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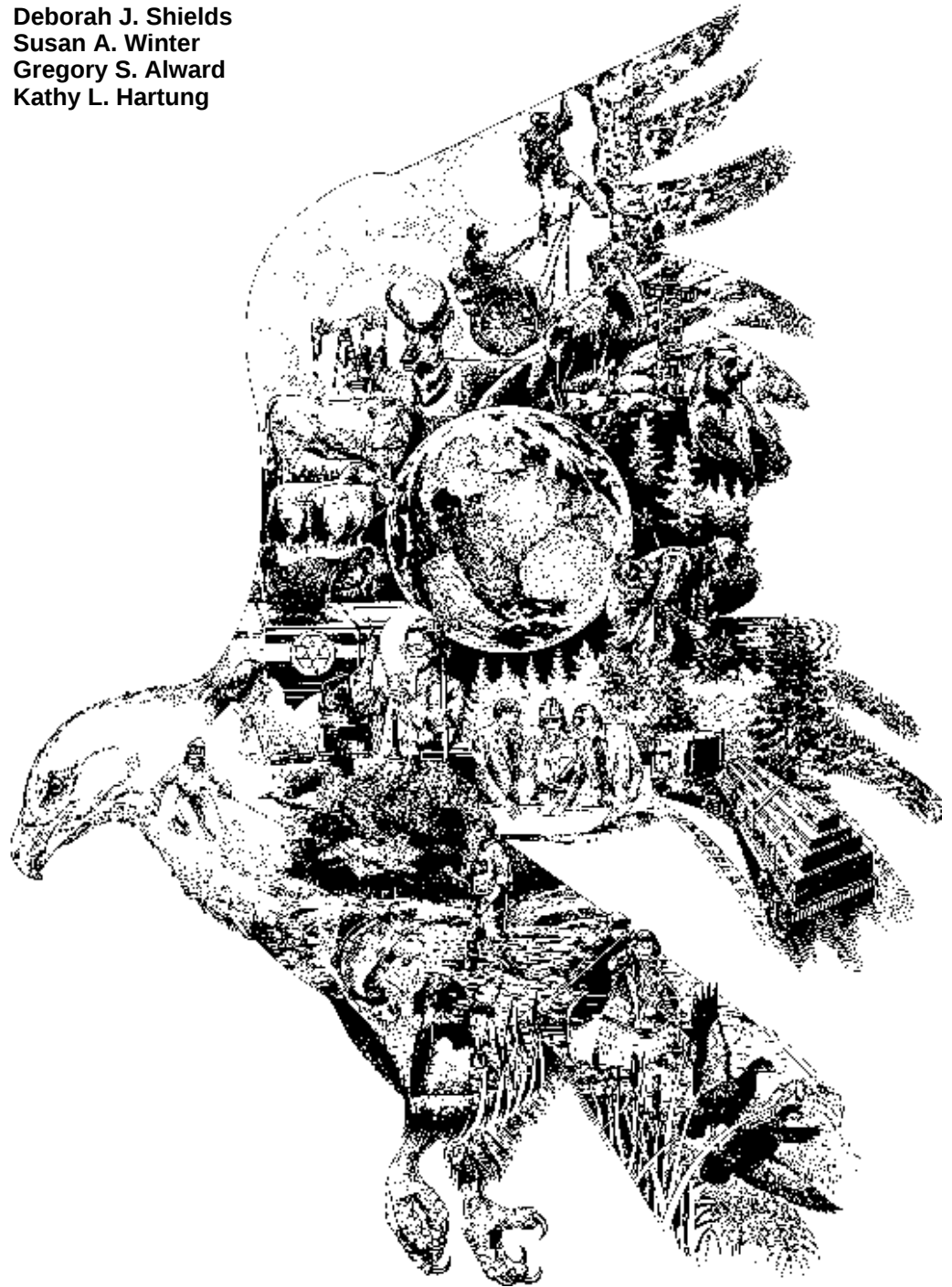
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Energy and Minerals Industries in National, Regional, and State Economies

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Abstract

This report presents information on the contribution of the extractive industries to the domestic economy at different geopolitical scales. Areas where resource production is important to gross state or regional product, employment, or income are highlighted. Output, employment, value added, and personal and total income multipliers are reported for the energy and mineral sectors.

Keywords: Input–output, regional economic analysis, Resource Planning Act, energy, minerals, economic impact, multipliers, IMPLAN.

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Introduction

The USDA Forest Service is required by the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 to undertake a decennial assessment of the supply and demand situation for resources in the United States. This analysis of energy and minerals in the economy was undertaken in support of the Minerals Technical Document, which is produced as background for the national RPA Assessment.

This report provides information on the economic contribution of the extractive industries in the United States at different geopolitical scales (i.e., states, regions, etc.). The extractive industries are important to the United States economy both as producers of inputs essential to manufacturing, agriculture, and construction, and as generators of employment and income. This report focuses on the size of the extractive industries in various regions of the country and their contribution to gross national and state product, as well as on their demand for inputs. Readers interested in production, cost, and availability can find this information in publications of the former U.S. Department of the Interior Bureau of Mines (for minerals) and the U.S. Department of Energy, Energy Information Administration (for energy resources.)

We highlight those geographic areas where resource production is particularly important in terms of gross state or regional product, jobs, or employee compensation. We also discuss how these data were developed using input–output (I–O) models. We address how I–O model output

should (and should not) be interpreted, the types and quality of the data utilized in creating output, and the implications of alternative model designs and base assumptions, all within the context of the energy and minerals sectors. However, this report is not intended as a primer on building I–O models nor as a guide to using them successfully for policy analysis. It is also not an interpretation of the enormous amount of data provided. Rather, we discuss how to interpret the data tables, the meaning of data items presented, and the definitions and assumptions implicit in an I–O database and model.

The contribution of extractive industries to gross state product was provided by the Department of Commerce Bureau of Economic Analysis. The output, job, and income impacts of extraction were estimated using Micro-IMPLAN, the USDA Forest Service I–O model. Results for 4 years (1990, 1985, 1982, and 1977) are reported; these years were chosen for reasons of data availability and not because they are in any specific manner important to the energy or minerals industries. As will be discussed in more detail in the body of the report, the tables should be interpreted as snapshots in time, rather than trends. Changes in data definitions and internal model structure between 1977 and 1990 and the unique aspects of only four individual census years may make the data not typical or representative of any trend.

The first section of the report introduces I–O modeling using a highly aggregated example. Linkages between gross national product and I–O accounts are addressed and

multipliers are explained. This section also considers details important to understanding I–O modeling and the assumptions behind these models. Readers familiar with I–O modeling may prefer to turn directly to the section on National and Regional I–O Data, in which economic impact data for the extractive industries for the nation, for RPA regions, and for selected states are reported and interpreted.

The I–O models are explained in more detail in Appendix A. The IMPLAN model, design, data requirements and sources, and changes in model structure over time are discussed in Appendix B. Appendixes C, D, and E consist of data tables for base year statistics, multipliers, and gross state product, respectively.

Basic Input–Output Modeling

Input–output modeling emerged as a useful economic tool during the 1930s. Leontief’s development of a theory of production was a major contribution to the field (Leontief 1966). Leontief published his input–output system of the U.S. economy in 1936 and received the Nobel Prize for Economics in 1973. I–O models were developed to quantify regional economic activity. (Region designates a county, group of counties, state, or group of states.) Models of the static form determine what output levels would be necessary across a regional economy to support a specific amount of demand for any given product. The models are popular and useful in policy analysis because national or regional policy changes often create demand-side effects. For example, a policy change that facilitated oil and gas leasing on public lands could lead to increased demand for drilling rigs, pipe, and roustabouts, and an I–O model can be used to estimate output levels of all industries within the region necessary to support that specific increase in demand.

Input–output modeling is based on a set of straightforward ideas. Each industry uses its own output and those of other industries as factors of production. Each sells some proportion of output to other industries for them to utilize as inputs and sells the balance to final demand. Direct activities, such as mining or logging, have strong linkages to other industries; i.e., most of their production is sold to other industries for use in manufacturing processes, and relatively small amounts are sold directly to households. An increase (decrease) in demand for any product leads to increases (decreases) in demand for all the inputs needed for its production. These interdependencies among industries and final demand are quantified in the basic structure of the I–O model.

The interdependencies can be classified as forward or backward linkages. Forward linkages reflect sales of the

outputs of one industry to that of another industry. For example, a direct activity such as mining might sell its output to a regional processor of raw material (a smelter, perhaps). Backward linkages occur when an industry purchases inputs for its own use. For example, a mine might purchase electricity, chemicals, and tires. Analyses of backward linkages tend to focus on how changes in demand for some product will affect supplying industries and households in a regional economy. Analyses of both backward and forward linkages often focus on potential structural changes in an economy resulting from the addition or removal of a direct activity from a regional economy. Most applications of I–O focus on backward linkages. Study of forward linkages requires added information beyond that normally contained in I–O models.

Input–output models combine a well-defined system of economic accounts with a tool for economic analysis and forecasting. Economic accounts—specifically income and product accounts—balance expenditures with income. The I–O transactions tables are derived from and represent a complete set of income and product accounts. For example, the Department of Commerce uses its national income and product accounts to build the national I–O tables and estimate gross national product (GNP). The GNP can be estimated either by summing the value of final goods and services produced in the economy or by summing the value added to each product at each processing stage.¹ One of the important and useful outputs of I–O models is value added by industry because it can be used to determine the contribution of each sector to the overall economy.

Direct Requirements and Leontief Inverse Tables

One of the most common uses of I–O models is to estimate broad economic impacts of a change in production level in some sector. This is accomplished through application of “multipliers,” which are based on a quantification of the interindustry product flows in the economy. Rather than describe the entire development of an I–O model here, we will describe two tables, the direct requirements table and the Leontief inverse table, using 1990 Texas data as an example. A more complete (though by no means comprehensive) discussion of the mathematics of I–O modeling is provided in Appendix A. Basic references include Otto and Johnson (1993), Miller and Blair (1985), Bulmer–Thomas (1982), Miernyk (1965), and McKean and Taylor (1993). The Leontief inverse table is the fundamental output of any I–O model and serves as the basis for all possible multipliers.

¹The value of GNP equals the sum of value added for all sectors in the national economy. Gross state product (GSP) equals the sum of value added for all industries in the state economy.

The degree of interdependence among industries differs among regions depending upon whether the inputs each industry needs are produced in the region or are imported from another area. As a result, the structure of the regional economic model can vary from relatively simple (50 to 60 industries) to very complex (more than 200 industries). Even for economies with relatively few industry sectors, the direct requirements and Leontief inverse matrices can be very large. Therefore, for simplicity, we aggregated all industries existing in the 1990 Texas data into nine super-industries (one-digit SIC aggregation), except for the energy and minerals sectors, which were not aggregated.

The direct requirements table of technical coefficients (Table 1) is an industry by industry ($I \times I$) matrix, which shows what each industry needs from its own industry and other sectors to produce \$1 worth of output.² For example, each dollar's worth of output from the oil and gas sector in Texas in 1990 required \$0.00031 worth of inputs from its own industry, \$0.0047 from the natural gas liquids sector, and so on through all the sectors in the economy. The column totals to \$0.06676, indicating that the balance of the dollar is allocated to what are called primary inputs, which include taxes, proprietor income, and wages. The direct requirements table is thus a set of industry production functions. When using an I–O model, it is essential that the production functions accurately reflect the mix of all the inputs purchased by an industry.

The Leontief inverse, or technology, matrix is derived from the direct requirements table through a series of steps discussed in Appendix A. Again, this is an industry by industry matrix. Each entry in the table represents the multiplier effect on an industry resulting from \$1 worth of increased final demand for the products produced by the industry itself or another industry. The Leontief inverse matrix for Texas 1990 is shown in Table 2. As shown in this table, each \$1 of increased final demand from the oil and gas sector would generate an additional \$0.00045 worth of output within that sector, plus \$0.0048 worth of output from the natural gas liquids sector, etc. The sum of each column is the total output multiplier for the industry represented by that column. Hence, a \$1 increase in demand for products of the oil and gas industry would generate a total of \$1.0844 worth of output (the original increase in output by the oil and gas sector of \$1 plus another \$0.0844 worth of output in its own and other industries).

²If the primary inputs quadrant were included, each column would sum to 1, as explained more fully in Appendix A. That is, each \$1 worth of output calls for exactly \$1 worth of purchases of inputs.

Multipliers

As noted, the sectors of an economy are interdependent. As a result, the total effects of a change in final demand in one sector are spread over the original industry plus the supplying industries and labor in the region. Total impacts that result from a change in final demand are classified into direct, indirect, and induced effects, which can be defined as follows:

Direct effects are production changes in the original industry resulting from the initial effects of changes in final demand for its product.

Indirect effects are production changes in industries supplying the original industry (backward linkages) created by changes in demand of the original industry, plus production changes of those industries supplying the industries that supply the original industry, and so on. That is, supplying industries must purchase more to produce enough to meet the increase in demand from the original industry.

Induced effects are the changes in regional household spending levels caused by regional employment changes. The bundle of goods purchased does not change; however, the amount spent rises or falls. These changes in employment are generated from the direct and indirect effects.

Multipliers are designed to capture direct, indirect, and, in some cases, induced effects. The three types of multipliers commonly calculated are Types I, II, and III. Type I multipliers are derived from “open” I–O models, those in which households are not included in the input–coefficient matrix. Type I multipliers report direct and indirect effects only and are calculated by summing direct and indirect effects, then dividing by direct effects. Type II multipliers are derived from closed models. They reflect direct and indirect effects of a change in demand, as well as induced effects, since households are included in the input–coefficient matrix (hence a closed matrix). Type II multipliers are calculated as the sum of direct, indirect, and induced effects divided by direct effects.

Type II multipliers are generally considered to overestimate economic impacts because they incorporate the assumption that there is a constant, linear relationship between changes in final demand and changes in household expenditures. Under this scenario, a change in final demand for the products of the original industry would lead to a proportional increase in income, which would lead to proportional increases in household purchases. It is not necessarily realistic to assume that increases in household income would be spent in exactly the same proportions as the base income of households.

Table 1—Direct requirements matrix

[illegible]

Table 2—Leontief inverse matrix

[illegible]

Type III multipliers were developed to provide better estimates of induced effects than Type II multipliers are thought to do. The various methods for calculating Type III multipliers are complex and will not be reviewed here; interested readers are directed to Miernyk (1965) and Taylor and others (1993) for further information.

As noted previously, the Leontief inverse is a matrix of multipliers. In an open model, the total requirement coefficients reported in the Leontief inverse table equal the Type I multipliers; in a closed model, they equal the Type II multipliers. (IMPLAN calculates the Leontief inverse as an open model.)

Type I, II, or III multipliers can be developed for almost any input or factor that has a determinable relationship with the output of an industry. For example, multipliers could be calculated to estimate the change in resource use (water or energy perhaps) or change in payments to a primary input sector resulting from a change in final demand. In this report, we will focus on the multipliers used to estimate the total impact upon output, income, value added, and employment resulting from a change in final demand.

Industry output multipliers translate the impact of changes in final demand spending into changes in output. This is defined as the total value of production requirements from all sectors to deliver \$1 worth of the original sector's output to final demand. The total output multiplier for an industry equals the sum of that industry's column in the Leontief inverse matrix. Multipliers are derived net-of-imports and so account for leakages (purchases of inputs from other regions, hence leakage of dollars out of the economy).

