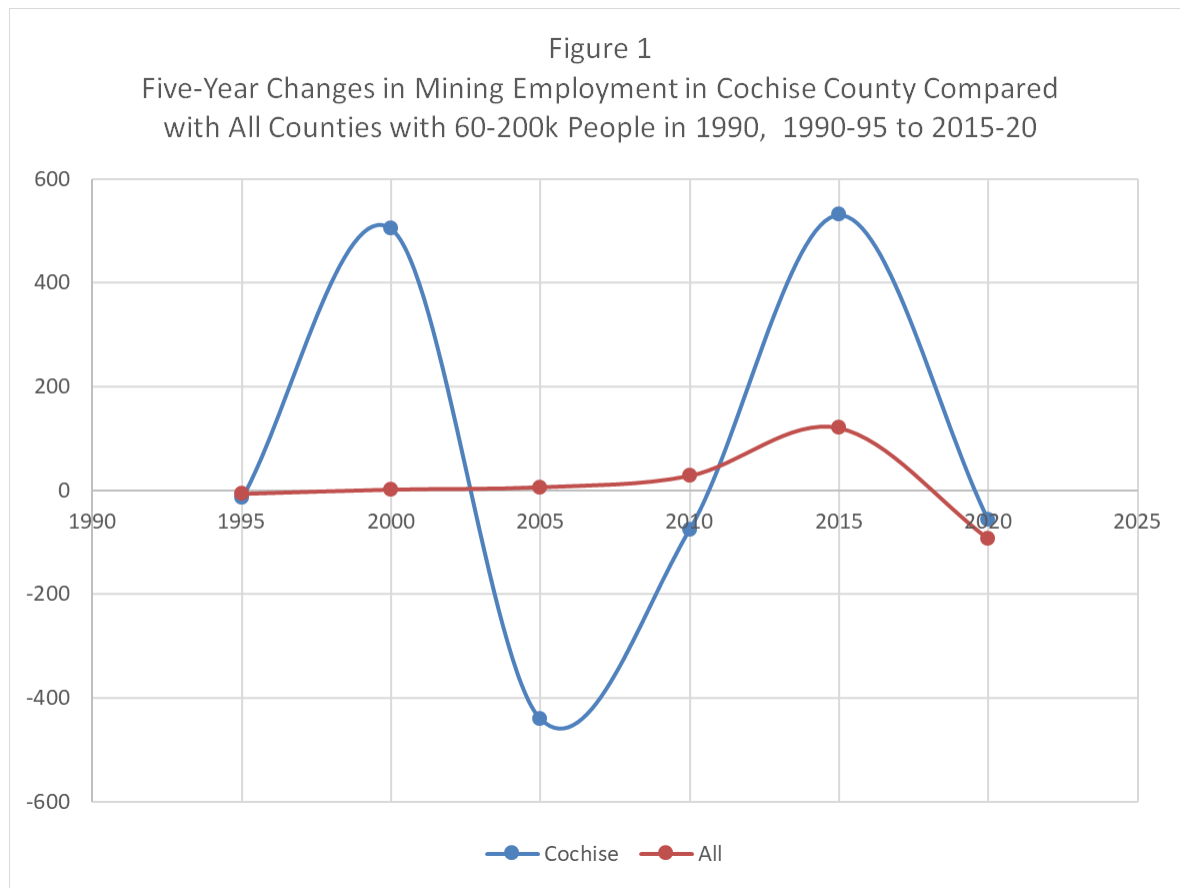
A. County-Level Regression Analysis

To estimate Gunnison Copper's economic impact at the county level, we developed a new regression model based on historical employment and income activity between 1990 and 2020 using information on 475 counties in the U.S. with populations between 60,000 and 200,000 as of 1990. The population range was chosen because these counties are similar in size to Cochise County. A full description of the estimation is in Appendix B.

The regression model estimates the impact of 5-year changes in Mining employment and in 5-year changes in Manufacturing employment on real personal income per capita and on employment in sectors outside mining, manufacturing and construction. Correlates included in the model control for aspects of the counties that do not change over time, the 30-year trend in the county, and period-specific features of the state.

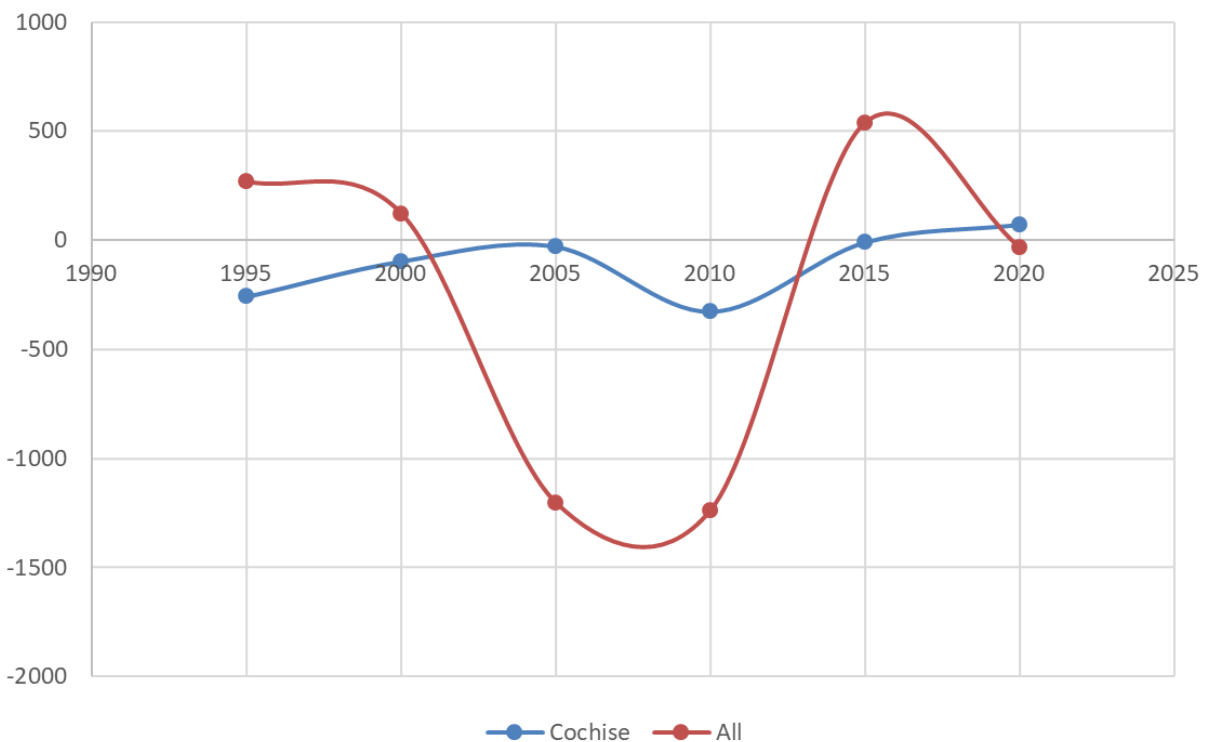
A.1 Comparisons of Cochise County to Similar-Sized Counties from 1990 to 2020.

A reasonable comparison group for Cochise County is counties that started in 1990 with between 60,000 and 200,000 people. Cochise's population grew from 97,918 in 1990 to 125,527 in 2020, and we chose the 60,000-to-200,000-person range in 1990 to focus on counties that were roughly the same size.



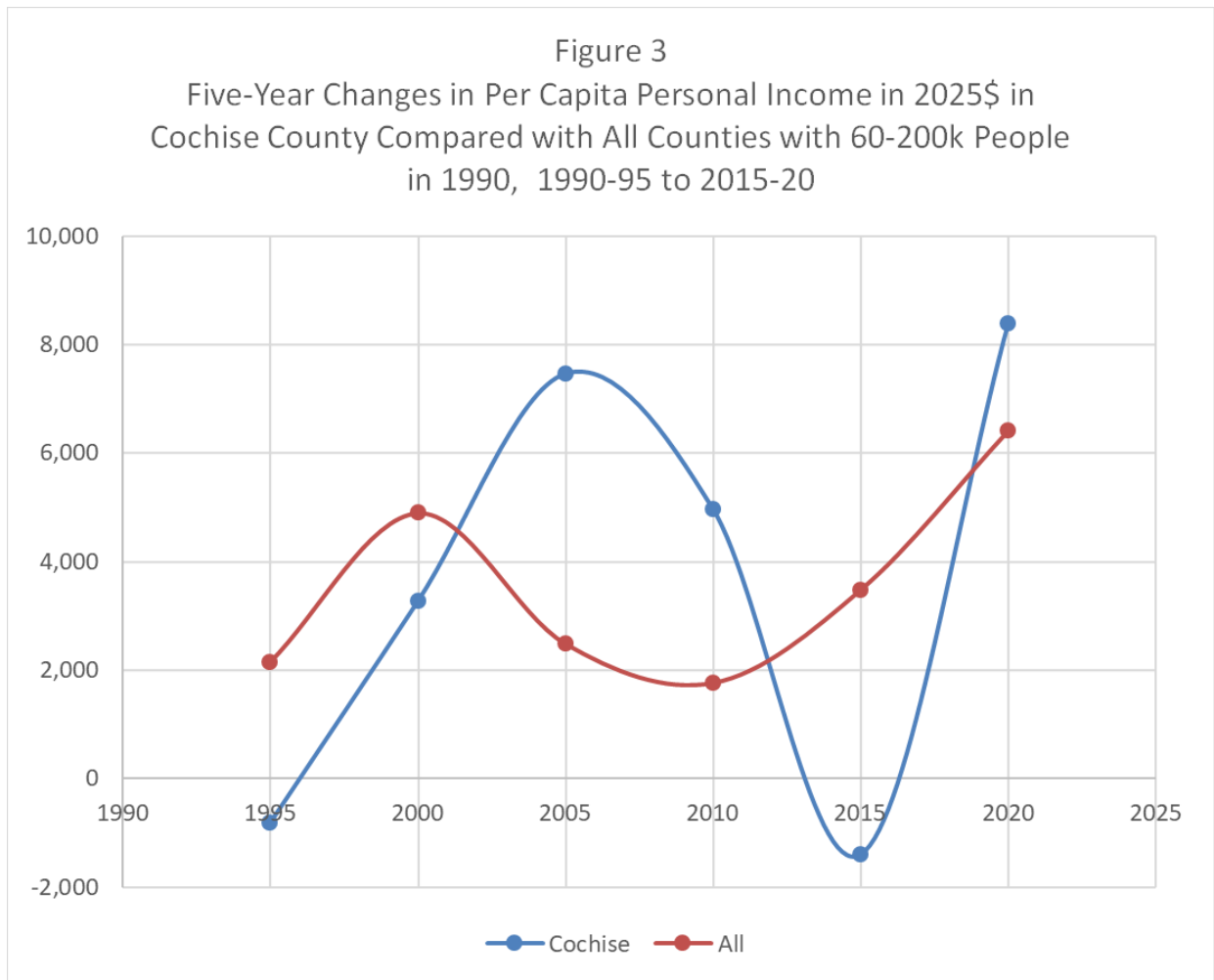
In 1990 Cochise had 683 mining jobs compared with an average of 835 in the mid-size counties with 60,000-200,000 people in 1990. Figure 1 shows that the average changes in the mid-size counties were close to zero throughout the period from 1990 to 2020. Cochise had two dramatic jumps in mine employment in between 1995 and 2000 and again between 2010 and 2015. The first jump was followed by a drop between 2000 and 2005 that nearly matched the jump from 1995 to 2000. In 2020, Cochise had 1,132 mining jobs in 2020, which was higher than the average of 890 for mid-size counties.