Personal income multipliers translate the impact of changes in final demand spending into changes in income received by households. More formally, this is defined as the economy-wide amount of personal income resulting from the change in employee compensation that, in turn, resulted from a unit increase in final demand. IMPLAN equates employee compensation with personal income and includes under that heading wages, salary, and industry contributions to pensions, health insurance, and social insurance.

Total income multipliers translate the impact of changes in final demand spending into changes in total income. This is defined as the sum of changes in employee compensation, proprietary income, and other property income—i.e., total income resulting from a \$1 change in final demand.

Value added multipliers translate the impact of changes in final demand spending into changes in value added. This is

defined as the change in value-added generated from a \$1 change in final demand.

Employment multipliers are generated from the logic that a change in final demand will have direct, indirect, and induced effects that will lead to employment changes. This is represented as total effects on employment from the production of \$1 of output for final demand.

Type I, II, and III multipliers can be calculated for each multiplier category. These multipliers are applied to the variable after which they are named. For example, the output multiplier would be multiplied by change in output for the industry in question, given a change in final demand—initial output change would equal change in final demand, so the multiplier would be applied to final demand change. The product would be the total change in output economy-wide resulting from a change in final demand for one sector. The employment multiplier should be applied to the change in employment of an industry generated by the change in final demand for its product, and so on for the value added, personal income, and total income multipliers.

The size of a multiplier is usually indicative of how intermediate demand within the economic region will be stimulated by a change in final sales. Generally, if a sector has a large multiplier, then it is well connected with local firms. This suggests that an increase in sales to final demand will have a strong positive impact on the local economy. Conversely, a small multiplier indicates that few needed inputs are available from local firms. If this were the case, an increase in final demand for products of that sector would have little economic impact locally. This relationship does not always hold, however. Even if a particular input is available locally, buyers may still import it from elsewhere for a variety of reasons. These individual decisions are somewhat captured by the regional purchase coefficients (RPCs) embedded in the IMPLAN model, but they should be addressed carefully in impact analyses.

Multipliers should be interpreted with care and discretion. Even slight differences in the manner in which a multiplier is applied can greatly influence the magnitude of predicted economic impact. As noted, a large multiplier generally indicates that an industry is closely linked to the local economy. However, if the industry is small relative to the size of the local economy, then a big multiplier does not translate into a large stimulus. On the other hand, a small increase in demand for a sector with a small multiplier can have a significant impact if that industry produces a large proportion of total output of the regional economy.

One more cautionary note on the size of multipliers is warranted. Sometimes, large multipliers are in actuality nothing more than an artifact of the method of calculation;

i.e., if the direct effect is tiny compared to the calculated indirect and induced effects, then dividing it into indirect, or the sum of indirect and induced, effects will result in a large number. In these cases the large multiplier is not meaningful and should be ignored.

Limiting Assumptions and Caveats

Information on regional economic impact of the energy and minerals industries is regularly reported in the popular press. Major mine development projects are often described in terms of potential income gains for the local economy. Similarly, economic benefits (or costs) of revisions in regulations are estimated in terms of their impact on the regional or national economy. The numbers under consideration have often been estimated with an I–O model, a tool for analyzing the structure of economies and the potential effects of changes in final demand. As with all models, I–O models incorporate many simplifying assumptions. Fundamental among these are the definitions of the industries that make up the model (528 sectors defined by the Department of Commerce) and the patterns of purchases of inputs each of those sectors requires to produce the products that constitute its output. Further assumptions concerning how the models operate and are solved are reviewed here. Assumptions specific to energy and minerals analyses are discussed in the section on the structural analysis of IMPLAN.

The basic assumptions of the I–O model are as follows:

- (1) The inputs required to produce the output for each sector are fixed. Inputs used by every firm in an industry are purchased in identical proportions, and the mix of outputs is also the same, i.e., homogeneous production.
- (2) The level of output for any industry is the sole determinant of input purchase quantities. There are no provisions that allow changes in relative prices of the inputs to affect input purchases, or changes in technology to affect the requirements for inputs or the quantity of outputs, unless the production functions are edited by the analyst.
- (3) Production functions are linear so that the effects of increased demand are all additive, i.e., constant returns to scale.
- (4) The distribution of purchases and sales intra- and inter-regionally is predetermined.
- (5) Supply of all inputs including labor is never a constraint; inputs are assumed to be infinitely available irrespective of the level of production. (It is possible to build supply-constrained I–O models, but IMPLAN is not of that type.)
- (6) The economy is assumed to be efficient. All resources and human and physical capital are fully employed.

Static I–O models are essentially a snapshot in time. They assume a set of production functions and thus a fixed state of technology, local market structures, and a level of inter-regional trade. When applied to any specific scenario, one or more of these assumptions has the potential to limit the value of the results.

It is a tenet of economics that increasing demand (i.e., a shift of the demand curve) will drive up prices, *ceteris paribus*, leading purchasers to consider alternative products. However, the requirements of no price effects and no input substitutions preclude the possibility of this occurring in the model unless modifications are made. Such a limitation may be acceptable for industrial sectors in a short-run analysis, when changing the manufacturing process is less feasible. However, a longer term analysis would need to accommodate substitution and changing technology. Similarly, changing trade patterns would also need to be addressed.

Homogeneity is particularly important. Few industries make only one product; they make numerous products and often have subsidiary businesses in widely divergent fields. Most manufacturers attempt to differentiate their output from that of their competitors so as to gain market share. Moreover, there are often qualitative differences between products. For example, phosphate rock containing 28 percent P_2O_5 is priced differently in the marketplace than is 31-percent P_2O_5 phosphate rock because of differences in desirability.

Some I–O models have partially addressed this problem by introducing *make* and *use* matrices to replace the single inter-industry transactions table. *Make* matrices show the mix of industrial outputs that an industry sector produces. For example, all firms assigned to the coal industry sector produce coal as their primary product, lead and zinc ores, dimension stone, bentonite, and nonmetallic mining services (IMPLAN 1985). The *use* matrix contains the industry production functions, which have been modified to account for the mix of outputs listed in the *make* matrix. IMPLAN utilizes *make* and *use* matrices. Nonetheless, for analyses in which qualitative differences are important, it may be necessary to break a single industry into a set of sub-industries, each with its own production function (i.e., break the coal industry into sub-sectors based on mining method, coal type, etc.) and possibly its own output mix.

The I–O model looks at flows of products among and from industries to final demand. The stocks that make those flows possible are only partially considered. Inventories are tracked, but resource reserves are not considered. This characteristic is less important in studies on incremental changes, but if demand changes are large, then the availability of supply might be an important constraint. Full employment of human and physical capital is another issue that needs to be handled with care. A development project in an area of high unemployment would have very different economic impacts than a similar project in an area where new workers would need to be imported. Adjustments can be made to I–O models to account for unemployment, and dynamic models can be designed to identify changes in the availability of physical capital (Schantz 1995).

Perhaps the most severe limitation, and one that incorporates many of the foregoing issues, is the necessity for linear production functions. In reality, few processes (industrial or biophysical) are linear, but more complex relationships among variables cannot be modeled with traditional I–O models. Again, this is less of a constraint for impact analyses that look at incremental changes, but it can be a fatal flaw for scenarios that involve major shifts within an economy.

As noted, the flows in the majority of I–O models are quantified in monetary terms. As McKean and Taylor (1993) note, “monetary accounting introduces new problems if market price changes do not reflect an underlying change in physical production, distribution or consumption.” Also, it is important to isolate changes in final demand from changes in the dollar value of demand resulting from inflation. Any given analysis needs to be conducted on a constant dollar basis.

When using an I–O model to analyze the impact of a proposed activity (policy change, development proposal, etc.), many significant questions arise. For example, what is the direct initiating action? Can the action be broken down into constituent parts that may occur in separate periods, such as a construction phase, followed by production and reclamation phases? It may be more appropriate to model each phase separately rather than to try to capture all the effects of the project in one scenario. Other important questions are how much activity is involved and can that activity be quantified in dollars? If not, proxy variables may need to be used. For instance, recreational activity is often modeled through expenditure patterns on lodging, meals, and gasoline.

The analyst will also need to consider which economic parameters will be important to the study. In some cases employment is the main issue, but in other cases local tax impact might be much more critical. The I–O models

disgorge a huge amount of information, so it is vital that the user isolate and focus on those data that will actually provide relevant information.

What should the study area be? This question is crucial and relates directly to identifying the real question. A small study area will provide only local results; a larger study area will give a regional perspective. Each approach has its difficulties and advantages. If a large number of counties are aggregated for the study, the residential areas for most workers will probably be included, thus allowing for capture of the impacts of their expenditure patterns. However, a large study area poses the risk of overwhelming the effects of the proposed change by the magnitude of the overall economy.

The foregoing remarks are intended not as a primer on analysis, but rather a cautionary note. Carefully developed scenarios, for which the analyst has reviewed the assumptions and determined their effects upon the model, will be much more likely to provide useful information than those done in a less thoughtful manner. Readers would do well to consider the relationship among model construct assumptions, scenario design, and results when assessing the accuracy, bias, and usefulness of economic impact analyses conducted with I–O models.

Structural Analysis and Aggregation Schemes

Description

The structural analyses conducted for this report were based on the 1977, 1982, 1985, and 1990 IMPLAN models. (See Appendix B for detailed description of IMPLAN.) No changes were made to the content of the base data set. Data and results are expressed in nominal dollars except for the GSP data from the Department of Commerce Bureau of Analysis (BEA), which were deflated to 1982 constant dollars using BEA deflators.

Aggregation schemes were imposed to group regions or industries for analysis and reporting purposes. Aggregation schemes are commonly used in I–O models to more closely match results to those reported in other studies. For the tables that report economic information on energy and minerals industries in RPA regions, we grouped states in each RPA region prior to matrix inversion. On all runs, we aggregated the energy and minerals sectors in IMPLAN so as to resemble more closely the two-digit SIC-code major groups for the energy and minerals sectors. This sector aggregation was done after the state aggregation for RPA regional models. The designations for metallic ores, coal, oil and gas, and nonmetallic minerals in this report match

the similarly named SIC industry groups, with two exceptions. Service industries and natural gas liquids were kept separate from the other groups. All energy and minerals sectors are reported in the national, RPA regional, and selected state tables, so the aggregation can be completed by interested readers. Sector aggregation schemes for each of the four models are reported here.

The grouping of states did not change production functions since they were captured from the national I–O model and were the same for all states. However, grouping did affect the regional purchase coefficients (RPCs). IMPLAN uses the RPCs associated with the first (alphabetical) state in the group and ignores the rest. This can potentially introduce bias into the analysis.

When sectors were aggregated, the situation was somewhat different. The RPCs and production functions are always applied to unaggregated data, and a set of accounts are constructed. Only then are the accounts aggregated. Reconstructing the production function for an aggregated industry would reveal that it is a weighted average of the component group of industries—weighted by their relative production levels and the applicable RPCs of their inputs.

Aggregation Schemes

The combination of IMPLAN sectors for various industries was as follows:

1977, 1982, 1985

Metallic ores	sectors 20, 28, 29, 31–34, 36–38
Coal	sectors 39, 40
Oil and gas	sectors 41, 42
Nonmetallic ores	sectors 44–65

1990

Metallic ores	sectors 28–33, 35, 36
Coal	no aggregation
Oil and gas	no aggregation
Nonmetallic ores	sectors 40–44, 46, 47

National and Regional Input–Output Data

Base Year Statistics

Description

Data on base year statistics are compiled in Appendix C. Table C1 shows base year economic statistics in nominal (i.e., current) dollars for 1990, 1985, 1982, and 1977. For the nation as a whole and for each RPA region (Fig. 1), Table C1 shows the following data:

- total industry output,
- employment (jobs for 1977, 1982, and 1990, and full-time equivalents (FTEs) for 1985),
- employee compensation,
- total income, and
- value added.

Total industry output represents the combined value of all the different products an industry produces. Commodity output would be restricted to the value of the commodity in question. Some of the analyses in IMPLAN can be conducted from the commodity rather than industry perspective. The latter is taken here for consistency with reports by the Bureau of Economic Analysis (BEA).

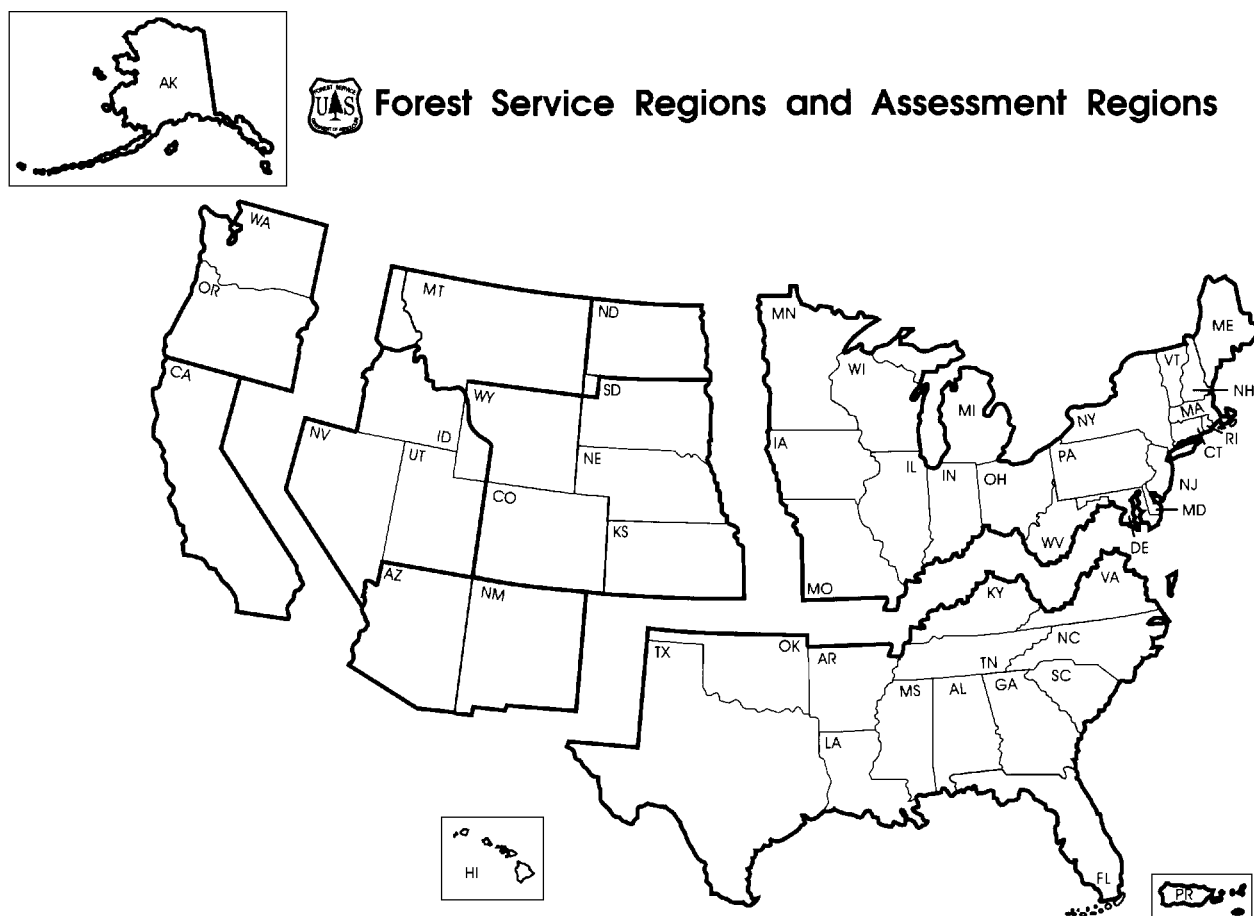
Interpretation

Total industry output (TIO) equals the value of all commodities produced and sold by an industry during an accounting period. The TIO for the resource extraction sectors (metallic ores, coal, oil and gas, natural gas liquids, and nonmetallic minerals) was almost $\$260 \times 10^9$ (billion) in 1990 and represented 2.7 percent of the TIO for the entire United States. (All figures are rounded to nearest billion.) Value added for these sectors (the sum of employee compensation, property type income, proprietary income, and indirect business taxes) accounted for 3.4 percent of GNP. These percentages are small, but it should be kept in mind that the extractive industries supply fuels and materials needed in the U.S. economy. Without domestic production, additional importation of these resources would have been necessary since they are essential inputs for all industries.

In 1990, the TIO for the oil and gas sector was nearly \$190 billion, while contribution to GNP (i.e., value added) was \$150 billion. The nonmetallic minerals sector was the second largest resource extraction sector, with TIO of \$35 billion and value added of \$18 billion. The coal and metallic minerals sectors were of similar size in 1990, with TIOs of \$15 billion and \$14 billion, respectively. Value added was \$12 billion for coal and \$5 billion for metals.

The metallic–nonmetallic mining and oil–gas service sectors were substantially smaller, accounting for \$918 million of TIO and adding \$571 million to GNP. These figures do not include coal mining services, which are subsumed in the coal sector. The new mineral extraction facilities sector was actually larger in terms of both TIO and value added than either the coal or metallic ores sectors. This reflects the enormous cost of developing new mines and oil fields.

The extractive industries and associated construction and service firms employed slightly more than a million people



in 1990, with the oil and gas sector accounting for almost half of those jobs. Overall employee compensation was almost \$35 billion. Employee compensation includes wages and salaries plus employee and employer contributions to various social insurance programs, including the black lung tax paid by coal firms. Compensation per worker differed across the sectors (Table C1). The compensation rate per job was highest in the coal sector at \$51,000 per worker per year. Compensation rates for the metals and oil-gas sectors were 16 to 17 percent less than that of the coal sector. For all but one of the remaining sectors, compensation per worker ranged from slightly above the national average of \$24,000/job to more than \$34,000/job. Workers in the oil-gas wells repair sector were compensated at a significantly lower rate of \$11,500/job. In other words, except for one sector, the average compensation for employees in the extractive industries was higher than the national average, suggesting that in general these are well-paid jobs.

Compensation as a percentage of TIO also differed across industries. Employee compensation represented over 67 percent of TIO for the oil and gas sector and 50 percent

of TIO for the coal sector. The ratio for metal mining services was close (40.2 percent). Each of these industries is labor intensive, with labor costs representing a large proportion of total input requirements. Conversely, for the oil and gas, liquid natural gas, and nonmetallic ores sectors, employee compensation was a small percentage of TIO.

The extractive sectors remove nonrenewable resources from the ground and offer them for sale in the marketplace (after some level of processing.) The market price of these products reflects the costs of production (including a return to capital investment), the relative scarcity of the resources, and the perceived usefulness of the products. The latter two characteristics are determinants of what is called economic rent. In the resource context, economic rent consists of both profit and the return to the resource itself. The I-O data do not provide information about the rate of return to capital. Nonetheless, by examining the ratio of value added to TIO, in light of relative magnitudes of employee compensation, it is possible to draw some fairly general conclusions about the proportion of market value (TIO) that represents economic rent.

The average value added/TIO ratio for the coal, oil–gas, and liquid natural gas sectors all exceeded 0.7, suggesting that in each case inputs other than labor accounted for 30 percent or less of TIO. However, employee compensation represented 66 percent of value added for the coal sector but only 10 or 11 percent for the oil–gas and liquid natural gas sectors. Thus, a much greater proportion of TIO for the latter two sectors represents a combination of return to capital and the market valuation of the qualities and scarcity of the resource for these two sectors, compared to coal. The nonmetallic ores sector represents a middle ground between the solid and liquid hydrocarbon sectors. Employee compensation was a small percentage of both TIO (11 percent) and value added (22 percent), but other factors of production accounted for 54 percent of TIO. The situation for the metallic ores sector is quite different, however. Value added was only 34 percent of TIO, while employee compensation was 47 percent of value added. Production costs absorbed a high percentage of TIO, suggesting that this extractive industry captures relatively less economic rent than do the other four industries discussed here.

This interpretive discussion has considered only 1990 data. Comparable analyses can be performed for other years.

Multipliers for Sectors of Interest

Description

Type I and III multipliers for five economic variables for the United States and RPA regions are shown in Appendix D. Table D1 shows Type I and Type III multipliers for the energy and minerals sectors, by economic variable and year. Table D2 shows the size or value of each of those variables in the appropriate year and then provides estimates of the impact of these sectors on the U.S. economy, in constant 1982 dollars. (1982 dollars were chosen for consistency with data reported in other RPA documents.)

The impacts were calculated as follows:

- the output multipliers were applied to total industry output for the appropriate industry for each year (1990, 1985, 1982, and 1977),
- the employment multiplier was applied to industry employment by year,
- the value-added multiplier was applied to industry value added for each year,
- the personal income multiplier was applied to employee compensation for each sector for each year, and

- the total income multiplier was applied to total income for the appropriate industry for each year.

Impacts of production by the energy and minerals sectors in 1990, 1985, 1982, and 1977 can be calculated by combining the multipliers with the appropriate results from Tables D1 and D2. Table D3 reports multipliers by year and industry for each RPA region. Examples of how to interpret the multipliers and impact numbers are given in the following text, and results are then discussed briefly.

As an example, the Type I industry output multiplier for metallic ores in 1977 was 1.8337 (Table D1), indicating that for every dollar of output produced by the sector in question, an additional \$0.8337 worth of indirect effects was generated through other local companies supplying inputs to that sector. The Type III multiplier for this sector was 3.0686. This multiplier includes the effects on the economy of employment and household expenditures generated by production from the sector in question. The total industry output for the sector is \$5.5 billion (Table D2); this amount multiplied by 1.8337 equals \$10.09 billion. This can be interpreted as the economy-wide output that resulted from having \$5.5 billion worth of production in the metallic ores sector in 1977.

Multipliers tend to increase in size as the study region increases in geographic extent. Larger regions tend to have more sectors in their economies, so leakages are minimized and intra-region economic impacts are increased. Thus, national multipliers for energy and minerals sectors are almost uniformly larger than state or regional multipliers.

Table 3—Ratios of base year economic statistics in the U.S. in 1990

	Employee comp		Value added ^a (% of TIO)
	(×10 ³ jobs, 1990\$)	(% of TIO)	
Metallic ores	42.4	16.1	34.0
Metal mining services	41.8	40.2	57.1
Coal	51.0	50.1	76.3
Oil and gas	30.0	8.3	78.6
Natural gas liquids	27.8	8.4	80.9
Nonmetallic ores	34.4	11.4	50.8
Nonmetallic mining services	34.5	24.2	54.3
New min. extraction facilities	25.5	25.2	68.6
Maint./repair oil & gas wells	11.5	67.6	80.5
U.S. overall average	24.0	34.3	57.9

^aTIO is total industry output.

Interpretation

Multipliers are considered by category (e.g., output or employment) across sectors. Most of this discussion focuses on Type I multipliers; Type III multipliers are naturally larger. However, instances where the Type III multiplier is smaller or larger than expected are highlighted. The interpretation is limited to the 1990 data to preclude the implication that the data should be viewed as a time trend. Finally, this discussion highlights points of interest, rather than examining each multiplier individually.

The Type I output multiplier for the oil/gas and coal sectors is fairly low. As shown in Tables D1 and D2, value added was a large proportion of TIO and input purchases were less than 30 percent of TIO for both of these sectors (TIO – total value added = amount spent on inputs). As a consequence, the indirect impact on industries that supply these sectors was also relatively small. The metallic and nonmetallic ores sectors have higher Type I output multipliers, reflecting their higher input requirements.

The Type I employment multipliers for 1990 vary dramatically across sectors. Metallic and nonmetallic ores generated more than one additional job for each job in those sectors. Conversely, the coal and oil–gas sectors generated less than one additional job for each industry job. Again, this is consistent with the value added/TIO ratios reported in the previous section. If an industry buys relatively few inputs, then the provision of these inputs (i.e., the indirect output effect) will not generate a large number of new jobs. This relationship carries over to the Type III employment multipliers, which are quite high for metallic and nonmetallic ores. The increased employment leads to household spending (increased demand), which in turn leads to output and thus jobs for workers producing that output.

Value-added Type I multipliers follow the pattern already established. Low multipliers for coal and oil–gas; higher multipliers for metallic and nonmetallic ores. The personal and total income multipliers are logically consistent with the employment multipliers. Those sectors generating more indirect jobs, i.e., metallic and nonmetallic ores, also generate more income throughout the economy in response to an initial change in demand.

The table on impacts (Table D2) shows the results of combining multipliers with basic industry data. One cautionary note with regard to multipliers is well illustrated by the results. Even though metallic ores had the highest Type I output multiplier in 1990 (1.96), the economy-wide output effect of the industry was slightly lower than that of the coal sector, which had a much smaller output multiplier (1.33). The reason is that the TIO for coal is higher than that for metals. The oil and gas sector, which had the lowest output multiplier, had the biggest output impact

(more than 10 times that of metallic ores) as a result of the high TIO of that sector.

The interplay of multiplier and category size is repeated for the employment effects. Nonmetallic ores had the second highest employment multiplier, but it generated far fewer jobs than did the oil and gas sector, which had a low multiplier but directly employed many workers. Metallic ores had the highest employment multiplier, but its low employment resulted in the fewest jobs generated for any sector. Similar results can be observed for value added, personal income, and total income. In each instance, the magnitude of the oil and gas sector more than compensated for low multiplier effects, whereas high multipliers for the metallic ores sector could not overshadow low levels of value added, personal income, and total income, relative to the other three extractive industries.

Multipliers can be compared across RPA regions to determine whether changes in final demand in the extractive industries would have a greater indirect and induced effect in one area compared to another. Consistent with results for the entire United States, in each region multipliers of all types are highest for metallic and nonmetallic ores. Furthermore, multipliers for those sectors are higher in the Rocky Mountain Region than in any other region. Given the importance of mining in the West, it is not surprising to find a higher level of economic integration for that sector. Suppliers to an industry are more likely to be present where that industry is prominent, leading to the multiplier effects evident here. Unfortunately, this is the only RPA region whose boundaries correlate to mineral activity in any discernible manner. There is no clear regional orientation in the oil and gas multipliers; all are relatively low. Coal multipliers tend to be slightly higher in the Rocky Mountain and Northern RPA regions, but this relationship does not hold in all cases.

Gross State Product and Input–Output Data

The gross state product (GSP) data, provided by the BEA, take a gross domestic product (GDP) accounting stance; i.e., when all the GSPs are summed, they equal GDP rather than gross national product (GNP).³ As a result, the value added data in the GSP tables (Appendix E) do not equal the value added shown in either the national base year statistics (Table C1) or the individual state I–O data (Table C2). Given the importance of international operations for energy

³As previously noted, GNP accounts for both foreign and domestic economic activities undertaken by U.S. firms and households. The GDP reports only those economic activities taking place within the country.

and minerals companies, this difference is not surprising and may in fact prove informative for the reader.

The sectoring scheme used for the state I–O data is slightly different than that used for the GSP data. Metal mining services, non-metal mining services, and oil and gas drilling services are reported separately in the I–O table (Table C2), but are subsumed into the more broadly defined two-digit SIC code sectors in the GSP tables (Appendix E). Coal mining services is included in the coal sector in both the GSP and state I–O tables. In addition, natural gas liquids are reported separately in the state I–O table, but are subsumed in the oil and gas sector in the GSP tables.

Interpretation of GSP Data

The contribution of the energy and minerals sectors to the national economy (GDP) decreased from 4.99 percent in 1977 to under 2 percent in 1990, on a nominal dollar basis. Percentages on a real dollar basis were quite similar, except for 1977. These estimates of GDP contribution are below those of GNP contribution derived from data reported in Tables D1 and D2 for reasons discussed earlier. Nonetheless, the industry is essential to the national economy and a significant contributor to GSP for a number of states.

In 1990, the nonrenewable resource sectors accounted for the following percentages of GSP: 37 percent for Alaska, 30 percent for Wyoming, 16 percent for Louisiana, 12 percent for West Virginia, and 11 percent for New Mexico, in nominal terms (rank order in real terms was identical, although percentages were somewhat lower). The extractive sectors also figured prominently in the economies of several other states, including Oklahoma, Montana, Nevada, North Dakota, and Texas. In states such as California, the industry is large, but its contribution to GSP is swamped by the overall magnitude of the state economy. In states such as Arizona, the industry does not account for a major portion of the overall economy, but it is the driving factor in selected counties.

The data reveal several interesting trends. Overall, the importance of metal mining to GDP decreased slightly between 1977 and 1990. A similar trend can be observed in individual states. For example, in 1977 the metal mining sector contributed 1.81 percent of Arizona GSP (nominal) (2.24 percent real). This was the largest state-level impact made by the sector in that year. Wyoming ranked second in terms of the importance of metal mining (1.17 percent nominal, 1.86 percent real). (Note: many states besides Wyoming mined a high tonnage of metals in 1977, but the value added for metal mining accounted for less GSP in those states than was the case in Wyoming.) By 1990, the contribution of metal mining to GSP had shrunk in both Arizona and Wyoming, though for different reasons. In Arizona, the value-added attributed to metals increased in

real terms from \$423 to \$805 million between 1977 and 1990, a rise of 90 percent, but total GSP increased more than two-and-one-half fold. Consequently, mining's share of GSP decreased. During the same period, value added from metal production decreased in Wyoming even as GSP almost doubled. It should also be noted that the majority of the growth in the Arizona economy came in nonresource sectors, whereas much of the growth in Wyoming was attributable to the energy and nonmetallic mining sectors.

This trend of metal mining to decrease in importance was dramatically reversed in Nevada. In 1977, metal mining accounted for a mere 0.52 percent nominal (0.66 percent real) of the Nevada economy. By 1990, the sector contributed fully 6.12 percent nominal (7.23 percent real) of GSP. Value added (in 1982\$) increased from \$47 to \$1752 million (more than 35-fold), while GSP increased from \$7,142 to \$21,218 million (slightly less than threefold). Clearly, mining has become an important sector in the Nevada economy, particularly in rural areas geographically removed from major resort cities.

Coal mining contributed 0.49 percent of GDP in Nevada in real terms in both 1977 and 1982, but by 1990 the figure had slipped to 0.31 percent (real). Unlike the situation with metals, the coal industry has not become newly prominent in the economy of any state. Rather, the coal sector has consistently been a significant factor in the economies of West Virginia, Wyoming, Kentucky, and Montana, and, to a lesser degree, New Mexico, Alabama, Virginia, and Pennsylvania. In real terms, coal mining accounted for almost 13 percent of the West Virginia GSP and more than 10 percent of the Wyoming GSP in 1990. The industry represented 4.74 percent of the Kentucky economy in 1990 and was the driving economic force for many rural eastern counties. This has often been the case for the extractive industries; even in states where these industries are important, their impact may be limited to those counties where coal or mineral deposits or oil fields are located.