Figure 2
Five-Year Changes in Manufacturing Employment in Cochise County
Compared with All Counties with 60-200k People in 1990, 1990-95 to
2015-20

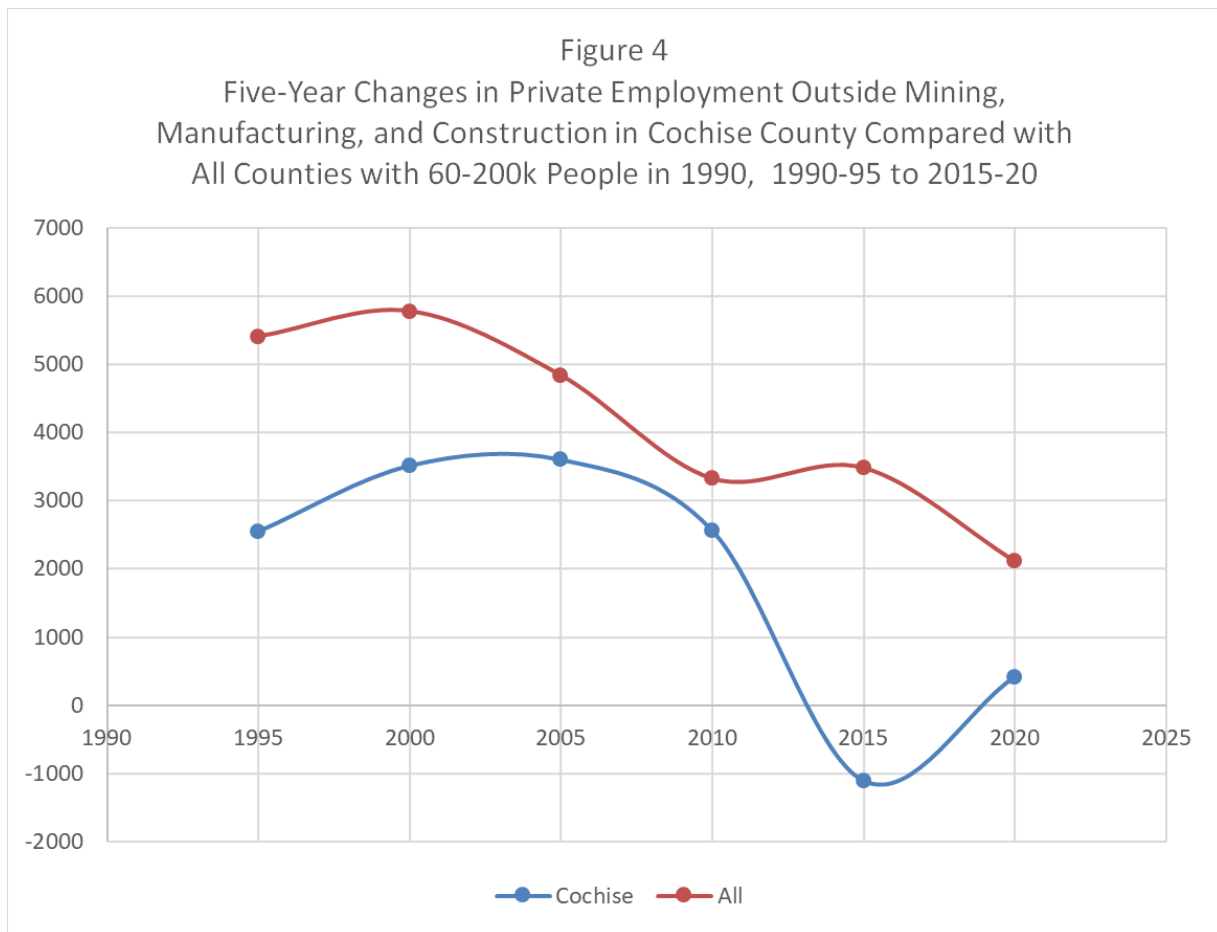


In 1990 Cochise County had 1,281 manufacturing jobs, well below the average of 7,629 for mid-size counties. The negative numbers in the 1990-1995 through 2010-2015 periods show consistent declines in Cochise manufacturing jobs during that era. By 2020 Cochise was down to 625 manufacturing jobs. Meanwhile, the mid-size counties experienced major manufacturing losses after 2000 when China joined the World Trade Organization.

Figure 2 shows that mid-size counties lost more than 1200 manufacturing jobs between 2000 and 2005 and again between 2005 and 2010. The drop in the average number of manufacturing jobs was over 1200. By 2020 the average number of manufacturing jobs was down to 6,080.



A key outcome of interest is per capita personal income in May 2025 dollars. In 1990 Cochise's per capita personal income of \$35,952 was about 14 percent below the mid-size average of small county average of \$42,029. The five-year changes in Figure 3 show that Cochise's per capita income fluctuated much more than the averages for the mid-size counties. Cochise had two half-decades when real per capita income fell. They also had three half-decades when Cochise's income rose substantially more than the average incomes in the mid-size counties. From 2015 to 2020 the real per capita income rose by more than \$8,000. By 2020 Cochise's per capita personal income had grown to \$57,800, only 8.5 percent below the average of \$63,206 for the mid-size counties.



Another major outcome of interest is changes in private employment outside of mining, manufacturing, and construction. In 1990 Cochise had 13,154 of those types of jobs, compared with an average of 22,127 for the mid-size counties. The average five-year change for mid-size counties was always positive, but the size of the change fell over time in Figure 4. Cochise's changes were all positive except for a decline between 2010 and 2015. By 2020 Cochise had around 20,000 of these types of jobs, while the mid-size counties had an average of around 36,000.

A.2 Model Specifications

To find the relationships between industrial employment and real personal income per capita and other employment, we estimate 5-year change regressions between 1990 and 2020:

Our preferred model equation is:

$$1) \ y_{ist} - y_{ist-5} = \beta_0 + \beta_1 (EMine_{ist} - EMine_{ist-5}) + \beta_2 (EMfg_{ist} - EMfg_{ist-5}) + C + S*Y + \epsilon_{ist} - \epsilon_{ist-5}$$

Where:

- $y_{ist} - y_{ist-5}$ is the outcome measure in county i state s and year t , either the 5-year change in per capita real personal income or the 5-year change in employment outside mining, manufacturing, and construction. We use the term other employment for brevity.
- $EMine_{ist} - EMine_{ist-5}$ is the 5-year change in mining employment.
- $EMfg_{ist} - EMfg_{ist-5}$ is the 5-year change in manufacturing employment.
- C is a vector of county fixed effects.
- $S*Y$ is a vector of state-by-year fixed effects
- $\epsilon_{ist} - \epsilon_{ist-5}$ is a stochastic error term that includes information for which no measures are available.

The coefficient estimate β_1 in the model with real per capita Personal Income as the dependent variable is interpreted as the rise in per capita Personal Income in 2025 dollars associated with an increase of one mining job in a county. When other employment is the dependent variable, β_1 is interpreted as the increase in the number of other jobs associated with an increase of one mining job. The coefficient β_2 is interpreted the same way for an additional manufacturing job.

The use of 5-year differences controls for a broad range of factors that also would have influenced the outcomes in ways unrelated to the introduction of industrial employment. Using the change rather than the level of the variables holds constant features of each county that do not change over time, including climate, location, basic economic structure, and many local regulations and customs.

The C vector is a series of dummy variables that, for example, has a value of 1 for an observation in Cochise County in Arizona and a zero value for all other counties. The vector includes a dummy for each county except one the sample. Including this variable in the sample controls for the trends over time between 1990 to 2020 in each county. The inclusion of the C vector focuses the analysis on deviations over time from the long-term trend within in each county to isolate the relationship between the outcome and industrial employment.

The vector $S*Y$ contains another series of dummy variables. It includes, for example, a dummy variable with value 1 for an observation in Arizona in 1995, and zero otherwise. There is

another for Arizona in 2000, and there are dummies for each state-year combination except one. Including this vector controls for factors that are common to the counties in that state in that year. These would include the state's GDP, unemployment, other economic features, regulations, and other factors that vary across time for the state as a whole. After this vector is added to the analysis, the analysis focuses on identifying the relationship between industrial employment and the outcomes using deviations over time from the long-term trend within each county while controlling for state-wide changes in the economy, politics, and customs.

A.3 Regression Results

Table 1
Key Regression Results, Mining and Manufacturing Coefficients with 95-percent Confidence Intervals Listed Below.

Outcome	Coefficient (per mining job)	Coefficient (B2) per Mfg. job
Real Per Capita Income (May 2025 \$)	\$0.56 \$0.41 – \$0.72 0.42 jobs	\$0.33 \$0.28 – \$0.37 0.13 jobs
Non-Industrial Employment	0.279 - 0.569	0.08 - 0.18

Note. See Appendix B for a full description of the regression estimates.