Of all the nonrenewable resource sectors, oil and gas contributed the most to GDP and to individual GSPs between 1977 and 1990. The trends in value added for this sector illustrate both the expansion of the industry during the late 1970s and early 1980s and the shrinkage of domestic activity since the collapse of oil prices. In 1977, oil and gas accounted for 19 percent of the Louisiana GSP. By 1990, that figure was 14.76 percent (real). The trends were similar for New Mexico, Oklahoma, and Texas. In each case, the percentage of GSP attributable to the oil and gas sector had shrunk even as constant dollar value-added increased. This reflects two relationships: the overall direction of the state economy relative to that of the industry, and the ratio of commodity sale price to the cost of inputs relative to that relationship for other sectors.

The nonmetallic mining sector has accounted for 3 to 4 percent of the Wyoming economy since 1977. Sector contribution to GSP has been less than 1 percent in every other state, despite the fact that the sector constant dollar value added is larger in several other states; e.g., California, Florida, and Georgia. Once again, it is clear that the importance of any single sector is relative to the overall size and makeup of the state economy.

Interpretation of State I–O Data

Economic statistics for the energy and minerals sectors for 16 states, plus aggregated results for all other sectors, are included in Appendix C (Table C2). (Note: aggregation of sectors other than energy and minerals was done after matrix inversion.) Most of these states were selected because energy and/or minerals output constituted a large proportion of GSP. Other states with both extensive extraction and large economies are not shown because the economic activity in other sectors is large enough that extraction has been a very small part of the overall state economy. The variables included total industry output, employment (in jobs for 1977, 1982, and 1990, and full-time equivalents (FTEs) for 1985), employee compensation, total income, and value added. Rather than discuss the economic impact of extraction in each of the 16 states, we will focus on a few points of interest that are illuminated by cross-state comparisons.

Energy and mineral exports consistently accounted for a higher percentage of total state exports than did sector TIO represent total state TIO. In other words, a higher proportion of production by the energy and minerals sectors was shipped out of state prior to further processing than was the case for other producing sectors. Often, part of one state's exports showed up as another state's imports, with the balance exported outside the United States for processing. The state with processing facilities (smelters, refineries, manufacturing plants, etc.) captured the value-added generated by these forward-linked industries.

The energy and minerals sectors were seldom the largest employers in a state, but usually paid compensation that was significantly higher than that offered by manufacturing or services, two sectors with consistently higher levels of TIO and more workers. The extractive industries also tended to pay higher than average wages across all industries in a state. For example, average employee compensation for coal workers in Kentucky (\$45.9 thousand/year) was more than twice the state average of \$20.4 thousand/year for all workers.

Another interesting point illustrated by these data concerns the relative percentages of statewide employee compensation compared to statewide total income generated by the

extractive industries. As noted, these sectors pay above-average wages, but tend to employ fewer workers than do other sectors in the economy. As a result, an extractive sector that produces, for example, 10 percent of state TIO might account for only 2 or 3 percent of state employment and personal income. However, the sector will still generate 10 percent or more of state total income. The result is consistent with our earlier finding that employee compensation is a relatively small part of value added for certain sectors. The balance of value added is made up of indirect business taxes, proprietor income, and other property income. Total income is the sum of the last two items plus employee compensation. These results suggest that on a pretax basis, the energy and minerals industries tend to generate relatively more property (i.e., profit) and proprietor income, as a percentage of the state total, than they do employee compensation.

Multipliers for Sectors of Interest

Type I and III multipliers for five economic variables for 16 states, by year, are shown in Table D4 (Appendix D). The multipliers for sectors of interest for states are interpreted in the same way as are the national and regional multipliers. Impacts of production by energy and minerals sectors can be calculated using the multipliers from Table D4; data reported in Table C2 (Appendix C) for TIO, employment, employee compensation, and total income; and data reported in Appendix E on value added.

References

- Alward, Gregory S.** 1987. IMPLAN Version 2.0: Methods used to construct the 1982 regional economic data base. Unpublished manuscript. Available from Gregory S. Alward, USDA Forest Service, 3825 E. Mulberry, Ft. Collins, CO, 80526.
- Alward, Gregory S.; Despotakis, Kostas.** 1985. IMPLAN version 2: Data reduction methods for constructing regional economic accounts. Unpublished manuscript. Available from Gregory S. Alward, USDA Forest Service, 3825 E. Mulberry, Ft. Collins, CO, 80526.
- BEA.** 1995. Gross state product 1977–1992. Washington, DC: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Analysis Division.
- Bulmer–Thomas, V.** 1982. Input–output analysis in developing countries. New York: Wiley.
- Bureau of Mines.** 1992. Is it worth editing an IMPLAN regional database. Available from Radford Schantz, U.S. Department of Interior, Bureau of Mines, Minerals Information, Washington, DC. 14 p.

Chiang, Alpha C. 1984. Fundamentals of mathematical economics. New York: McGraw–Hill. 788 p.

ECPC. 1994. Economic concepts incorporated in the standard industrial classification of industries of the United States. Rep. No. 1. Economic Classification Policy Committee. Unpublished. Available from the authors.

IMPLAN. 1985. Sector 40, Bituminous and lignite mining. Software. Available from Gregory S. Alward, USDA Forest Service, 3825 E. Mulberry, Ft. Collins, CO, 80526.

Leontief, Wassily. 1966. Input–output economics. New York: Oxford University Press.

McKean, John R.; Taylor, R. Garth. 1993. Input/output analysis—method and application. Fort Collins, CO: Colorado State University, Department of Agriculture. and Research Economics. 325 p.

Miernyk, William H. 1965. The elements of input–output analysis. New York: Random House.

MIG, Inc. 1993. 1990 IMPLAN database documentation. Stillwater, MN: MIG, Inc. 78 p.

Miller, Ronald E.; Blair, Peter D. 1985. Input-output analysis. Englewood Cliffs, NJ: Prentice–Hall, 464 p.

Office of Management and Budget. 1972. Standard industrial classification manual. Washington, DC: U.S. Government Printing Office. 649 p.

Office of Management and Budget. 1987. Standard industrial classification manual. Springfield, MO: National Technical Information Service. 705 p.

Otto, Daniel, M.; Johnson, Thomas G. 1993. Micro-computer–based input–output modeling. Boulder, CO: Westview Press. 228 p.

Randall, Alan. 1984. Resource economics. Columbus, OH: Grid Publishing Inc. 415 p.

Schantz, Radford. 1990. IMPLAN applications in mineral assessments for resources management planning. Presented at Southern Regional Science Association annual meeting; 1990, March 22; Washington, DC.

Schantz, Radford. 1992. Using mine models for IMPLAN activity analysis. Washington, DC: U.S. Department of Interior, Bureau of Mines, Minerals Information. 10 p.

Schantz, Radford. 1995. A dynamic regional model. Washington, DC: U.S. Department of Interior, Bureau of Mines.

Taylor, Carol; Winter, Susan; Alward, Greg; Siverts, Eric. 1993. Micro IMPLAN user’s guide. Ft. Collins, CO: U.S. Department of Agriculture, Forest Service, Land Management Planning Systems Group.

Appendix A—Mathematics of Input–Output Analysis

This appendix includes a simplified introduction to the mathematics of I–O analysis. Each matrix required to build an I–O model is discussed. An aggregated three-sector economy is used to illustrate the matrices and equations.

Input-Coefficient Matrices

The I–O models reflect the fact that industries within a regional economy buy from and sell to each other, and that household members work for and buy from these industries. The interindustry linkages¹ are quantified in an input-coefficient matrix, also called the intermediate processing transactions matrix (Scheme A1). In this matrix, each industry is assigned a row and a column (the table is built on an industry by industry ($I \times I$) basis).² Entries in a row represent sales by the industry to itself (a_{11}) and to other industries (a_{12} , a_{13} , ..., a_{1n}). Column entries represent purchases from the industry itself (a_{11}) and other industries (a_{21} , a_{31} , ..., a_{n1}). In other words, the items in the rows are the producing or supplying sectors, and the items in the columns are the purchasing sectors.

In the input-coefficient matrix, the a_{ij} values are initially flows of commodities or products. However, we cannot aggregate tons of iron, megawatts of electricity, and gallons of water in a single table since they are reported in dissimilar physical units. For this reason, the input-coefficient matrix is built in monetary units; dollars in the United States. The process of monetizing flows requires caution to avoid potential problems, an issue addressed in the section on limiting assumptions and caveats in this report.

Scheme A1. Input-coefficient matrix

	I	II	III	...	N
I	a_{11}	a_{12}	a_{13}	...	a_{1n}
II	a_{21}	a_{22}	a_{23}	...	a_{2n}
III	a_{31}	a_{32}	a_{33}	...	a_{3n}
⋮	⋮	⋮	⋮	⋮	⋮
N	a_{n1}	a_{n2}	a_{n3}	...	a_{nn}

Source: Chiang (1984).

¹Most I–O models, including IMPLAN, are based on backward linkages, the type of linkages discussed here.

²The IMPLAN model actually uses rectangular rather than industry by industry accounts. Specifically, to handle the issue of multiple products per industry, IMPLAN uses the industry technology assumption and the market share hypothesis. This leads to certain modifications of the A matrix. Interested readers are directed to either Bulmer–Thomas (1982) or Miller and Blair (1985).

I–O Transactions Table

The input-coefficient matrix (quadrant 1) is combined with three additional quadrants (final demand, primary inputs, and primary inputs to final demands) to create the full I–O transactions table (Scheme A2).

Table A1 depicts a highly simplified transactions table.³ The sectors of an economy have been aggregated into three basic industries: agriculture, manufacturing, and services. The dollar flows between and within each sector are shown in the input-coefficient matrix. In this simplified model, for example, agriculture buys \$10 worth of output from itself, \$4 from manufacturing, and \$6 from services, while selling \$6 worth of output to manufacturing and \$2 to services.

Final demand (Scheme A2, quadrant 2) is ultimate consumer purchases from the producing industries. This includes both purchases by households and exports to other regions or countries. Exports could in fact represent shipment of a commodity to a manufacturer located outside the study region. Final demand in our simple example is shown to the right of the input matrix. Primary inputs (quadrant 3) represent purchases of inputs other than those acquired in the study area. Taxes, savings, income, and imports are reported here. Primary inputs are shown as a row below the input matrix. It may seem counterintuitive that taxes paid by the firm are reported as primary inputs. It may help to think of quadrant 3 as indicating how each dollar earned by the firm from the sale of its production, net of other input costs, is distributed; i.e., some to taxes, some for wages, etc.

People (households) are an integral part of any economy; they supply labor and purchase products. If household activities are included as a row and column in the input-coefficient matrix, the model is termed closed. If they are not included in quadrant 1, then demand for products by households turns up as a column in the final demand quadrant, and supply of labor (i.e., wages paid to households) shows up as a row in quadrant 3. In this latter case, the model is termed open.

Scheme A2. I–O transactions table

Purchasing industries and agencies		
Selling industries and agencies	Quadrant 1 Domestic processing Interdependent variables	Quadrant 2 Final demand Independent variables
	Quadrant 3 Primary inputs Dependent variables	Quadrant 4 Primary inputs to final demands

Source: McKean and Taylor (1990).

³This discussion draws upon Taylor et al. (1993).

Table A1—Sample transactions table for three-sector economy

Producing industries	Purchasing industries				Total output
	Agri-culture	Manu-facturing	Ser-vices	Final demand	
Agriculture	10	6	2	18	36
Manu-facturing	4	4	3	26	37
Services	6	2	1	35	44
Primary inputs	16	25	38	0	79
Total outlay	36	37	44	79	196

Source: Taylor et al. (1993).

The final quadrant (4), primary inputs to final demand, is the box where final demand and primary inputs intersect, zero in this simplified model. These are flows to the sectors of final demand (households and governments) of primary inputs such as imported products, wages paid to households by governments, and taxes paid by households. Although often not shown in I–O models, quadrant 4 is actually quite important and revealing.

The next step in building an I–O model is to sum across each row and down each column. Each row sum represents the gross output of a single industry. Each column sum represents gross outlays by an industry. Thus, total output for agriculture in our example is \$36 and total outlay is \$36. It is not coincidental that these numbers are the same; this is the accounting identity at the heart of I–O modeling. Gross total output is the sum of the total output column. Gross total outlays is the sum of the total outlay row. Again, these two sums must match.

Direct Requirements Table

We are now ready to calculate the direct requirements or technical coefficients for our simple economy (Table A2). This is done by dividing each column entry by the column total. Each column now sums to 1. The ratios in the column represent the minimal requirements from each producing industry listed at the left of the table (column 1) needed for the industries listed at the top of the columns to produce \$1 worth of output. “Minimal” is a key word; it implies that firms act as cost minimizers, purchasing only the minimal amount of inputs needed to produce each unit of output. In our example, agriculture purchases \$0.278 worth of inputs from itself, \$0.111 worth from manufacturing, and \$0.167 from services. The balance of inputs come from the primary input sector.

Total Requirements Table

When demand is increased for a product, the industry that manufactures that product must purchase inputs and pay for labor. Similarly, the supplying industries must buy inputs

Table A2—Sample direct requirements table

Producing industries	Purchasing industries		
	Agri-culture	Manu-facturing	Services
Agriculture	0.278	0.162	0.045
Manufacturing	0.111	0.108	0.068
Services	0.167	0.054	0.023
Primary inputs	0.444	0.676	0.864

Source: Taylor et al. (1993).

and hire workers to produce their wares. Hired workers make purchases with their income, thus increasing demand for still other goods and services. So, any change in demand has the potential to create a ripple effect across the entire economy (assuming that the inputs and wares that business and households want to purchase are available in the regional economy). The technical coefficients could be used to calculate these ripple effects, but it would be a very time-consuming process, even for an economy with relatively few sectors.

Fortunately, there is a simple procedure for calculating ripple effects from a change in final demand. This involves calculating the direct and indirect coefficients table (total requirements table). Let industry i 's output be represented as the following equation:

$$x_i = \sum a_{ij} x_j + d_i \\ i = 1 - n, j = 1 - n$$

where x_i = industry i output level
 a_{ij} = input used by i in output j (percent)
 d_i = final demand for output i

This equation can be interpreted as follows: the total amount of x_i produced will equal the amount of x_i used by all industries including its own, plus the amount sold to final demand. The assumption is made that industry i 's output is just sufficient to meet the input requirements of the other industries and meet final demand of industry i . All the x_i and a_{ij} values are now moved to the left side of the equation, giving for the first row:

$$(1 - a_{11})x_1 - a_{12}x_2 - \dots - a_{1n}x_n = d_1$$

This process is repeated for every industry or output, resulting in n equations of correct output levels. These equations are as follows:

$$\begin{aligned} (1 - a_{11})x_1 - a_{12}x_2 - \dots - a_{1n}x_n &= d_1 \\ -a_{21}x_1 + (1 - a_{22})x_2 - \dots - a_{2n}x_n &= d_2 \\ \vdots &\vdots \\ -a_{n1}x_1 - a_{n2}x_2 - \dots + (1 - a_{nn})x_n &= d_n \end{aligned}$$

Scheme A3. Final equations in matrix form

$$\begin{bmatrix} (1 - a_{11}) & -a_{12} & \dots & -a_{1n} \\ -a_{21} & (1 - a_{22}) & \dots & -a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ -a_{n1} & -a_{n2} & \dots & (1 - a_{nn}) \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ \vdots \\ x_n \end{bmatrix} = \begin{bmatrix} d_1 \\ d_2 \\ \vdots \\ d_n \end{bmatrix}$$

These final equations are shown in matrix form in Scheme A3. The matrix in Scheme A3 is similar to the input-coefficient matrix shown in Scheme A1, except that the a_{ij} values are now negative and +1 has been added to entries on the diagonal. The mathematical relationship illustrated in Scheme A3 can be written in matrix form as follows:

$$(\mathbf{I} - \mathbf{A})\mathbf{x} = \mathbf{d}$$

where $\mathbf{I}$ = an identity matrix
 $\mathbf{A}$ = the input-coefficient matrix $[a_{ij}]$
 $\mathbf{x}$ = the vector of industry outputs

The initial question was, What will be the ripple effect of changing demand? This question can be rephrased as, What levels of output in the total economy will be needed to support a specific level of demand? We can use the last equation to answer our question by solving for $\mathbf{x}$:

$$\mathbf{x} = (\mathbf{I} - \mathbf{A})^{-1}\mathbf{d}$$

The matrix $(\mathbf{I} - \mathbf{A})$ is called the technology or Leontief matrix. If we know both this matrix and the demand for each industry's output, we can estimate all the $\mathbf{x}$ values; i.e., all the outputs needed across the whole economy, including those resulting from ripple effects. $(\mathbf{I} - \mathbf{A})^{-1}$, read as $\mathbf{I}$ minus $\mathbf{A}$ inverse, is called the Leontief inverse and is defined as the total requirements matrix. Table A3 is the total requirements table for our sample economy.

The entries in Table A3 are the basic industry multipliers and can be interpreted as follows. A \$1 increase in final demand for agriculture would lead to \$1 worth of agricultural output plus an additional \$0.4459 worth of production consumed by that sector. It would also generate \$0.1996 worth of output in manufacturing and \$0.2582 in services supplied to agriculture. Conversely, a \$1 increase in final demand for services would lead to only an additional \$0.0431 worth of output in that sector (hence the entry 1.0431 in the table), suggesting that the services sector does not buy much from itself. Since the services sector does not buy many inputs from other sectors as well, the \$1 increase leads to only \$0.0852 in increased

agricultural output and \$0.0901 worth of increased manufacturing output.

A new set of equations can be developed from the total requirements table. These show the total amount of x_i that will be produced, given the final demands for each industry, the d_i values. For our example these equations are

$$\begin{aligned} x_1 &= 1.4459d_1 + 0.2678d_2 + 0.0852d_3 \\ x_2 &= 0.1996d_1 + 1.1628d_2 + 0.0901d_3 \\ x_3 &= 0.2582d_1 + 0.1100d_2 + 1.0431d_3 \end{aligned}$$

Summing the entries in any column gives the total change in output resulting from a \$1 change in final demand for the industry represented by that column. The sum of each column is interpreted as the total output multiplier for each industry.

Table A3—Total requirements table for sample economy

Producing industries	Purchasing industries		
	Agri-culture	Manu-facturing	Services
Agriculture	1.4459	0.2678	0.0852
Manufacturing	0.1996	1.1628	0.0901
Services	0.2582	0.1100	1.0431
Total or output multiplier	1.91	1.54	1.22

Source: Taylor et al. (1993).

Appendix B—IMPLAN

IMPLAN, an acronym for Impact Analysis for Planning, is the I–O model developed by the USDA Forest Service. It is a non-survey-based modeling tool that provides front- and back-end user interface software plus a matrix–inverter that creates the Leontief inverse matrix. Data sets can be manipulated using the software, and scenarios can be developed using that modified information. A standard run of IMPLAN generates the Leontief inverse, various multipliers, and a wide variety of reports.

IMPLAN is a demand-driven I–O model, useful for examining backward linkages. (It can also be used to analyze forward linkages with some manipulation and the addition of data.) IMPLAN data sets represent a single year and utilize *make* and *use* matrices, so analyses can be conducted from an industry or commodity perspective. Three common usages are structural, impact, and prediction analyses.

Structural analysis utilizes the county-level data files, structural matrices, the Leontief inverse, and various reports to examine the current linkages and multiplier effects in an economy. No estimates of changing final demand are made. This is the type of analysis reported in this paper.

Impact analysis is intended to address regional economic impacts linked to a proposed policy change or project, such as a plant expansion or new government spending. The analysis focuses on how final demand will be changed and what will be the impacts of those changes given the current structure of the economy.

The third usage of the I–O model is for prediction, where the concern is with future demand levels and their impacts. This type of analysis focuses on how projections of future regional demand (and economic structure) will as a result of changes in projected final demand. Of course, this means that exogenous forecasts of demand changes must be made.

IMPLAN is unique among I–O models in that its technology matrices are fully developed for each county in the United States. These accounts are developed using published county statistics and the national input–output accounts published by the Bureau of Economic Analysis (BEA), as discussed in more detail in our report. Analysis can be conducted at the level of one or a group of counties, up to the national level.

Here, we briefly review the components and characteristics of the IMPLAN database and model, noting particularly information related to the energy and minerals industries. Much of the following discussion is based on the 1990 IMPLAN Database Documentation (MIG, Inc. 1993). Documentation for prior databases is available from the Forest Service (Alward 1987).

IMPLAN Database

The IMPLAN database has five basic components: employment, value added, output, final demand, and structural matrices. Each is considered briefly here, with more detailed information available from the authors or MIG, Inc. The MIG 1990 IMPLAN Database Documentation (1993, p. 3) describes the data as follows:

There are three different levels of data, National, state, and county. Data availability differs with the level. The National level is the highest, and data for each IMPLAN component is available. State level data is next highest level. Some, though not all, data is available at the state level. The lowest level is the county data. Employment, employee compensation, proprietary income, population, and federal purchases data are available at the county level. Other data are estimated.

Employment

Employment and earnings data were estimated from County Business Patterns (CBP), a report issued by the Department of Commerce, Department of Census. There is a long lag (up to 3 years) between the current database and the most recent CBP data. Industry structure data, including establishment and employment counts, were derived from the U.S. Department of Labor ES–202 report. IMPLAN defines employment as number of jobs for 1977, 1982 and 1990; and as full-time equivalents (FTEs) for 1985.

Value Added

As Randall has pointed out, “the resource owner converts wealth—i.e., minerals in the ground—to current income by extracting and selling the resource” (Randall 1984, p. 218). The part of income generated from this activity that is reported as part of gross national product (GNP) does not equal the market value of resources produced. This is because GNP represents either the value of final goods and services produced in the economy or the value added to each product at each manufacturing stage. This latter amount is termed the gross product originating (GPO) in the sector by the Bureau of Analysis (BEA) of the Department of Commerce. The GPO is based on national income and product account definitions, and as such includes sales and excise taxes, and excludes purchased services. In addition, the BEA estimates are available only on a consolidated company basis.

Value added in IMPLAN has four components: employee compensation, proprietary income, other property-type income, and indirect business taxes. IMPLAN takes a GNP accounting stance, versus a gross domestic product (GDP) stance. In the former case, both foreign and domestic economic activities undertaken by U.S. firms and households are accounted for; GDP reports only those economic activities taking place within the country.

Output

Output for non-energy minerals in the IMPLAN database was derived from the U.S. Department of Interior Bureau of Mines, Mineral Commodity Summaries. Energy production data were obtained from the U.S. Department of Energy, Energy Information Administration. The data were provided in commodity output format. To estimate industry output, the commodity output was multiplied by the 1982 ratio of total industry output (TIO) to total commodity output (TCO). To the extent that the TIO/TCO ratios have changed since 1982, TIO estimates are in error.

Final Demand

Final demand constitutes sales to end-users plus exports and inventory changes. Since demand for primary commodities like energy and minerals is mostly derived from demand for final goods, much of the output from these sectors goes to inter-industry trade. Nonetheless, final demand can be important. There are 12 components to final demand: (1) personal consumption expenditures, (2) Federal government purchases—military, (3) Federal government purchases—nonmilitary, (4) State and local government purchases—education, (5) State and local government purchases—not for education, (6) Commodity Credit Corporation, (7) inventory purchases, (8) capital formation, (9) foreign exports, (10) State and local government sales, (11) Federal government sales, and (12) inventory sales. A number of these components have the potential to affect an energy or minerals analysis. For example, changes in inventories, including the Strategic and Critical Materials Stockpile or the Naval Petroleum Reserve, need to be tracked carefully in years when large amounts (relative to other market transactions) are being bought or sold. Resource exports and imports may also be large, but can fluctuate dramatically.

IMPLAN assumes that buyers pay the transportation costs and wholesale and retail markups (margins) for all products they consume. Thus, final demands (and all other dollar values) are expressed in producer prices.

Structural Matrices

The 1990 transactions matrix is derived from the BEA 1982 Benchmark Input–Output Model, price adjusted to 1990. As such, the production functions included therein are circa 1982. They are essentially weighted averages of the production methods (input mixes) utilized in a given sector. For example, the production function for gold mining is a weighted average of the mining methods in use in the early 1980s (i.e., surface and underground). Some of the production functions for minerals have been updated slightly over the years, but no major review and revision have taken place. Two very important points should be noted:

1. Production functions that correctly capture a weighted average mix of inter-industry linkages at the national level may be less accurate when applied at the State or county level. There is no reason to assume that all various mining methods found nationally will occur in every county in the same proportions.

2. Production functions for industries that have benefited from significant technological advances since the early 1980s may not be accurate. For example, heap leach extraction was not a major factor in the industry when the Bureau of Mines developed the metal mining production functions.

When conducting impact analyses of selected industry sectors (gold, coal, etc.) oriented toward energy and minerals, always check the production functions in the model and modify them to reflect current engineering practice as necessary. (Schantz (1990) differentiated IMPLAN cost equations from true production functions and estimated the impact on multipliers of replacing the cost equations with engineering mine models developed by the Bureau of Mines.)

IMPLAN Model Characteristics

In this section, we discuss a few of the more important features of IMPLAN, including alternative versions, sectoring schemes, and regional purchase coefficients. Information related to energy and minerals is included. Issues to keep in mind when using IMPLAN for energy or minerals analyses are noted in the report proper (Structural Analysis and Aggregation Schemes).

Versions

There are different versions of the IMPLAN software (the methods and rules for how accounts are assembled), plus different base year databases, including corresponding production functions or structural matrices. There are two software versions of IMPLAN:

IMPLAN Version I was used solely with the 1977 database and is no longer available. Its major characteristics were (1) industry-by-industry accounting and (2) supply–demand pooling technique for trade estimations.

IMPLAN Version II was the basis for all subsequent forms of IMPLAN software, including current release of MicroIMPLAN Rel 91–F. Its principal characteristics are (1) rectangular accounting (i.e., *make* and *use* matrices) and (2) regional purchase coefficients (RPCs) for trade estimation.

Database Base Years

1977

- Used a sectoring scheme with 466 industries corresponding roughly to the 476 industries in the 1972 BEA I–O study
- Used the 1972 BEA I–O study as the basis for estimating production functions for 1977 (Note that production functions always reflect the technology and prices for the same base year as the corresponding data even though the original production functions may have been empirically derived for a different base year and subsequently “updated” to reflect technological advances and substitution effects)

- Developed by the late Dr. Everard M. Lofting of Engineering–Economics Associates, Inc., Berkeley, CA

1982

- Used a sectoring scheme with 528 industries corresponding roughly to the 537 industries in the 1977 BEA I–O study
- Used the 1977 BEA I–O study as the basis for estimating production functions for 1982
- Developed by the late Dr. Everard M. Lofting of Engineering–Economics Associates, Inc., Berkeley, CA

1985

- Used a sectoring scheme with 528 industries corresponding roughly to the 537 industries in the 1977 BEA I–O study
- Used the 1977 BEA I–O study as the basis for estimating production functions for 1985
- Developed by University of Minnesota, Minnesota IMPLAN Group

1990

- Used a sectoring scheme with 528 industries corresponding roughly to the 537 industries in the 1982 BEA I–O study
- Used the 1982 BEA I–O study as the basis for estimating production functions for 1990
- Developed by MIG, Inc., Stillwater, MN

Some data definitions have been altered over time as the authors of the program identified areas that needed improvement. For these reasons, the four data sets should be viewed as discrete snapshots in time and not as time series data. Users should note that the IMPLAN database comprises information from many sources, of which BEA is but one. Results should not be expected to match those derived from models that use BEA data only.

Industrial Sectors: Comparison of SIC Codes to IMPLAN Sectors

IMPLAN has 528 industry/commodity sectors. Each sector has been assigned a number based on the classifications defined by the BEA and the Standard Industrial Classifications (SIC) used by the Executive Office of the President, Office of Management and Budget. Bridge tables that link the entire IMPLAN numbering system to the BEA industry numbers and SIC codes are available in the Micro IMPLAN User's Guide (Taylor et al. 1993).

While most economic statistics reported by State and Federal governments rely upon the SIC system, the IMPLAN system and the BEA use a different system for categorizing industrial information in I–O accounts even though much of

the I–O data is derived from sources using the SIC. There is a good reason for this reliance upon a separate classification system for I–O accounting. The I–O accounts endeavor, fundamentally, to classify economic activity in a manner that illustrates the production relationships between economic agents. The general classification rule for I–O accounting is to define industry groups on the basis of the similarity of their input requirements (i.e., similar input functions). In contrast, the U.S. SIC does not employ a similar consistent rule for classifying industries. In a recent report (ECPC 1994), the Economic Classification Policy Committee determined that approximately 40 percent of the industrial classes in the SIC were defined using a “supply-based” rule (i.e., similarity of inputs), about 40 percent of the classes used a “demand-based” rule (i.e., similarity of outputs), and the remainder were indeterminate. This inconsistency within the SIC is the basis for the differences between it and the I–O classification systems used by BEA and IMPLAN, and it is the reason for many reclassifications of sectors that are necessary to utilize government statistics in I–O models.

Thus, it is not surprising to find that the SIC code–IMPLAN sector bridge is not one-to-one. When using IMPLAN to estimate economic impacts of some activity, it is important to determine exactly which IMPLAN sector or sectors contain the industry of interest. The 1977, 1982, and 1985 IMPLAN number systems bridge to the codes published in the 1972 *Standard Industrial Classification Manual* (OMB 1972). The 1990 IMPLAN sectors bridge to SIC codes published in 1987 (OMB 1987). There were some changes in the SIC codes and the IMPLAN sector numbers between 1985 and 1990.

In the 1972 SIC codes, the Mining Division consisted of five Major Groups: 10–metal mining, 11–anthracite mining, 12–bituminous coal and lignite mining, 13–oil and gas extraction, and 14–mining and quarrying of nonmetallic minerals, except fuels (Table B1):

- *Metal mining* contains 8 industry groups comprising 11 industries, each of which has an IMPLAN sector number. Metal mining services is one of these industries.
- *Anthracite mining* comprises two industries, both assigned to one IMPLAN sector. Anthracite mining services are not assigned their own IMPLAN sector.
- *Bituminous coal and lignite mining* comprises two industries, both assigned to one IMPLAN sector. Again, coal mining service is not a separate industry.
- *Oil and gas extraction* comprises three industry groups that are assigned to four IMPLAN sectors. The crude petroleum and natural gas industry is split into IMPLAN sectors. Natural gas liquids and oil and gas field services are each assigned a separate sector in IMPLAN.