Table 1 summarizes the coefficient estimates and confidence intervals from the regression models. The coefficient estimates imply that per capita personal income in an area with an additional manufacturing job will tend to be 33 cents higher. For an additional mining job per capita personal income will tend to be 56 cents higher. The 95-percent confidence intervals are increases from 27.9 to 37.3 cents for an additional manufacturing job and from 40.5 to 71.7 for an additional mining job.

A.4 Projected County-Level Impacts for Gunnison Copper

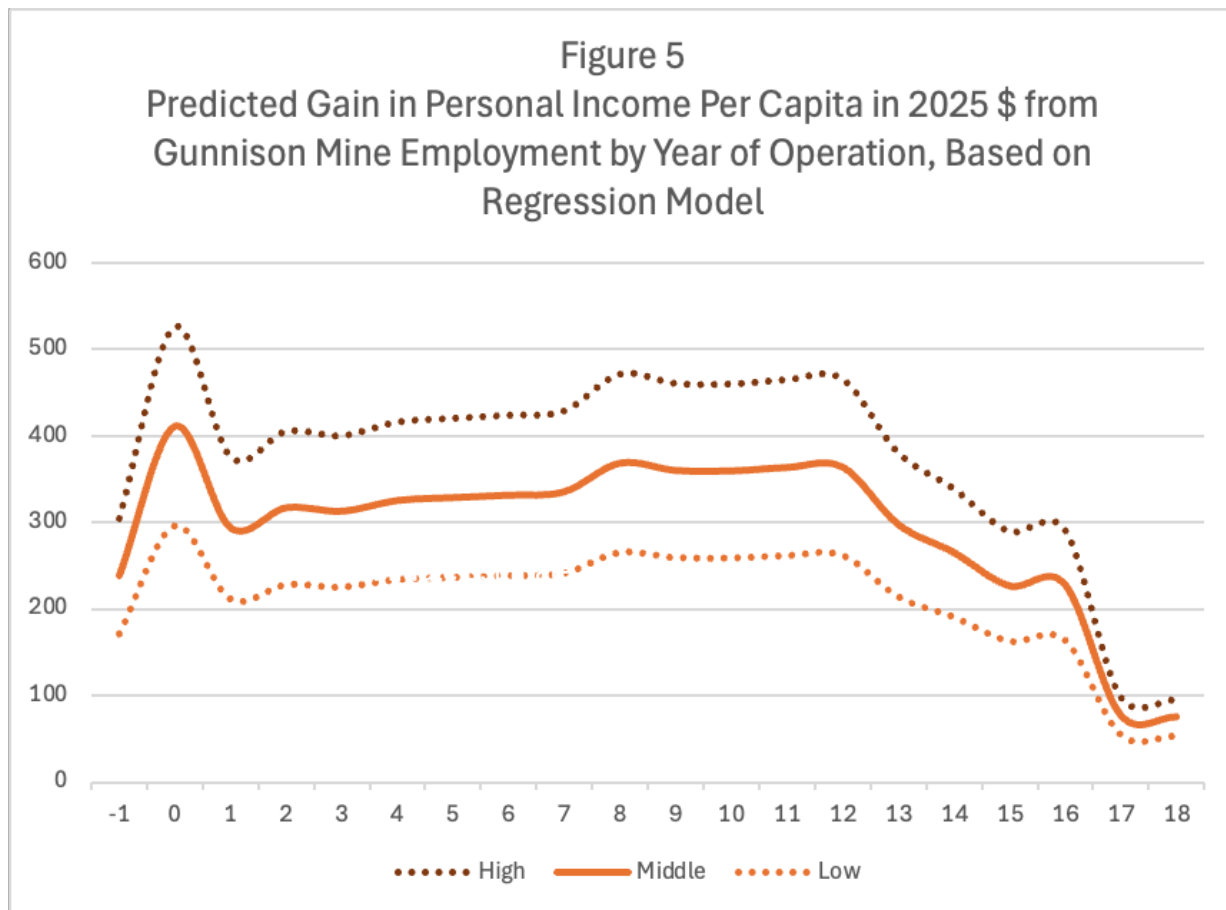


Figure 5 shows the time path of the annual boost to per capita personal income in \$2025 in Cochise County associated with the timing of the employment at the Gunnison from the year before the mine opens through the expected ending year of employment. Gunnison expects to employ 425 workers in the year before the mine begins operating (-1). The middle estimate on the solid line of \$238 in year -1 comes from multiplying the coefficient estimate of 56 cents in Table 1 by 425 workers.

When the mining employment peaks at 733 jobs in year 0, real personal income per capita is predicted to be elevated by \$411 using the middle estimate. The dotted lines show the estimates at the top and bottom of the 95-percent confidence interval for that year. The high estimate in year 0 is \$525 based. The low estimate at the bottom of the 95-percent confidence interval in year 0 is \$296.

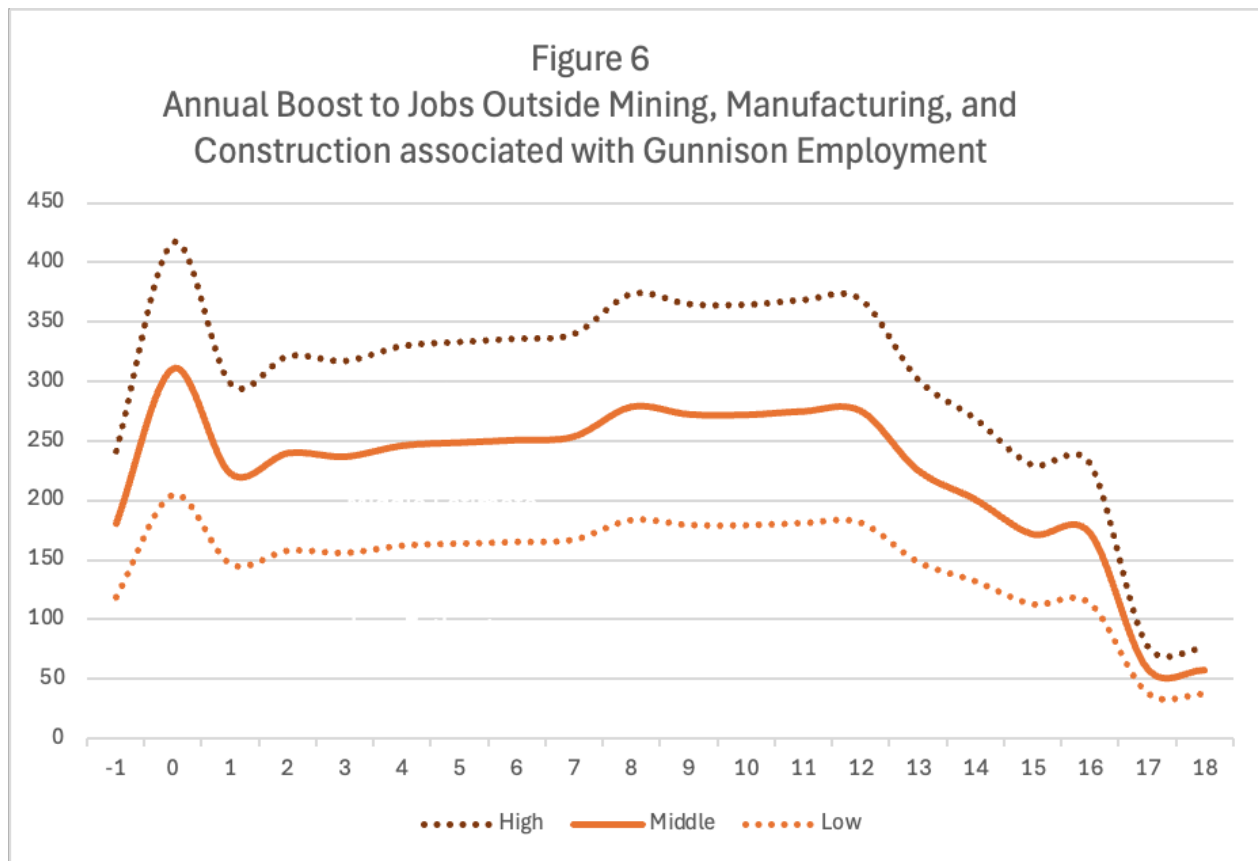


Figure 6 shows the time path of the annual boost to jobs outside mining, manufacturing, and construction associated with the timing of the employment at the Gunnison from the year before the mine opens through the expected ending year of employment. For year minus 1 the middle estimate of 180 jobs shown on the solid line is the mining coefficient of .424 from Table 1 multiplied by the 425 jobs that Gunnison will have that year. When the mining employment peaks at 733 jobs in year 0, the number of these other jobs stimulated by the mine activity that year is 310 jobs. The light orange and dark orange areas in the graph show the high and low estimates of the effect based on the 95-percent confidence interval. The middle estimate of the average annual boost in these other jobs in Cochise County from Gunnison's employment is around 222 jobs.

These projections highlight a sizable boost to household income and local employment, particularly in services, retail, and trade-related jobs

B. RIMS II Analysis for Arizona

Over the life of economic activity at the Gunnison mine, the company predicts an average annual revenue of \$625.4 million, an average annual number of jobs of 524, and an annual labor income of \$49.8 million. Using the RIMS II Type I and Type II multiplier estimates for the state of Arizona, these direct effects from Gunnison's activity are predicted to be associated with average annual total increases (including Gunnison's direct effects) of \$1.1 billion in revenue, 1,892 job-years, and \$125 million in labor income for Arizona businesses.

Using the RIMS II model, we show the impact of the activity at the Gunnison mine on economic activity in Arizona in three ways. First, we start with output, measured as the stream of revenue generated by the Gunnison mine and determine the impact on all types of revenue in Arizona. Second, we start with the number of job-years at the Gunnison mine and measure their impact on all job-years in all sectors in Arizona. Third, we start with the total payments to Gunnison workers and measure the total amount of labor income generated in Arizona.

No Cochise County multipliers can be calculated because the BEA did not publish any RIMS II Type I or Type II multipliers for copper mines in that county. In sparsely populated or data-limited regions, the BEA omits multipliers when survey data are too thin, or confidentiality rules prevent reliable indirect and induced estimates.

B.1 Output (Final Demand) Estimates

Figure 7 shows Gunnison's estimates of the nominal values of their direct revenue over the life of the project on the dark orange area, which represents the direct effect on the Arizona economy from Gunnison's operations. The direct effect begins at \$511 million in year -1, before the mine begins producing, and rises to an early peak of \$751 million in year 3. It then stabilizes near that level through year 11, with values consistently above \$700 million. Revenue dips to \$597 million in year 12, but then recovers to above \$690 million for three years, peaking again at \$736 million in year 15. After that, revenue falls to \$595 million in year 16 and drops sharply in the last two years of production, reaching only \$57 million in year 18. Gunnison's average annual revenue during years 1 through 18, when the mine is generating revenue, is \$626 million, as shown in row 2 of Table 2.

The Rims II model shows that the Type I multiplier for copper mines is 1.438 in the first row of Table 2, which breaks down into a value of 1 for the direct effect plus an indirect inter-business effect of 0.4375. When Gunnison reaches the early peak of revenue of \$751 million in year 3, using the Type I multiplier leads to combined direct and indirect effects on Arizona revenue of \$1,079 million dollars in that year. The indirect effect is \$1,079 million - \$751 million = \$328 million.

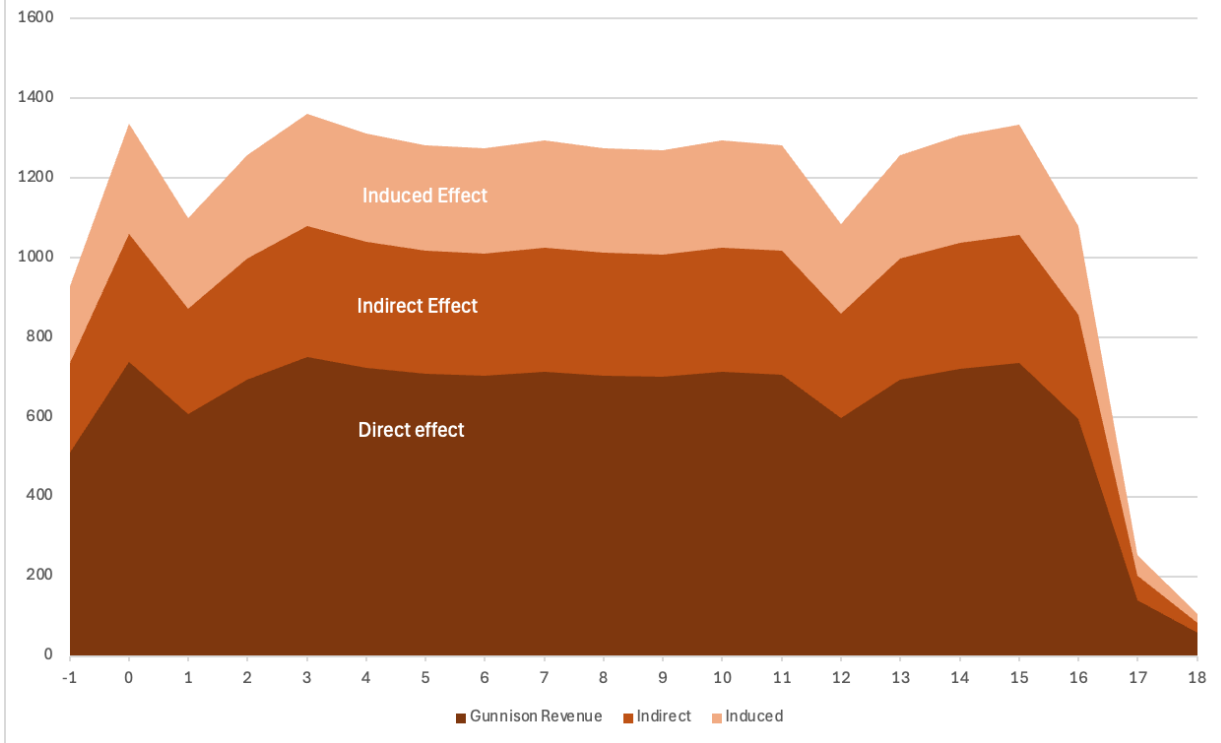
The Type II multiplier adds the induced effect to the Type I multiplier to obtain a value of 1.813 in Table 2 for the RIMS II model. The induced effect adds to the value of employee spending, such that the final effect on the Arizona economy in year 3 associated with Gunnison's mining revenue is \$1,361 million.

In row 2 of Table 2, the average annual revenue at Gunnison over the life of the mine's production of revenue is \$625 million, which be associated with \$274 million in indirect revenue for other businesses and \$235 million in induced revenue associated with employee spending. The average total Type II effect in Arizona each year will be \$1,134 million.

After summing the values over the life of the mine, the total nominal direct effect is \$12.507 billion, the indirect effect is \$5.472 billion, and the induced effect is \$4.694 billion. The full mine-life effect in Arizona is \$22.673 billion dollars. These nominal values would be the present value if interest rates and inflation were zero.

To evaluate investments, Gunnison has chosen a nominal discount rate of 8 percent, which considers both the real rate of interest and the rate of inflation. If we treat the beginning of year minus 1 as the starting point for the discounted value, the discounted value of Gunnison's revenue stream, which is the direct effect, is \$5.492 billion. The discounted value of the indirect and induced effects is \$2.403 billion and \$2.061 billion, respectively. The total effect for revenue in Arizona is \$9.956 billion.

Figure 7
Nominal Gunnison Revenue (Direct Effect) and RIMS II Estimates of Indirect and Induced Effects Over the Life of the Project, Millions of Dollars



Source: Gunnison revenue (Direct Effect) provided by company. Type 1 and Type 2 multipliers from Table 2 were used to calculate the Indirect and Induced Effects.

Table 2
RIMS II Type 1 and Type II Multipliers and Direct, Indirect, and Induced Effect Using Gunnison Revenue to Determine the Change in Total Revenue in the State of Arizona, Millions of Dollars

	Direct	Indirect	Induced	Type I	Type II
Multiplier	1.000	0.438	0.375	1.438	1.813
Arizona Average Annual Revenue	625	274	235	899	1,134
Present Value of Arizona Revenue	\$5,492	\$2,403	\$2,061	\$7,895	\$9,956

Source: Type I final demand output multiplier for Copper, nickel, lead, and zinc mining for Arizona from Table 3.5 RIMS II Multipliers (2017/2023) column 1. Type II final demand output multiplier for copper, nickel, lead, and zinc mining from Table 3.5 RIMS II Multipliers (2017/2023) column 1. Arizona average annual revenue provided by Gunnison. The Present Value of Arizona was calculated using a discount rate of 8 percent and starts at the beginning of year minus 1.

B.2 Employment Estimates

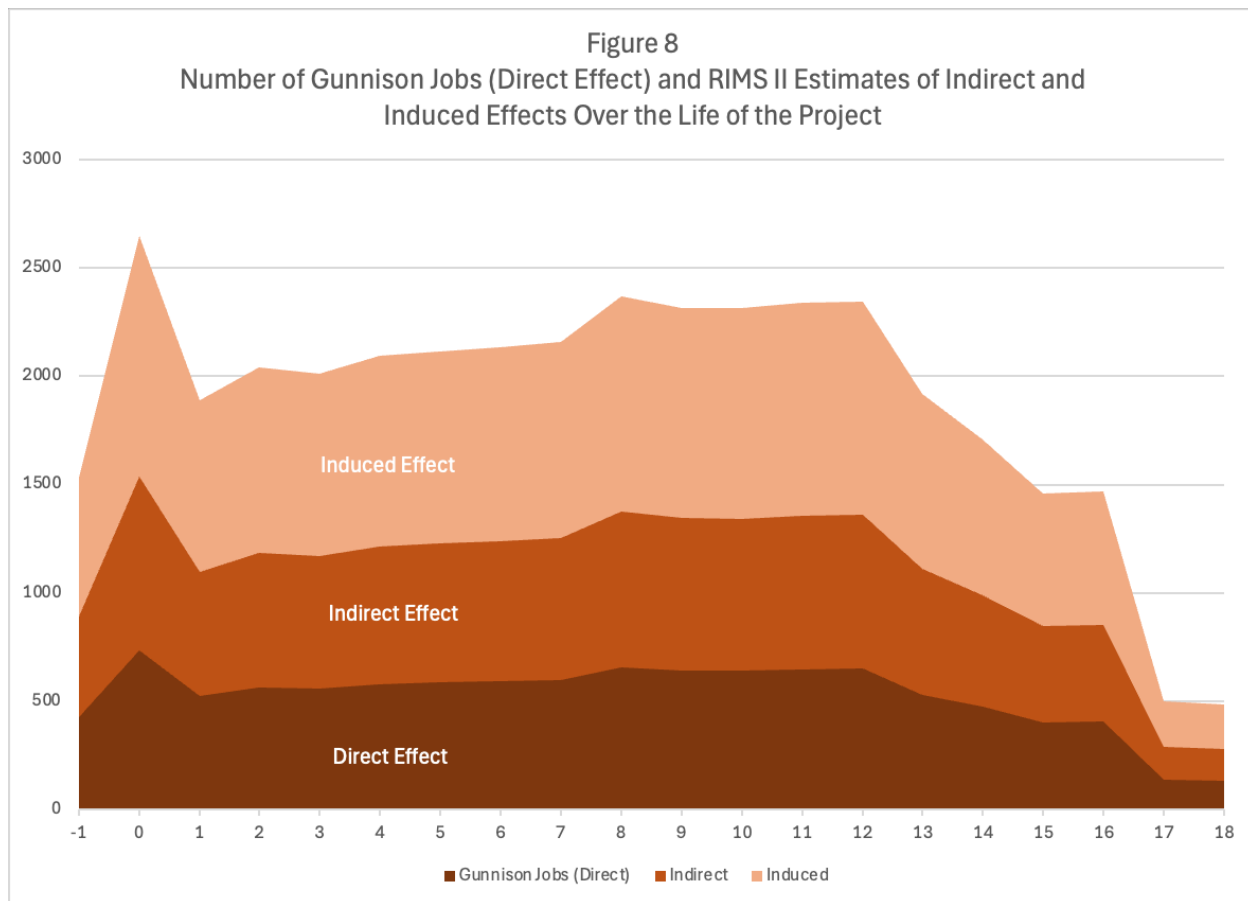
The second set of RIMS II estimates begins with the number of Gunnison job-years over the life of the project and then applies the Type I and Type II multipliers to estimate the number of indirect and induced job-years in Arizona. Figure 8 shows that direct employment at the Gunnison mine starts at 425 jobs in year -1 and reaches a peak of 733 jobs in year 0. Employment increases through year 12 before beginning a gradual decline, reaching about 134 jobs in year 18.