**Table B1—Bridge of sectors related to energy and minerals in 1977, 1982, and 1985
IMPLAN to 1972 SIC codes**

IMPLAN industry	SIC code ^a
28 Iron ores	1011
29 Ferroalloy ores, except vanadium	1061
30 Copper ores	1021
31 Lead and zinc ores	1031
32 Gold ores	1041
33 Silver ores	1044
34 Bauxite and other aluminum ores	1051
35 Metal mining services	1081
36 Mercury ores	1092
37 Uranium-radium-vanadium ores	1094
38 Metal ores, not elsewhere classified (NEC)	1099
39 Anthracite and anthracite mining	1111 (Also part of 1112)
40 Bituminous and lignite mining	1211 (Also part of 1213)
41 Natural gas	1310
42 Crude petroleum	1310
43 Natural gas liquids	1321
44 Dimension stone	1411
45 Crushed and broken limestone	1422
46 Crushed and broken granite	1423
47 Crushed and broken stone, NEC	1429
48 Construction sand and gravel	1442
49 Industrial sand	1446
50 Bentonite	1452
51 Fire clay	1453
52 Fuller's earth	1454
53 Kaolin and ball clay	1455
54 Clay, ceramic, refractory minerals	1459
55 Nonmetallic minerals (except Fuller's) ^b	1481
56 Gypsum	1492
57 Talc, soapstone, and borate mining	1496
58 Misc. nonmetallic minerals, NEC	1499
59 Barite	1472
60 Fluorspar	1473
61 Potash, soda, and borate minerals	1474
62 Phosphate rock	1475
63 Rock salt	1476
64 Sulfur	1477
65 Chemical, fertilizer mineral mining	1479
71 New mineral extraction facilities	Part of 108, 1112, 1213, 136 ^c , 148
75 Maintenance and repair oil and gas	1380 (Also part of 138)

^aAs reported in IMPLAN.

^bShould read nonmetallic mineral mining services.

^cShould read 138.

Source: Taylor et al. (1993).

- *Nonmetallic minerals* comprises 22 industries, each with its own IMPLAN sector number. Nonmetallic mining services are assigned one of the 22 sector numbers. (Note that the *Micro-IMPLAN User's Guide* lists non-metallic mining services as sector 55, labeled nonmetallic minerals (except fullers).
- The IMPLAN sector titled *construction of new mineral extraction facilities* is a combination of parts of the metallic, anthracite, coal, oil and gas, and nonmetallic service industries. The SIC codes for 1972 did not have a separate industry for construction of extraction facilities.

In the 1987 SIC codes, only four Major Groups are listed in the Mining Division: 10–metal mining, 12–coal mining, 13–oil and gas extraction, and 14–mining and quarrying of nonmetallic minerals, except fuels (Table B2):

- *Metal mining* is made up of 8 industry groups comprising 9 industries, each of which has a corresponding sector number in the 1990 version of IMPLAN. Bauxite and mercury were listed as industries in the 1972 SIC codes, but are no longer treated separately in either the 1987 codes or IMPLAN. Metal mining service is a separate industry.
- The two *coal mining* groups, anthracite and bituminous, have been combined into a single major group that has been assigned a single IMPLAN sector number. Coal mining services are included in this sector.
- *Oil and gas extraction* comprises three industry groups, each of which has an IMPLAN number. Oil and gas drilling services are a separate Industry.
- The sectoring scheme for the *nonmetallic minerals* is more complex. Four of the seven industry groups have corresponding IMPLAN sector numbers. Two industry groups (141, 142) have been combined into one IMPLAN sector, and each industry in group 147 has been assigned a unique IMPLAN sector number. Non-metallic mining service is a separate Industry.
- The IMPLAN sector titled *new mineral extraction facilities* is composed of parts of Major Groups 15, 16, and 17, which are the construction sectors in the SIC codes.

Regional Purchase Coefficients

Trade patterns can be estimated using IMPLAN by employing regional purchase coefficients (RPCs). An RPC represents the proportion of the demand met by local supplies of a good or service. The RPCs alter the magnitude of trade linkages among sectors of an economy; they modify the effect of a change in final demand on the local or regional economy and so alter the size of multipliers.

The RPCs are estimated differently at the county and State levels. Furthermore, those RPCs associated with “shippables,” i.e., tangible goods, are calculated with a

Table B2—Bridge of sectors related to energy and minerals in 1990 IMPLAN to 1987 SIC codes

IMPLAN industry	SIC code ^a
28 Iron ores	1010
29 Copper ores	1020
30 Lead and zinc ores	1030
31 Gold ores	1041
32 Silver ores	1044
33 Ferroalloy ores, except vanadium	1060
34 Metal mining services	1080
35 Uranium-radium-vanadium ores	1094
36 Metal ores, not elsewhere classified (NEC)	1099
37 Coal mining	1200
38 Natural gas & crude petroleum	1310
39 Natural gas liquids	1320
40 Dimension stone & crushed stone	1410, 1420
41 Sand and gravel	1440
42 Clay, ceramic, refractory minerals, NEC	1450
43 Potash, soda, and borate minerals	1474
44 Phosphate rock	1475
45 Chemical, fertilizer mineral mining, NEC	1479
46 Nonmetallic minerals (except fuels) service	1480
47 Misc. nonmetallic minerals, NEC	1490
53 New mineral extraction facilities ^a	
57 Maintenance and repair oil and gas wells	1380

^aIncludes parts of Major Groups 15, 16, and 17.
Source: Taylor et. al (1993).

regression equation, while those associated with “non-shippables,” i.e., services, are based on observation (Alward and Despotakis 1985). The RPCs cannot be guaranteed or expected to be completely accurate in all instances. Empirically, RPCs frequently increase in magnitude as the economic study area grows larger because a bigger economic area is more likely to incorporate more industrial sectors that trade with one another.

When conducting an impact analysis, the RPCs for all major inputs to sectors of interest (and any other sectors important in the local economy) should be reviewed to make sure that they accurately reflect current economic conditions. Incorrect RPCs have the potential to significantly alter model results. Consider, for example, the bituminous and ignite coal industry (IMPLAN Sector 40) in Pike County, KY, which,

according to the 1985 IMPLAN database, purchased \$24.23 million of inputs from the construction machinery and equipment industry (IMPLAN Sector 334). Thus, Sector 334 was one of the five most important inputs to coal mining in 1985 on a dollar basis. Nonetheless, the local economic effect of these purchases was minimal because the RPC for Sector 334 in Pike County was estimated to be only 0.00025, meaning that only 0.025 percent of the total \$24 million was supplied by firms within the county. If the RPC had been significantly larger, the multiplier effect for Pike County associated with increased final demand for coal would also have been higher. In other words, if the RPC were higher, an increase in coal shipments would appear to benefit the local community more than it does currently.

Energy and Minerals Analysis Using IMPLAN

In this section, we note selected energy and mineral topics as they relate to I–O modeling and IMPLAN in particular. No effort is made to provide comprehensive analysis of these topics or to offer solutions for every potential problem. Rather, the intention is to alert readers about issues that could effect the interpretation, quality, or usefulness of analyses conducted using I–O models.

- Severance taxes and royalty payments to government are included in indirect business taxes in the primary inputs quadrant of the I–O model.
- Royalty payments to individual mineral rights holders show up in other property income in the primary inputs quadrant of the I–O model.
- Corporate profits are included with other property income as is rental income of persons.
- Reclamation activities are not assigned to a separate industry sector in either the National Income and Product Accounts or IMPLAN. These activities need to be modeled through changes in final demand for their constituent activities.
- Depending upon the goals of the study, transportation may need to be addressed. Ore transport could affect the railroad, motor freight, or transportation services sectors. Once the transport linkages are made, increases in final demand for ore would translate into proportional increases in the transport sector, since relationships in the model are fixed and linear.
- The development of a new mine may result in new sectors being added to an economy, e.g., wholesalers or other suppliers. The sector for mining may not be part of the economy either and may need to be added. Conversely, closing a mine could lead to the loss of other businesses in the area, which would in turn effect the whole economy. When entire sectors are added or removed, the transactions matrix must be rebalanced, which IMPLAN does as the new model is built.
- Minerals sectors in the national I–O tables are often a combination of several industries (e.g., borate, potash, and soda) that do not use identical extraction methods. Application of the production function associated with such a sector to a study area with only one of the industry components could lead to erroneous results.
- The Bureau of Mines has developed a methodology for using their mine models to alter the minerals production functions in IMPLAN (Schantz 1992).
- Consistent with BEA practice, part of final demand for minerals sectors is reclassified to construction of new extraction facilities to account for ongoing construction at existing mines.
- Data on county business patterns are collected during March of each year. For industries that hire temporary workers during another season, the data will be misleading. Similarly, if a mine is running on a reduced schedule during the period when the survey is conducted, the data for that industry will be skewed downward. ES-202 data are collected monthly.
- Long-term contracts for production and provision of services are common in the minerals industries, but are not handled well in IMPLAN. RPC adjustments need to be made if contracts are a large part of firm expenditures.
- Mineral operations often hire consultants. Capturing these expenditures in an I–O model is difficult, but if the contracts are large the analyst must attempt to do so.
- IMPLAN does not account for externalities, positive or negative. Extraction activities can have significant impacts on other land uses, so analysis of the overall impact of resource development should include accounting for decreases or increases in other industries (e.g., recreation expenditures) resulting from external effects.
- The structural matrix in IMPLAN is more difficult to alter than is the rest of the database. The Bureau of Mines (U.S. Department of Interior 1992) has studied the effect on multipliers of editing the database. Their conclusions were that (1) only major differences in magnitude need to be corrected and (2) industries with margin accounts are more likely to be affected (margining spreads purchases from retail and wholesale businesses across the actual manufacturing sectors, in effect assigning only value added to the original sector).

Appendix C. Base Year Statistics

The tables in this appendix show base year statistics for U.S. and RPA regions (Table C1) and for selected states (Table C2) for 1977, 1982, 1985, and 1990. Employment is expressed in number of jobs or full-time equivalents (FTEs). Monetary values are expressed in millions of dollars; values in Table C2 are in nominal dollars. TIO designates total industry output. The RPA regions are shown in Figure 1 in the text.

Table C1—Base year statistics for U.S. and RPA regions

1990\$

Year-region	Industry	TIO (×10 ⁶ \$)	Employment (jobs)	Employee comp (×10 ⁶ \$)	Total income (×10 ⁶ \$)	Total valued added (×10 ⁶ \$)
90-US	Metallic ores	14293.72	54,283	2299.26	4435.53	4863.12
	Metal mining services	534.61	5,149	215.16	260.95	305.18
	Coal	15145.13	148,834	7589.57	10017.38	11563.19
	Oil and gas	189499.00	525,968	15793.87	113234.60	148975.70
	Natural gas liquids	4064.92	12,315	342.93	2510.42	3286.49
	Nonmetallic ores	35350.43	117,312	4040.42	17419.84	17972.19
	Nonmet min srv (exc. fuels)	163.10	1,146	39.55	84.21	88.50
	New min extraction facil	17801.45	176,384	4489.46	12212.91	12215.39
	Maint/repr oil & gas wells	220.29	12,981	148.95	177.27	177.27
	U.S. Total (all industries)	9,555,042	137,153,177	3,291,300	5,091,215	5,535,415
RPA90-N	Metallic ores	2824.14	11,047	439.54	972.12	1071.92
	Metal mining services	63.36	618	14.80	30.18	35.98
	Coal	7700.35	73,963	3941.02	5154.69	5881.12
	Oil and gas	11870.43	58,224	747.31	6591.97	9333.27
	Natural gas liquids	310.85	2,164	16.53	169.44	251.35
	Nonmetallic ores	10851.21	44,668	1579.22	5572.19	5789.25
	Nonmet min srv (exc. fuels)	53.30	384	12.86	27.24	28.68
	New min extraction facil	2312.20	21,597	594.34	1586.94	1587.25
	Maint/repr oil & gas wells	36.87	2,815	7.00	28.86	28.86
	Region total (all industries)	4,476,903	62,093,211	1,574,956	2,377,214	2,570,423
RPA90-S	Metallic ores	596.27	2,881	106.08	240.25	262.51
	Metal mining services	27.18	347	8.59	11.75	13.16
	Coal	5459.23	58,198	2726.20	3637.01	4169.48
	Oil and gas	131719.30	354,126	11306.04	79817.41	103565.90
	Natural gas liquids	2961.72	7,975	262.37	1881.40	2394.88
	Nonmetallic ores	16802.18	45,558	1509.78	8000.89	8209.95
	Nonmet min srv (exc. fuels)	47.18	341	11.37	24.00	25.36
	New min extraction facil	10666.42	111,917	2682.66	7320.57	7322.13
	Maint/repr oil & gas wells	165.15	9,143	128.65	133.78	133.78
	Region total (all industries)	2,847,807	42,320,114	928,570	1,485,264	1,627,245
RPA90-RM	Metallic ores	9705.17	35,223	1554.54	2744.78	2993.55
	Metal mining services	386.22	3,619	168.61	192.20	223.34
	Coal	1869.95	15,617	864.88	1150.39	1428.17
	Oil and gas	19097.35	67,341	1548.55	11213.79	15015.52
	Natural gas liquids	776.37	2,091	63.12	450.55	627.78
	Nonmetallic ores	5191.57	16,575	544.41	2479.84	2565.61
	Nonmet min srv (exc. Fuels)	32.24	195	8.02	17.30	18.18
	New min extraction facil	2754.94	29,276	693.42	1890.67	1891.17
	Maint/repr oil & gas wells	15.99	899	12.79	12.94	12.94
	Region total (all industries)	660,390	10,779,426	217,996	349,245	381,816
RPA90-P	Metallic ores	1168.14	5,141	199.05	479.79	536.54
	Metal mining services	57.86	565	23.16	26.94	32.84
	Coal	115.60	1,059	57.33	79.16	88.29
	Oil and gas	26811.89	46,275	2191.66	15631.58	21081.16
	Natural gas liquids	15.98	88	0.91	9.47	12.92
	Nonmetallic ores	2505.15	10,517	406.93	1367.13	1407.59
	Nonmet min srv (exc. Fuels)	30.38	222	7.31	15.69	16.27
	New min extraction facil	2067.89	13,592	518.95	1419.42	1419.54
	Maint/repr oil & gas wells	2.28	124	0.51	1.85	1.85
	Region total (all industries)	1,570,586	21,960,482	569,945	879,660	956,097

Table C1—Base year statistics for U.S. and RPA regions—con.