In the peak year of employment in year 0, the direct effect is 733 jobs. After using the multipliers in Table 3, the estimates for the number of indirect, business-to-business jobs in year 0 is 803, and the estimate of the induced jobs is 1,110. Thus, the total change in jobs in year 0 in Arizona would be 2,646job.

Table 3 shows that the average number of job-years at Gunnison over the life of the mining activity is 524, which will be associated with 574 indirect job-years and 794 induced job-years in the state of Arizona for an average total of 1,892 job-years in Table 3.

When we add up the number of job-years over the life of the project the direct number of job-years at the Gunnison mine is 10,484, which will contribute to the creation of 11,485

indirect job-years and 15,878 induced job-years in the third row of Table 3. The total job-years in Arizona associated with the Gunnison job-years is predicted by RIMS II to be 37,847.



Source: Number of Gunnison job-years (Direct Effect) provided by company. Type 1 and Type 2 multipliers from Table 3 were used to calculate the Indirect and Induced Effects.

Table 3
RIMS II Type 1 and Type II Multipliers and Direct, Indirect, and Induced Effects Using the
Number of Gunnison Jobs to Determine the Change in the Number of Jobs in Arizona

Type	Direct	Indirect	Induced	Type I	Type II
Multiplier	1.000	1.096	1.515	2.096	3.610
Arizona Average Number of Jobs	524	574	794	1,098	1,892
Total Job-Years	9,326	10,217	14,124	19,543	33,667

Source: Type I direct effect employment multiplier for Copper, nickel, lead, and zinc mining for Arizona from Table 3.5 RIMS II Multipliers (2017/2023) column 6. Type II direct effect employment multiplier for Copper, nickel, lead, and zinc mining from Table 3.5 RIMS II Multipliers (2017/2023) column 6.

B.3 Labor Income Estimates

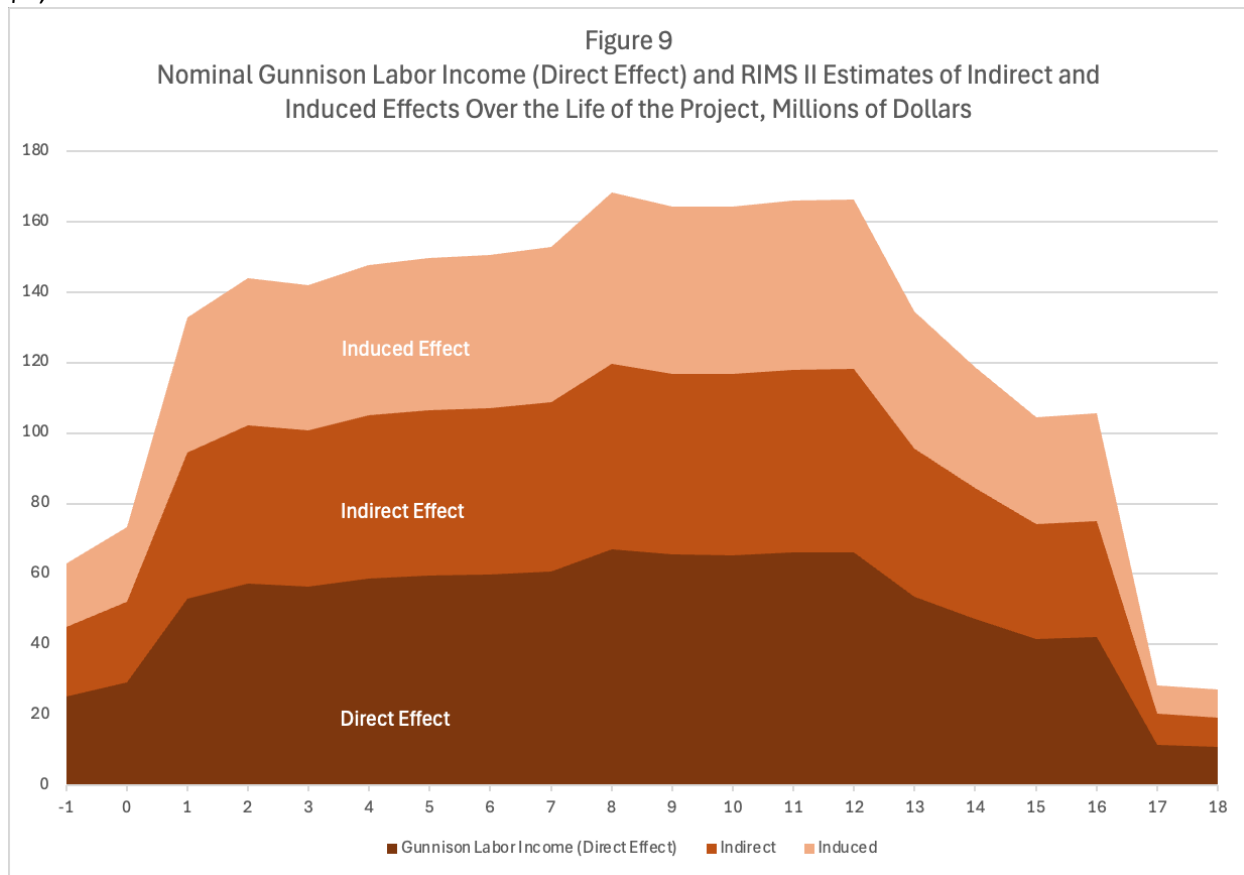
The third set of RIMS II estimates starts with the labor income paid out by Gunnison over the life of the project and then uses the Type I and Type II multipliers in Table 4 to show the indirect and induced labor income in Arizona that arises. Figure 9 shows that labor income at the Gunnison mines in year -1 is \$25 million, and it rises to a peak of \$67 million in year 8, followed by a decline to \$10.8 million in year 18 at the end of employment.

In the peak year of Gunnison's labor income of \$66.9 million in year 8, the direct effect is \$66.9 million. After using the multipliers in Table 4, the estimates of the indirect, business-to-business labor income that arises in year 8 is \$53 million and the estimate of the induced labor income that comes about through employee spending is \$49 million. Thus, the total labor income associated with Gunnison activity in year 8 in Arizona would be \$168 million.

Table 4 row 2 shows that the average labor income at Gunnison over the life of its activity is \$50 million, which will be associated with \$39 million in indirect labor income and \$36 million in induced labor income in the state of Arizona for an average overall total of \$125 million in labor income.

Using Gunnison's 8 percent discount rate and treating the beginning of year -1 as the starting point for the present value, the present value of Gunnison's labor income stream (the direct effect) is \$996 million. The discounted value of the indirect and induced effects are \$348 million and \$321 million, respectively. The total effect associated with Gunnison's labor income is

\$1,107 million.



Source: Labor earnings calculated by multiplying earnings for each type of job by number of workers in that job for each year. Assumed earnings for each job increased by 3 percent per year over the life of the activity. Earnings and number of Gunnison jobs (Direct Effect) provided by company. Type 1 and Type 2 multipliers from Table 4 were used to calculate the Indirect and Induced Effects.

Table 4
RIMS II Type 1 and Type II Multipliers and Direct, Indirect, and Induced Effects Using Gunnison's Labor Income to Determine the Changes in Labor Income in Arizona, Millions of Dollars.

Type	Direct	Indirect	Induced	Type I	Type II
Multiplier	1.000	0.787	0.727	1.779	2.506
Arizona Average Annual Revenue	\$50	\$39	\$36	\$89	\$125
Present Value of Arizona Revenue	\$996	\$348	\$321	\$786	\$1,107

Source: Type I direct effect earnings multiplier for Copper, nickel, lead, and zinc mining for Arizona from Table 3.5 RIMS II Multipliers (2017/2023) column 5. Type II direct effect earnings multiplier for Copper, nickel, lead, and zinc mining from Table 3.5 RIMS II Multipliers (2017/2023) column 5.

C. IMPLAN Model

We use multipliers from a model developed by IMPLAN (Impact Analysis for Planning) to provide a comprehensive assessment of the Gunnison Copper Project's economic ripple effects across three geographic levels: national, Arizona, and Arizona Congressional District 6 (which includes Cochise County). We used the Congressional District as the local area because IMPLAN did not provide multipliers for copper mines for Cochise County. As is the case with the RIMS II model from the BEA, we use the information from Gunnison to obtain the direct effect and use multipliers from the IMPLAN model to calculate Type I and Type II multipliers for copper mining that show the direct, indirect, and induced effects. The direct effects from Gunnison's data are the same ones as used for the RIMS II model.

C.1 Output Multipliers and Effects

The effects of Gunnison's mining activity using Gunnison's mining revenue as a measure of the direct effect are shown in Table 5 and Figure 10. The multipliers and the effects are largest at the national level, followed by the Arizona level, and the lowest are at the congressional district level because of differences in the extent of the economy. A significant share of inputs, like mining equipment, for Gunnison's mines are not produced within Congressional District Six. Nor are many of the items, like video games and other electronics, purchased by Gunnison's employees. These items are imported from other areas and thus expenditures on them cannot provide spillover benefits within the Congressional District. Arizona's economy is much larger and has more breadth in production of goods and services; therefore, the potential for spillover benefits within the State are larger, leading to larger multipliers. The U.S. multiplier is the largest of the three because a larger share of the goods and services associated with Gunnison's mining are produced within U.S. boundaries.

The average annual Gunnison revenue during the years 1 through 18 when Gunnison is obtaining revenue in Table 5 is \$625 million. The IMPLAN indirect effect in Panel A for Congressional District 6 is 0.077 times that value. After multiplying this value by the \$625 million in direct effects, the model predicts average annual indirect business-to-business spending in Arizona Congressional District 6 of \$48 million in panel B. The IMPLAN induced effect in Panel A for the district is 0.331, which is used to calculate induced spending related to employee purchases of \$207 million. After summing the direct, indirect, and induced effects in Panel B at the district level, the Type II results show that the \$625 million in average annual Gunnison revenue is associated with revenue of all types in Arizona Congressional District 6 of \$880 million. The Type II effect average annual effect in Panel B for the Arizona economy is larger at \$978 million. For the U.S. it is larger still at \$1,426 million.

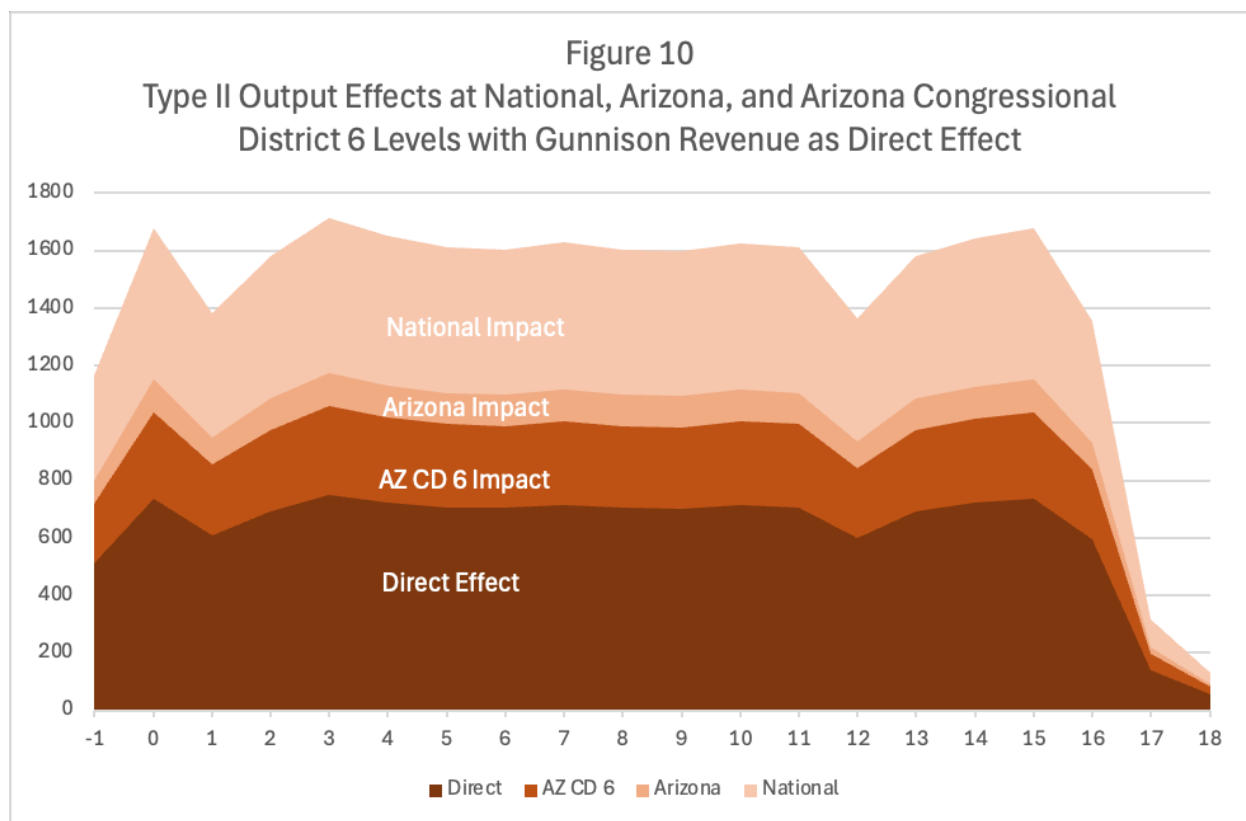
The path of Gunnison's revenue over the life of the project is shown in Figure 10. This direct effect follows the same path as the one used in Figure 7 for the RIMS model. Figure 10 compares the paths followed by the Type II total effects for the congressional district, Arizona, and U.S. economies. The discounted values of these streams of labor income revenue are shown in Panel C of Table 5. They are calculated using a discount rate of 8 percent and starting

at the beginning of year minus 1. The direct effect of Gunnison revenue is \$6,406 million over the life of the project. The present value of the Type II overall effect on revenue is predicted to be \$9,016 million in Arizona Congressional District 6, \$10,013 million in the Arizona economy, and \$14,605 million in the U.S. economy.

Table 5
IMPLAN Output Multipliers, Average Annual Effects, and Present Value of Stream of Effects
at National, Arizona, and Arizona Congressional District Six Levels, Millions of Dollars

Type	Effects			Multipliers	
	Direct	Indirect	Induced	Type I	Type II
A: Multipliers					
National	1.000	0.721	0.559	1.721	2.280
Arizona	1.000	0.306	0.257	1.306	1.563
AZ CD 6	1.000	0.077	0.331	1.077	1.407
B: Average Annual Effects in Millions of Dollars when Mine Generating Revenue					
National	\$625	\$451	\$350	\$1,076	\$1,426
Arizona	\$625	\$191	\$161	\$816	\$977
AZ CD 6	\$625	\$48	\$207	\$673	\$880
C: Present Value of Stream of Effects in Millions of Dollars					
National	\$6,406	\$4,616	\$3,583	\$11,022	\$14,605
Arizona	\$6,406	\$1,957	\$1,649	\$8,363	\$10,013
AZ CD 6	\$6,406	\$491	\$2,120	\$6,896	\$9,016

Source: Gunnison revenue (Direct Effect) provided by company in Panels B and C. The multipliers in Panel A come from the IMPLAN model for Copper, Lead, Nickel, and Zinc mining. The present value of the stream of effects in Panel C uses a discount rate of 8 percent and starts at the beginning of year minus 1.



Source: Gunnison revenue (Direct Effect) provided by company. Type 1 and Type 2 multipliers from Table 5 were used to calculate the Indirect and Induced Effects.

C.2 Employment Multipliers and Effects

Starting with Gunnison employment as the direct effect, the changes in overall employment in the three areas are shown Table 6 and Figure 11. The average annual number of jobs at Gunnison from year minus 1 through year 16 is 524 in Panel B of Table 6. In Congressional District 6, the IMPLAN indirect effect in Panel A is 0.304 times that value. After multiplying this value by 524 jobs, the model predicts that the average annual indirect business-to-business activity will lead to 159 additional jobs in Arizona Congressional District 6. The IMPLAN induced effect in Panel A for the district is 0.156, which is used to calculate induced additional employment related to employee purchases of 82 jobs. After summing the direct, indirect, and induced effects in Panel B at the district level, the Type II results predict that the district will end up with 765 jobs, including the 524 Gunnison jobs, because of Gunnison mining activity. The Type II effect average annual effect in Panel B for the Arizona economy is much larger at 1,739 jobs, while the National effect is even larger at 2,676 jobs.

The path of the direct effect on employment, which is Gunnison's employment from year minus 1 through year 16, is shown in Figure 10, along with the Type II total effects for the congressional district, Arizona, and U.S. economies. The total number of job-years over the life

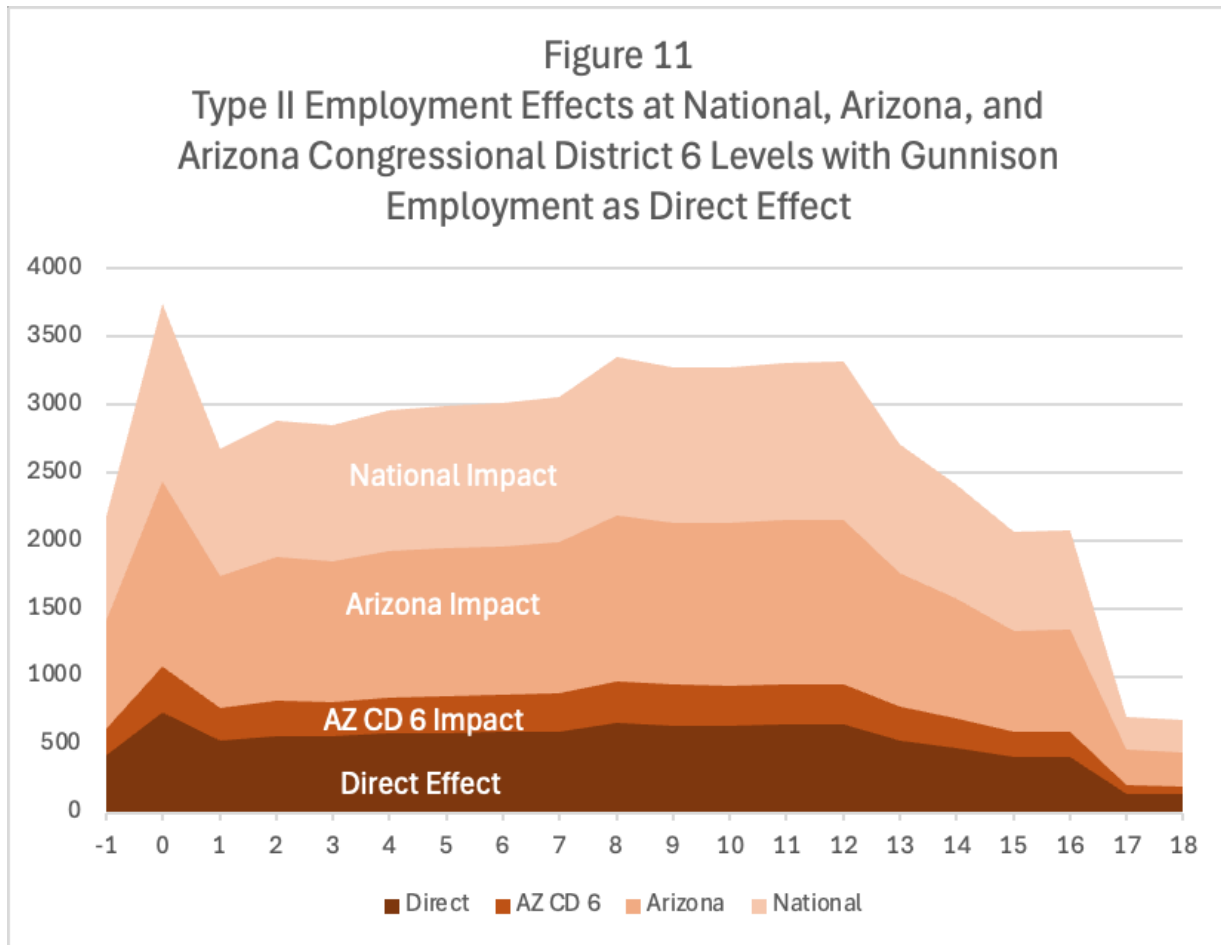
of the Gunnison mining project is expected to be 10,484 in Panel C in Table 6. The IMPLAN model predicts that after the indirect and induced additional jobs are added, there will be a total of 15,308 job-years (including the Gunnison jobs) generated in Arizona Congressional District Six, 34,783 job-years in the Arizona economy, and 53,521 job-years in the U.S. economy.