1985\$

Year-region	Industry	TIO (×10 ⁶ \$)	Employment (jobs)	Employee comp (×10 ⁶ \$)	Total income (×10 ⁶ \$)	Total valued added (×10 ⁶ \$)
85-US	Metallic ores	5829.28	55,002	1675.75	1855.29	2268.94
	Metal mining services	150.24	2,229	79.34	48.16	69.68
	Coal	35901.18	195,785	7504.24	12286.31	18763.16
	Oil and gas	119316.30	737,336	20313.90	76911.25	90822.11
	Natural gas liquids	9575.72	76,035	1972.52	6040.35	6995.73
	Nonmetallic ores	10124.85	120,046	3251.15	5114.30	5482.91
	Nonmet min srv (exc. Fuels)	143.99	1,793	59.19	82.49	87.22
	New min extraction facil	1970.79	21,202	437.16	722.55	723.71
	Maint/repr oil & gas wells	13810.35	178,436	3679.11	6420.02	6420.02
RPA85-N	U.S. Total (all industries)	7,438,053	109,355,800	2,367,020	3,879,295	4,226,356
	Metallic ores	2515.89	15,342	434.32	896.37	1047.15
	Metal mining services	17.08	294	9.59	5.93	7.48
	Coal	21807.00	102,866	4011.98	6854.28	11705.30
	Oil and gas	7206.93	83,112	1125.26	3847.57	4564.96
	Natural gas liquids	168.20	1,900	28.64	94.89	112.76
	Nonmetallic ores	2991.24	38,421	1092.04	1657.42	1749.69
	Nonmet min srv (exc.fuels)	46.81	614	19.38	26.68	27.95
	New min extraction facil	0.00	0	0.00	0.00	0.00
RPA85-S	Maint/repr oil & gas wells	2656.28	34,733	722.88	1225.17	1225.17
	Region total (all industries)	3,506,622	51,068,290	1,148,676	1,807,935	1,965,923
	Metallic ores	190.10	3,382	63.47	48.21	58.78
	Metal mining services	20.94	508	9.10	5.85	7.56
	Coal	9518.57	71,979	2564.36	3838.29	4587.94
	Oil and gas	79467.30	492,804	14323.12	52541.99	60448.43
	Natural gas liquids	7054.40	56,716	1497.02	4503.43	5141.15
	Nonmetallic ores	4519.47	54,975	1321.95	2159.12	2358.74
	Nonmet min srv (exc. fuels)	33.00	442	12.99	18.25	19.59
RPA85-RM	New min extraction facil	1159.01	13,345	249.26	410.20	410.96
	Maint/repr oil & gas wells	6386.92	87,492	1636.89	2852.70	2852.70
	Region total (all industries)	2,176,835	33,093,230	658,133	1,123,679	1,226,240
	Metallic ores	2837.66	31,434	1083.22	836.45	1071.87
	Metal mining services	89.18	965	48.72	28.84	45.27
	Coal	3949.36	18,999	878.13	1466.74	2113.98
	Oil and gas	15194.07	105,607	2594.21	9369.44	11285.93
	Natural gas liquids	1512.37	11,367	270.52	911.29	1116.39
	Nonmetallic ores	1642.78	16,560	496.90	779.73	839.16
RPA85-P	Nonmet min srv (exc. fuels)	49.77	555	21.00	29.42	30.99
	New min extraction facil	239.86	2,769	51.52	84.70	84.92
	Maint/repr oil & gas wells	545.67	7,579	132.54	241.28	241.28
	Region total (all industries)	587,604	8,438,615	167,493	303,371	335,762
	Metallic ores	285.62	4,844	94.74	74.26	91.14
	Metal mining services	23.03	462	11.93	7.53	9.37
	Coal	626.25	1,942	49.78	127.00	355.95
	Oil and gas	17448.01	55,813	2271.31	11152.25	14522.78
	Natural gas liquids	840.75	6,051	176.34	530.74	625.43
	Nonmetallic ores	971.36	10,089	340.25	518.02	535.32
	Nonmet min srv (exc. Fuels)	14.42	182	5.82	8.13	8.69
	New min extraction facil	571.92	5,087	136.39	227.65	227.83
	Maint/repr oil & gas wells	4221.48	48,632	1186.80	2100.88	2100.87
	Region total (all industries)	1,166,991	16,755,670	392,720	644,310	698,430

Table C1—Base year statistics for U.S. and RPA regions—con.

1982\$

Year-region	Industry	TIO (×10 ⁶ \$)	Employment (jobs)	Employee comp (×10 ⁶ \$)	Total income (×10 ⁶ \$)	Total valued added (×10 ⁶ \$)
82-US	Metallic ores	5267.04	71,415	2343.66	2105.04	2528.73
	Metal mining services	22.97	309	9.00	7.97	10.67
	Coal	28151.16	231,895	8913.60	12911.48	14085.68
	Oil and gas	131426.90	211,587	9266.00	66892.92	81746.69
	Natural gas liquids	22593.83	36,375	1592.94	11499.70	14053.23
	Nonmetallic ores	9399.29	106,490	2575.73	4516.62	4906.68
	Nonmet min srv (exc. Fuels)	53.87	611	15.91	25.23	28.12
	New min extraction facil	34288.32	294,185	7616.24	12080.69	12095.67
	Maint/repr oil & gas wells	8192.34	112,011	2960.45	4578.26	4578.26
	U.S. Total (all industries)	5,961,639	94,965,070	1,864,221	2,810,490	3,069,254
RPA82-N	Metallic ores	1667.55	22,770	614.15	537.31	660.64
	Metal mining services	6.54	89	2.56	2.27	3.04
	Coal	13466.99	108,502	4264.10	6176.61	6738.33
	Oil and gas	4220.82	4,519	297.58	2148.29	2625.33
	Natural gas liquids	199.08	311	14.04	101.32	123.82
	Nonmetallic ores	2161.47	23,796	661.84	1111.76	1211.16
	Nonmet min srv (exc. Fuels)	9.73	110	2.87	4.56	5.08
	New min extraction facil	2493.46	21,096	553.86	878.51	879.60
	Maint/repr oil & gas wells	488.20	6,765	176.42	272.83	272.83
	Region total (all industries)	2,624,007	44,727,300	850,418	1,248,124	1,342,944
RPA82-S	Metallic ores	202.33	2,779	80.36	71.26	94.03
	Metal mining services	1.04	17	0.41	0.36	0.48
	Coal	9538.35	82,673	3020.16	4374.74	4772.59
	Oil and gas	92000.19	151,137	6486.30	46825.74	57223.55
	Natural gas liquids	14945.63	23,976	1053.72	7606.95	9296.09
	Nonmetallic ores	3832.33	44,122	999.58	1804.70	1946.67
	Nonmet min srv (exc. Fuels)	9.55	107	2.82	4.47	4.99
	New min extraction facil	23202.59	205,789	5153.84	8174.89	8185.03
	Maint/repr oil & gas wells	5696.55	80,169	2058.55	3183.50	3183.50
	Region total (all industries)	2,045,145	28,682,580	612,858	942,109	1,051,926
RPA82-RM	Metallic ores	3230.54	43,633	1584.47	1439.42	1703.04
	Metal mining services	12.53	163	4.91	4.35	5.82
	Coal	4800.30	37,736	1519.93	2201.65	2401.87
	Oil and gas	16763.69	23,203	1181.89	8532.29	10426.91
	Natural gas liquids	6070.23	9,809	427.97	3089.60	3775.65
	Nonmetallic ores	1703.11	18,714	416.26	779.11	842.56
	Nonmet min srv (exc. Fuels)	19.74	221	5.83	9.25	10.30
	New min extraction facil	6059.44	48,686	1345.94	2134.90	2137.55
	Maint/repr oil & gas wells	1404.28	18,083	507.46	784.78	784.78
	Region total (all industries)	432,446	7,323,885	125,097	199,531	217,755
RPA82-P	Metallic ores	166.62	2,219	64.67	57.05	71.02
	Metal mining services	2.85	40	1.12	0.99	1.33
	Coal	345.53	2,984	109.41	158.48	172.89
	Oil and gas	18442.18	32,728	1300.23	9386.60	11470.92
	Natural gas liquids	1378.90	2,279	97.22	701.82	857.66
	Nonmetallic ores	1702.38	19,841	498.04	821.06	906.30
	Nonmet min srv (exc. Fuels)	14.84	173	4.38	6.95	7.75
	New min extraction facil	2532.84	18,614	562.60	892.39	893.49
	Maint/repr oil & gas wells	603.32	6,994	218.02	337.16	337.16
	Region total (all industries)	860,040	14,231,270	275,848	420,727	456,629

Table C1—Base year statistics for U.S. and RPA regions—con.

1977\$

Year-region	Industry	TIO (×10 ⁶ \$)	Employment (jobs)	Employee comp (×10 ⁶ \$)	Total income (×10 ⁶ \$)	Total valued added (×10 ⁶ \$)
77-US	Metallic ores	5502.07	81,000	1462.31	2329.89	2710.44
	Metal mining services	48.93	1,000	14.74	19.97	21.76
	Coal	16291.00	212,000	5839.80	8406.52	8682.70
	Oil and gas	43899.43	134,000	5481.89	28441.25	31152.19
	Natural gas liquids	3028.57	12,000	341.83	642.15	677.61
	Nonmetallic ores	5916.91	108,000	1828.71	3288.26	3479.43
	Nonmet min srv (exc. fuels)	116.09	2,000	45.64	64.63	66.57
	U.S. Total (all industries)	3,562,825	89,492,000	1,160,897	1,727,459	1,900,457
RPA77-N	Metallic ores	1937.75	24,000	421.96	676.26	816.11
	Metal mining services	12.89	0,000	3.88	5.26	5.73
	Coal	9066.65	127,000	3242.80	4666.69	4819.90
	Oil and gas	1867.80	47,000	205.68	1234.79	1356.30
	Natural gas liquids	30.96	0	3.49	6.57	6.93
	Nonmetallic ores	1386.27	39,000	461.17	815.64	853.95
	Nonmet min srv (exc. fuels)	24.01	0	9.44	13.37	13.77
	Region total (all industries)	1,873,931	44,688,000	602,829	892,193	980,063
RPA77-S	Metallic ores	256.94	5,000	83.70	128.28	144.67
	Metal mining services	3.10	0	0.93	1.27	1.38
	Coal	5248.13	72,000	1886.60	2716.80	2806.13
	Oil and gas	31201.58	63,000	4038.48	20087.24	21982.20
	Natural gas liquids	1923.76	9,000	217.13	407.90	430.42
	Nonmetallic ores	2686.30	46,000	793.20	1429.39	1516.11
	Nonmet min srv (exc. fuels)	25.56	0	10.05	14.23	14.66
	Region total (all industries)	941,988	25,593,000	306,003	458,733	505,462
RPA77-RM	Metallic ores	3144.55	49,000	916.61	1464.74	1677.09
	Metal mining services	28.86	1,000	8.70	11.78	12.83
	Coal	1785.35	12,000	641.80	924.22	954.61
	Oil and gas	5696.54	13,000	684.67	3714.54	4072.30
	Natural gas liquids	920.95	2,000	103.95	195.27	206.05
	Nonmetallic ores	1104.16	14,000	336.22	614.07	656.03
	Nonmet min srv (exc. fuels)	52.00	1,000	20.44	28.95	29.82
	Region total (all industries)	246,999	6,483,000	78,630	121,161	133,249
RPA77-P	Metallic ores	162.83	3,000	40.03	60.60	72.57
	Metal mining services	4.08	0	1.23	1.66	1.81
	Coal	190.87	1,000	68.61	98.81	102.06
	Oil and gas	5133.50	11,000	553.06	3404.69	3741.39
	Natural gas liquids	152.90	1,000	17.26	32.42	34.21
	Nonmetallic ores	740.19	8,000	238.13	429.16	453.34
	Nonmet min srv (exc. fuels)	14.52	0	5.71	8.09	8.33
	Region total (all industries)	499,908	12,727,000	173,436	255,372	281,684

Table C2—Base year statistics for selected states

1990\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
90-AK	Metallic ore	277.64	0.00	138.10	0.00	1011	0.00	52.05	0.00	120.47	0.00
	Metal mining svc	21.52	0.00	20.40	0.00	185	0.00	8.03	0.00	9.47	0.00
	Coal	21.22	0.00	17.90	0.00	135	0.00	11.76	0.00	14.56	0.00
	Oil and gas	9,395.79	0.29	8974.01	0.40	9631	0.03	743.65	0.08	5147.10	0.29
	Nonmetallic ores	46.95	0.00	43.36	0.00	59	0.00	3.01	0.00	24.51	0.00
	Nonmet min svc (exc fuel)	0.47	0.00	0.46	0.00	2	0.00	0.14	0.00	0.26	0.00
	Total mining & energy	9,764	0.31	9,194	0.41	11,023	0.03	819	0.08	5,316	0.30
	New min extraction facil	791.82	0.02	0.00	0.00	4373	0.01	195.29	0.02	543.51	0.03
	All other construction	1,496.55	0.05	47.53	0.00	14349	0.04	570.43	0.06	804.05	0.04
	Total construction	2,288	0.07	48	0.00	18,722	0.06	766	0.08	1,348	0.08
	Total agriculture	1,107	0.03	740	0.03	18,213	0.06	29	0.00	330	0.02
	Total manufacturing	3,088	0.10	2,430	0.11	18,344	0.06	610	0.06	900	0.05
	Total transportation	3,612	0.11	2,380	0.11	21,459	0.07	831	0.09	2,118	0.10
	Total trade	2,071	0.06	756	0.03	52,537	0.16	1,108	0.11	1,413	0.08
	Total real estate	2,124	0.07	1,613	0.07	15,869	0.05	316	0.03	1,157	0.05
	Total services	3,528	0.11	1,693	0.08	72,965	0.22	1,416	0.15	2,212	0.11
	Total govt enterprises	4,335	0.14	3,439	0.15	96,019	0.30	3,824	0.39	4,002	0.22
	Total special industry	25	0.00	62	0.00	1,631	0.00	8	0.00	25	0.00
	State total	31,944	1.00	22,328	1.00	325,332	1.00	9,719	1.00	17,957	1.00
90-AZ	Metallic ore	3593.13	0.03	2555.24	0.06	10374	0.00	438.62	0.01	525.16	0.00
	Metal mining svc	28.69	0.00	27.54	0.00	290	0.00	11.69	0.00	13.79	0.00
	Coal	110.19	0.00	87.22	0.00	1061	0.00	59.65	0.00	74.16	0.00
	Oil and gas	264.86	0.00	242.84	0.00	1336	0.00	3.53	0.00	58.84	0.00
	Nonmetallic ores	161.92	0.00	139.59	0.00	984	0.00	18.91	0.00	82.53	0.00
	Nonmet min svc (exc fuel)	3.75	0.00	3.63	0.00	35	0.00	0.81	0.00	1.76	0.00
	Total mining & energy	4,163	0.04	3,056	0.07	14,080	0.00	533	0.01	756	0.01
	New min extraction facil	203.31	0.00	0.00	0.00	1881	0.00	52.01	0.00	139.52	0.00
	Maint /repr oil & gas wells	0.40	0.00	0.28	0.00	103	0.00	0.15	0.00	0.24	0.00
	All other construction	11468.62	0.10	72.33	0.00	135671	0.07	2889.58	0.07	3630.34	0.06
	Total construction	11,672	0.10	73	0.00	137,655	0.07	2,942	0.07	3,770	0.06
	Total agriculture	2,207	0.02	1,248	0.03	48,471	0.03	513	0.01	1,027	0.02
	Total manufacturing	23,043	0.20	14,672	0.36	191,880	0.09	6,575	0.16	9,077	0.14
	Total transportation	9,387	0.08	2,988	0.07	77,341	0.04	2,412	0.06	5,017	0.08
	Total trade	13,270	0.11	4,272	0.10	414,422	0.22	6,857	0.17	8,433	0.14
	Total real estate	18,719	0.16	6,315	0.15	161,771	0.09	2,824	0.07	11,234	0.19
	Total services	21,375	0.19	5,336	0.12	521,809	0.28	9,627	0.23	12,612	0.21
	Total govt enterprises	11,466	0.10	3,815	0.08	287,767	0.16	8,820	0.21	9,671	0.15
	Total special industry	161	0.00	262	0.00	15,307	0.00	92	0.00	161	0.00
	State total	115,464	1.00	41,014	1.00	1,849,621	1.00	41,083	1.00	60,517	1.00
90-GA	Metallic ores	2.07	0.00	0.13	0.00	35	0.00	0.07	0.00	0.31	0.00
	Coal	0.81	0.00	0.09	0.00	18	0.00	0.36	0.00	0.52	0.00
	Oil and gas	284.55	0.00	261.23	0.00	1192	0.00	2.12	0.00	55.34	0.00
	Nonmetallic ores	1897.90	0.00	1651.07	0.02	8147	0.00	297.58	0.00	902.82	0.00
	Nonmet min svc (exc fuel)	22.31	0.00	20.36	0.00	152	0.00	5.51	0.00	11.61	0.00
	Total mining & energy	2,208	0.00	1,933	0.02	9,544	0.00	306	0.00	1,270	0.01
	New min extraction facil	130.20	0.00	0.00	0.00	1374	0.00	33.25	0.00	89.37	0.00
	All other construction	21205.25	0.09	718.13	0.00	268183	0.07	5344.06	0.06	6746.44	0.05
	Total construction	21,335	0.09	718	0.00	269,557	0.07	5,377	0.06	6,836	0.05
	Total agriculture	5,443	0.02	2,152	0.02	82,063	0.02	438	0.00	1,451	0.01
	Total manufacturing	74,440	0.30	50,955	0.50	570,805	0.16	16,004	0.19	25,559	0.20
	Total transportation	24,911	0.10	12,189	0.12	198,899	0.06	7,150	0.09	14,500	0.12
	Total trade	28,531	0.12	7,911	0.08	831,577	0.23	15,933	0.19	19,702	0.16
	Total real estate	31,371	0.13	9,667	0.09	238,336	0.06	5,575	0.07	18,596	0.15
	Total services	36,498	0.15	9,859	0.10	793,681	0.22	15,765	0.19	21,992	0.16
	Total govt enterprises	19,569	0.08	5,907	0.06	621,990	0.16	17,370	0.21	17,748	0.14
	Total special industry	479	0.00	702	0.00	56,906	0.02	345	0.00	479	0.00
	State total	244,786	1.00	101,993	1.00	3,598,853	1.00	83,878	1.00	125,741	1.00

Table C2—Base year statistics for selected states —con.