Table 6

IMPLAN Employment Multipliers and Average Annual Effects at National, Arizona, and Arizona Congressional District Six Levels

	Effects			Multipliers	
Type	Direct	Indirect	Induced	Type I	Type II
A: Multipliers					
National	1.000	2.025	2.080	3.025	5.105
Arizona	1.000	1.271	1.047	2.271	3.318
AZ CD 6	1.000	0.304	0.156	1.304	1.460
B: Average Annual Number of Jobs					
National	524	1,062	1,090	1,586	2,676
Arizona	524	666	549	1,190	1,739
AZ CD 6	524	159	82	683	765
C: Total Job Years					
National	10,484	21,230	21,807	31,714	53,521
Arizona	10,484	13,321	10,978	23,805	34,783
AZ CD 6	10,484	3,185	1,639	13,669	15,308

Source: Gunnison jobs (Direct Effect) provided by company in Panels B and C. The employment multipliers in Panel A come from the IMPLAN model for Copper, Lead, Nickel, and Zinc mining.



Source: Gunnison revenue (Direct Effect) provided by company. Type 1 and Type 2 multipliers from Table 6 were used to calculate the Indirect and Induced Effects.

C.3 Labor Income Multipliers and Effects

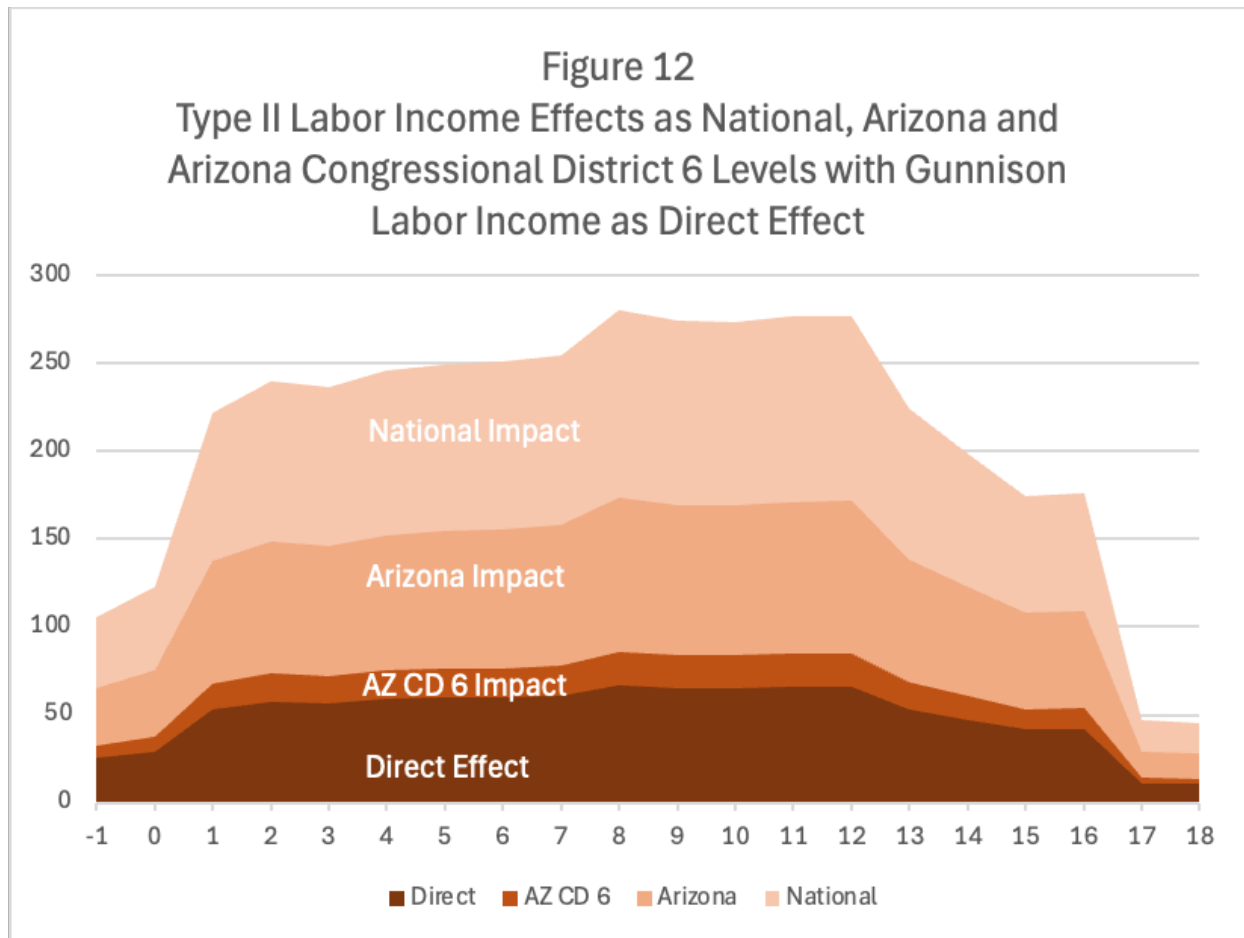
Starting with Gunnison labor income as the direct effect, the changes in overall labor income in the three areas are shown in Table 7 and Figure 12. The average annual labor income at Gunnison from year 1 through year 16 is \$50 million in Panel B of Table 7. In Congressional District 6, the IMPLAN indirect effect in Panel A is 0.207 times that value. After multiplying this value by the \$50 million in labor income, the model predicts that the average annual indirect business-to-business activity will lead to \$10 million in additional labor income in Arizona Congressional District 6. The IMPLAN induced effect in Panel A for the district is 0.073, which is used to calculate induced additional labor income related to employee purchases of \$4 million. After summing the direct, indirect, and induced effects in Panel B at the district level, the Type II results predict that the district will end up with \$64 million in additional labor income, including the \$50 million Gunnison labor income, because of Gunnison mining activity. The Type II effect average annual effect in Panel B for the Arizona economy is much larger at \$129 million in labor income, while the National effect is even larger at \$209 million in labor income.

The path of the direct effect on labor income, which is Gunnison's labor income from year minus 1 through year 16, is shown in Figure 10, along with the Type II total effects for the congressional district, Arizona, and U.S. economies. The present values of these streams of labor income revenue are shown in Panel C of Table 7. They are calculated using a discount rate of 8 percent and starting at the beginning of year minus 1. The present value of the direct effect of Gunnison labor income is \$494 million over the life of the project. The present value of the Type II overall effect on revenue is predicted to be \$633 million in Arizona Congressional District 6, \$1,282 million in the Arizona economy, and \$2,072 million in the U.S. economy.

Table 7
IMPLAN Labor Income Multipliers, Average Annual Effects, and Present Value of Stream of Effects at National, Arizona, and Arizona Congressional District Six Levels

	Effects			Multipliers	
Type	Direct	Indirect	Induced	Type I	Type II
A: Multipliers					
National	1.000	1.940	1.251	2.940	4.191
Arizona	1.000	1.002	0.592	2.002	2.594
AZ CD 6	1.000	0.207	0.073	1.207	1.280
B: Average Annual Effects in Millions of Dollars					
National	\$50	\$97	\$62	\$146	\$209
Arizona	\$50	\$50	\$29	\$100	\$129
AZ CD 6	\$50	\$10	\$4	\$60	\$64
C: Present Value of Stream of Effects in Millions of Dollars					
National	\$494	\$959	\$618	\$1,453	\$2,072
Arizona	\$494	\$495	\$293	\$990	\$1,282
AZ CD 6	\$494	\$102	\$36	\$597	\$633

Source: Labor earnings calculated by multiplying earnings for each type of job by number of workers in that job for each year. Assumed earnings for each job increased by 3 percent per year over the life of the activity. Earnings and number of Gunnison jobs (Direct Effect) provided by company. The labor earnings multipliers in Panel A come from the IMPLAN model for Copper, Lead, Nickel, and Zinc mining.



Source: Labor earnings calculated by multiplying earnings for each type of job by number of workers in that job for each year. Assumed earnings for each job increased by 3 percent per year over the life of the activity. Earnings and number of Gunnison jobs (Direct Effect) provided by company. Type 1 and Type 2 multipliers from Table 7 were used to calculate the Indirect and Induced Effects.

D. A Caveat for Employment and Labor Employment Multiplier

Frankly, the IMPLAN and RIMS II Type 1 and Type 2 job and labor income multipliers at the Arizona and National levels are incredibly large. Academic economists in the leading economics journals typically find state and national multipliers that are under 2. There are a number of studies that find multipliers of less than 1 in which new projects hire labor away from existing firms and thus replace existing jobs.² The IMPLAN and RIMS II models start with the project activity and then add up purchases along the supply chain between businesses and by employees as consumers. This shows correlation but may overstate the causal relationship that runs from the project to the spillover economic activity. Most projects are undertaken in expansionary periods where positive causation runs from the project to the rest of the economy and positive causation also runs from the rest of the economy to the project. The academic work on multipliers uses a variety of methods to try to strip away the part of the correlation that runs from the rest of the economy to the project and thus isolate the causation that runs from the project to the rest of the economy. As a result, they tend to find smaller multipliers.

D. IMPLAN Tax Model

IMPLAN has developed tax multipliers that can be applied to annual copper mine revenue to obtain estimates of tax revenues collected for local, state, and federal governments. The local government revenues are divided into revenues collected for the county government, sub-county general governments, and sub-county special districts. The sub-county general governments are cities, towns, and villages, and the sub-county special districts include school districts, fire districts, water districts, and other special districts.

D.1 Detailed Tax Impacts (Direct, Indirect, Induced)

The estimates in Table 8 show the annual average tax revenues associated with Gunnison's average annual sales of \$625 million per year. The tax revenues were estimated with models at three geographic levels: Congressional District 6 (CD6), Arizona, and National. For each of these geographic levels, the tax revenues are divided into amounts associated with Gunnison's direct sales activity, the indirect inter-business activity, and the induced expenditures by workers.

Gunnison's annual average sales activity of \$625 million leads directly to annual average tax collections of \$56.3 million when the focus is on Arizona Congressional District 6. Adding in the indirect and induced effects raises the average collections to \$65.2 million. More than half of the revenue was collected by the Federal Government, a fourth was collected by the Arizona state government, 6 percent by the county government, 6 percent by cities and towns, and 9 percent by special districts. When the geographic range expands to the state of Arizona, average annual tax collections associated with Gunnison's sales activity rise to \$107 million. The average rises further to \$179 million when the geographic range extends to the nation as a whole.

Table 8

Annual Taxes Associated with Gunnison Average Annual Sales of \$625 Million at the Local, State, and Federal Level Using IMPLAN Tax Multipliers for Arizona Congressional District 6, Arizona, and the Nation

Using National Level Multipliers						
Impact	Sub County Geneal	Sub County Special Districts	County	State	Federal	Total
Direct	\$6,433,651	\$6,616,734	\$4,417,035	\$20,316,104	\$30,859,376	\$68,642,900
Indirect	\$3,629,587	\$3,637,479	\$2,463,193	\$12,801,647	\$39,939,486	\$62,471,392
Induced	\$3,377,820	\$3,433,884	\$2,309,956	\$11,266,293	\$27,581,719	\$47,969,673
Total	\$13,441,058	\$13,688,097	\$9,190,184	\$44,384,044	\$98,380,582	\$179,083,965
Using Arizona Level Multipliers						
Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct	\$4,331,059	\$4,888,082	\$1,949,689	\$15,952,516	\$30,813,873	\$57,935,219
Indirect	\$1,236,217	\$1,424,327	\$566,041	\$4,819,960	\$19,428,160	\$27,474,705
Induced	\$1,551,589	\$1,762,063	\$702,175	\$5,515,561	\$12,842,233	\$22,373,621
Total	\$7,118,865	\$8,074,472	\$3,217,905	\$26,288,037	\$63,084,265	\$107,783,545
Using Arizona Congressional District 6 Multipliers						
Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct	\$3,325,300	\$5,309,794	\$3,489,263	\$14,431,088	\$29,712,688	\$56,268,131
Indirect	\$277,200	\$446,800	\$293,631	\$1,172,106	\$3,854,963	\$6,044,700
Induced	\$177,250	\$284,094	\$186,694	\$714,231	\$1,503,281	\$2,865,544
Total	\$3,779,750	\$6,040,694	\$3,969,588	\$16,317,425	\$35,070,925	\$65,178,375

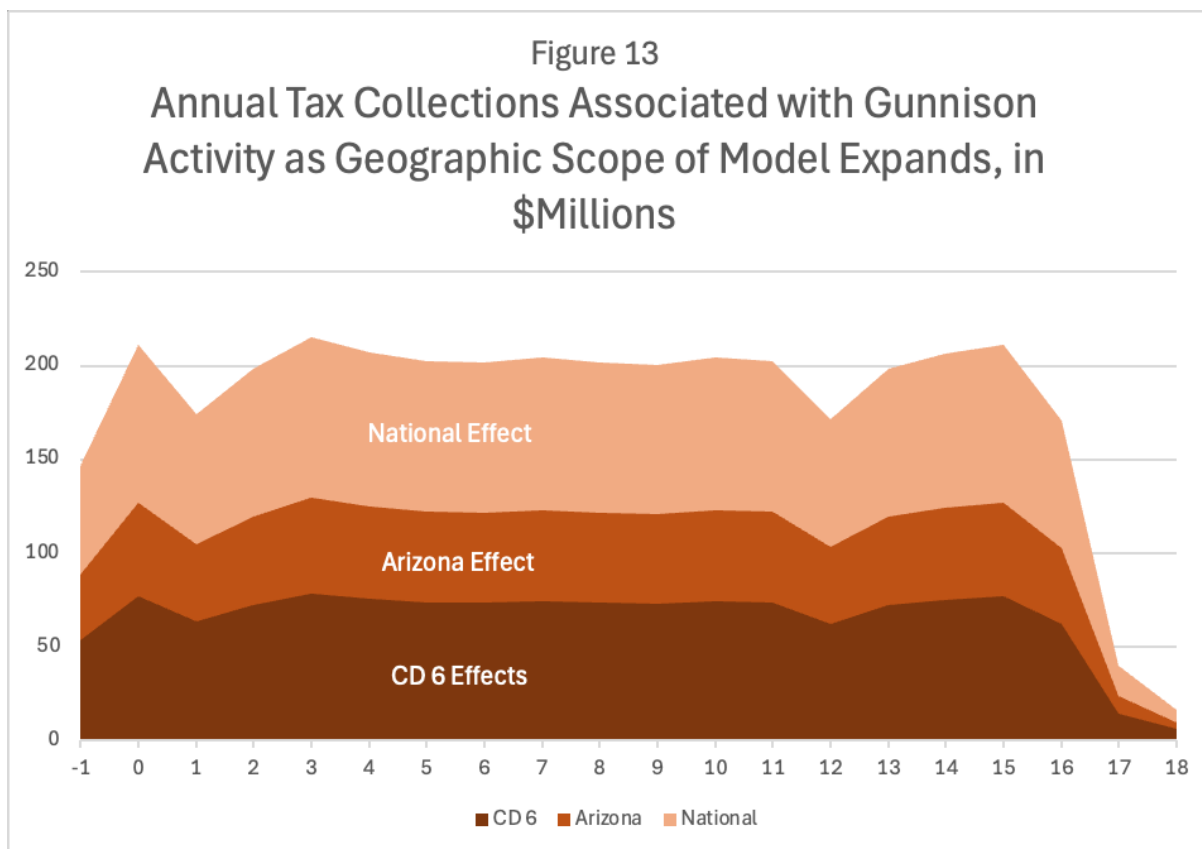
D.2 Annual Tax Contributions Over the Lifetime of the Gunnison Mine

Figure 13 presents the estimated annual tax revenues generated by Gunnison's operations over the life of the project. The estimates are based on applying IMPLAN's tax multipliers to projected mine revenues in each operating year.

At the national level, tax collections peak at about \$215 million per year during the mine's most productive years (Years 3–4), before gradually tapering off as revenues decline. Across the State of Arizona, annual tax impacts average around \$120–125 million during the mine's

peak years, with county and local governments receiving a substantial portion of these revenues. Within Congressional District 6, where the mine is located, tax impacts peak around \$77–78 million annually, declining to under \$10 million as production winds down.

Overall, these results demonstrate the significant fiscal contributions of the Gunnison mine, with broad distribution across federal, state, and local levels, and strong benefits concentrated within Arizona and Congressional District 6 during the project's peak operational years.



Source: Tax revenues were calculated using IMPLAN’s tax multipliers applied to Gunnison’s projected direct revenues for each operating year. Direct effects reflect taxes generated immediately from mine operations. Indirect and induced effects were incorporated into the IMPLAN model to capture supply-chain and household spending impacts. Annual mine revenue projections were provided by the company, and the distribution of tax impacts across federal, state, county, and sub-county jurisdictions follows IMPLAN’s standard tax incidence framework.

Model Comparison & Synthesis

To assess the full economic contribution of the Gunnison Copper Project, this study applied three complementary methods: regression analysis, RIMS II, and IMPLAN. Each offers a unique lens for understanding how the mine's revenue, employment, and wage streams affect the broader economy. Taken together, the models provide a high-confidence, triangulated forecast of both average annual and total long-term impacts.

Average Annual Effects

Model	Output	Jobs	Labor Income
Regression (Cochise County)	-	+222 jobs in non-industrial sectors	+\$294 per capita income
RIMS II (Arizona)	\$1.13 billion	1,892 jobs	\$125 million
IMPLAN (Arizona)	\$0.98 billion	1,739 jobs	\$129 million
IMPLAN (National)	\$1.43 billion	2,676 jobs	\$209 million
IMPLAN (District 6)	\$880 million	765 jobs	\$64 million

Note: Regression is the only model offering county-specific causal estimates. RIMS II and IMPLAN apply multiplier logic to broader geographic units.

Regression numbers come from taking the average annual number employed of 524.2 and multiplying it by .561 from Table 1 to get the +294 number for per capita income and multiplying it by .424 from Table 1 to get the +222 number for nonindustrial jobs.

Present Value of Total Effects

Model	Output (NPV)	Jobs (Job-Years)	Labor Income (NPV)
Regression (Cochise County)	-	222 jobs/year → ~4,440 job-years	+\$294 /person/year income × population
RIMS II (Arizona)	\$9.96 billion	37,847	\$1.11 billion

IMPLAN (Arizona)	\$10.01 billion	34,783	\$1.28 billion
IMPLAN (National)	\$14.61 billion	53,521	\$2.07 billion
IMPLAN (District 6)	\$9.02 billion	15,308	\$633 million

A. Model Strengths and Alignments

- Regression provides county-level causal estimates based on historical U.S. data, giving direct insight into Cochise County impacts.
- RIMS II applies industry-specific multipliers to Arizona's economy, offering a strong benchmark for employment and wage propagation.
- IMPLAN enables detailed geographic granularity - down to Congressional District 6 - and captures broader supply chain and consumer effects.

Despite methodological differences, the models show remarkable alignment in both annual and cumulative projections, reinforcing the robustness of the findings. The Gunnison Copper Project is expected to generate sustained benefits to output, employment, and income at local, state, and national levels.

Appendices

[Appendix A](#)

[Appendix B](#)

[Appendix C](#)