1990\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
90-ID	Metallic ores	474.98	0.01	295.83	0.02	2198	0.00	88.25	0.00	191.27	0.01
	Metal mining svc	24.56	0.00	23.50	0.00	251	0.00	10.69	0.00	12.27	0.00
	Coal	0.27	0.00	0.03	0.00	11	0.00	0.03	0.00	0.17	0.00
	Oil and gas	19.38	0.00	17.75	0.00	222	0.00	0.14	0.00	9.06	0.00
	Nonmetallic ores	341.20	0.01	291.93	0.02	1511	0.00	40.92	0.00	163.10	0.01
	Total mining & energy	860	0.03	629	0.05	4,193	0.00	140	0.01	376	0.03
	New min extraction facil	57.73	0.00	0.00	0.00	651	0.00	13.85	0.00	39.62	0.00
	All other construction	3074.62	0.10	331.97	0.03	38444	0.07	707.33	0.07	1043.52	0.07
	Total construction	3,132	0.10	332	0.03	39,095	0.07	721	0.07	1,083	0.07
	Total agriculture	2,630	0.08	1,750	0.14	53,597	0.10	367	0.04	1,493	0.09
	Total manufacturing	9,640	0.30	6,949	0.57	68,128	0.12	1,898	0.20	3,066	0.20
	Total transportation	2,210	0.07	532	0.04	22,743	0.04	599	0.06	1,211	0.07
	Total trade	3,191	0.10	470	0.04	113,288	0.21	1,583	0.16	2,059	0.13
	Total real estate	2,913	0.09	302	0.02	31,424	0.05	437	0.05	1,689	0.10
	Total services	4,704	0.15	651	0.05	122,069	0.23	1,785	0.18	2,608	0.17
	Total govt enterprises	2,369	0.07	442	0.04	88,848	0.16	2,178	0.23	2,220	0.14
	Total special industry	32	0.00	62	0.00	3,444	0.00	15	0.00	32	0.00
	State total	31,682	1.00	12,119	1.00	530,483	1.00	9,671	1.00	14,713	1.00
90-KY	Metallic ores	8.45	0.00	0.41	0.00	55	0.00	0.37	0.00	1.48	0.00
	Coal	3002.57	0.02	2899.69	0.06	31500	0.02	1447.31	0.04	1926.30	0.03
	Oil and gas	542.94	0.00	514.57	0.01	4424	0.00	39.04	0.00	309.04	0.00
	Natural gas liquids	56.69	0.00	6.86	0.00	163	0.00	4.86	0.00	35.88	0.00
	Nonmetallic ores	252.43	0.00	233.60	0.00	2618	0.00	77.35	0.00	157.29	0.00
	Nonmet min svc (exc fuel)	1.45	0.00	1.40	0.00	16	0.00	0.30	0.00	0.64	0.00
	Total mining & energy	3,865	0.03	3,657	0.07	38,776	0.02	1,569	0.04	2,431	0.04
	New min extraction facil	481.58	0.00	0.00	0.00	5846	0.00	120.68	0.00	330.55	0.00
	All other construction	8696.41	0.07	260.12	0.00	125014	0.07	2161.00	0.06	2865.25	0.05
	Total construction	9,178	0.07	260	0.00	130,860	0.07	2,282	0.06	3,196	0.06
	Total agriculture	8,783	0.07	5,981	0.12	122,013	0.07	380	0.01	1,434	0.02
	Total manufacturing	46,841	0.37	30,987	0.60	294,970	0.16	9,178	0.25	15,592	0.26
	Total transportation	9,624	0.08	2,099	0.04	88,827	0.04	2,479	0.07	4,821	0.07
	Total trade	11,225	0.09	1,402	0.03	402,441	0.21	5,662	0.15	7,295	0.13
	Total real estate	11,037	0.09	1,368	0.03	96,850	0.04	1,688	0.05	6,206	0.11
	Total services	16,604	0.13	3,819	0.07	423,611	0.22	6,326	0.16	9,006	0.16
	Total govt enterprises	9,525	0.08	1,484	0.03	291,409	0.16	7,923	0.21	8,556	0.15
	Total special industry	161	0.00	239	0.00	19,053	0.01	99	0.00	161	0.00
	State total	126,843	1.00	51,295	1.00	1,832,005	1.00	37,370	1.00	56,940	1.00
90-LA	Metallic ores	43.66	0.00	21.58	0.00	133	0.00	7.26	0.00	14.04	0.00
	Coal	23.18	0.00	20.11	0.00	144	0.00	9.98	0.00	16.63	0.00
	Oil and gas	24205.71	0.15	23522.31	0.31	55841	0.03	2036.28	0.05	14190.48	0.18
	Natural gas liquids	196.73	0.00	28.56	0.00	427	0.00	16.84	0.00	119.30	0.00
	Nonmetallic ores	3041.59	0.02	2621.70	0.03	1541	0.00	55.91	0.00	1373.19	0.02
	Nonmet min svc (exc fuel)	0.71	0.00	0.63	0.00	8	0.00	0.14	0.00	0.29	0.00
	Total mining & energy	27,512	0.17	26,215	0.34	58,094	0.03	2,126	0.05	15,714	0.20
	New min extraction facil	3569.11	0.02	0.00	0.00	36073	0.02	925.71	0.02	2449.27	0.03
	Maint /repr oil & gas wells	49.97	0.00	22.17	0.00	2475	0.00	41.07	0.00	40.81	0.00
	All other construction	7740.75	0.05	274.47	0.00	111831	0.06	2502.70	0.06	3054.66	0.04
	Total construction	11,360	0.07	297	0.00	150,379	0.08	3,469	0.08	5,545	0.07
	Total agriculture	3,227	0.02	2,182	0.03	53,898	0.03	245	0.00	938	0.01
	Total manufacturing	43,423	0.28	31,436	0.41	187,377	0.09	6,453	0.15	12,584	0.16
	Total transportation	13,928	0.09	4,797	0.07	111,926	0.06	3,385	0.08	6,479	0.08
	Total trade	13,052	0.08	2,014	0.04	415,214	0.22	6,451	0.15	8,065	0.10
	Total real estate	12,971	0.08	1,193	0.02	111,133	0.06	2,097	0.05	7,265	0.08
	Total services	21,302	0.14	4,690	0.06	482,036	0.25	8,435	0.20	12,456	0.16
	Total govt enterprises	10,252	0.07	1,240	0.02	360,288	0.18	8,987	0.22	9,249	0.12
	Total special industry	282	0.00	368	0.00	35,780	0.02	218	0.00	282	0.00
	State total	157,308	1.00	76,336	1.00	1,930,345	1.00	41,649	1.00	77,664	1.00

Table C2—Base year statistics for selected states —con.

1990\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
90-MT	Metallic ores	461.49	0.02	226.17	0.03	2053	0.00	86.07	0.01	149.79	0.01
	Metal mining svc	39.63	0.00	37.74	0.00	360	0.00	15.95	0.00	18.00	0.00
	Coal	139.23	0.00	127.24	0.02	1122	0.00	63.87	0.00	77.68	0.00
	Oil and gas	651.83	0.03	608.19	0.08	1757	0.00	50.61	0.00	359.86	0.03
	Natural gas liquids	26.08	0.00	2.78	0.00	66	0.00	2.13	0.00	15.21	0.00
	Nonmetallic ores	700.49	0.03	496.41	0.06	1128	0.00	33.48	0.00	341.06	0.03
	Nonmet min svc (exc fuel)	0.93	0.00	0.83	0.00	8	0.00	0.20	0.00	0.43	0.00
	Total mining & energy	2,020	0.09	1,499	0.20	6,494	0.01	252	0.04	962	0.08
	New min extraction facil	123.17	0.00	0.00	0.00	1757	0.00	29.62	0.00	84.54	0.00
	Maint /repr oil & gas wells	1.44	0.00	0.73	0.00	68	0.00	1.18	0.00	1.18	0.00
	All other construction	1689.66	0.07	79.18	0.01	23800	0.05	344.80	0.05	504.55	0.04
	Total construction	1,814	0.08	80	0.01	25,625	0.06	376	0.05	590	0.05
	Total agriculture	1,933	0.08	1,518	0.20	43,915	0.10	189	0.03	672	0.06
	Total manufacturing	4,015	0.17	2,509	0.33	24,942	0.06	646	0.09	998	0.09
	Total transportation	2,448	0.11	682	0.09	22,323	0.05	598	0.09	1,298	0.11
	Total trade	2,379	0.10	370	0.05	93,997	0.22	1,222	0.18	1,591	0.14
	Total real estate	2,309	0.10	174	0.02	23,855	0.05	322	0.05	1,307	0.11
	Total services	4,013	0.17	669	0.09	113,004	0.26	1,389	0.20	2,108	0.18
	Total govt enterprises	2,102	0.09	127	0.02	76,556	0.18	1,918	0.28	1,965	0.17
	Total special industry	25	0.00	44	0.00	2,559	0.01	13	0.00	25	0.00
	State total	23,057	1.00	7,672	1.00	436,517	1.00	6,958	1.00	11,516	1.00
90-NM	Metallic ores	651.90	0.01	232.79	0.02	1941	0.00	78.98	0.00	118.39	0.00
	Metal mining svc	9.19	0.00	8.82	0.00	99	0.00	3.61	0.00	4.09	0.00
	Coal	207.48	0.00	191.00	0.01	1791	0.00	107.94	0.00	142.16	0.00
	Oil and gas	3497.84	0.08	3288.76	0.21	9458	0.01	282.11	0.02	1977.24	0.08
	Natural gas liquids	225.90	0.00	143.83	0.00	490	0.00	18.73	0.00	132.93	0.00
	Nonmetallic ores	801.67	0.02	713.33	0.05	2269	0.00	82.80	0.00	362.08	0.02
	Nonmet min svc (exc fuel)	1.81	0.00	1.71	0.00	15	0.00	0.43	0.00	0.91	0.00
	Total mining & energy	5,396	0.12	4,580	0.30	16,063	0.02	575	0.04	2,738	0.12
	New min extraction facil	412.76	0.00	0.00	0.00	4873	0.00	102.32	0.00	283.24	0.01
	Maint /repr oil & gas wells	5.03	0.00	1.11	0.00	286	0.00	4.09	0.00	4.07	0.00
	All other construction	3342.90	0.08	25.97	0.00	45716	0.06	794.49	0.05	1078.97	0.05
	Total construction	3,761	0.09	27	0.00	50,875	0.07	901	0.06	1,366	0.06
	Total agriculture	1,374	0.03	916	0.06	30,732	0.04	170	0.01	592	0.03
	Total manufacturing	6,763	0.15	4,162	0.27	45,673	0.06	1,236	0.08	1,954	0.08
	Total transportation	4,240	0.10	1,638	0.11	30,681	0.04	947	0.06	2,134	0.08
	Total trade	4,399	0.10	738	0.05	156,638	0.21	2,194	0.15	2,759	0.11
	Total real estate	4,800	0.11	596	0.04	41,413	0.06	631	0.04	2,730	0.11
	Total services	7,843	0.18	1,189	0.08	197,009	0.26	3,422	0.23	4,572	0.20
	Total govt enterprises	5,548	0.13	1,394	0.09	167,853	0.23	5,006	0.33	5,133	0.22
	Total special industry	73	0.00	105	0.00	8,070	0.01	48	0.00	73	0.00
	State total	44,196	1.00	15,346	1.00	745,007	1.00	15,099	1.00	23,363	1.00
90-NV	Metallic ores	2331.75	0.05	1100.59	0.07	10715	0.01	489.29	0.03	1048.74	0.04
	Metal mining svc	127.14	0.00	120.18	0.00	1223	0.00	58.44	0.00	66.36	0.00
	Oil and gas	153.98	0.00	141.10	0.00	352	0.00	6.55	0.00	60.89	0.00
	Nonmetallic ores	779.89	0.02	577.57	0.04	1240	0.00	36.88	0.00	368.32	0.01
	Nonmet min svc (exc fuel)	3.13	0.00	2.78	0.00	28	0.00	0.67	0.00	1.51	0.00
	Total mining & energy	3,396	0.07	1,942	0.13	13,558	0.02	592	0.03	1,546	0.06
	New min extraction facil	528.85	0.01	0.00	0.00	3878	0.00	139.55	0.00	362.91	0.01
	All other construction	6160.71	0.13	380.12	0.03	63951	0.09	1856.83	0.10	2197.75	0.08
	Total construction	6,690	0.14	380	0.03	67,829	0.09	1,996	0.11	2,561	0.09
	Total agriculture	507	0.01	262	0.02	11,627	0.02	100	0.00	227	0.00
	Total manufacturing	3,026	0.06	1,932	0.13	27,681	0.04	802	0.04	1,252	0.06
	Total transportation	3,730	0.08	421	0.03	32,218	0.04	1,044	0.06	2,066	0.07
	Total trade	4,922	0.11	644	0.04	136,306	0.18	2,536	0.14	3,113	0.11
	Total real estate	6,496	0.14	887	0.06	44,308	0.06	796	0.04	4,021	0.14
	Total services	14,720	0.31	8,072	0.55	318,069	0.43	7,282	0.40	9,499	0.34
	Total govt enterprises	3,268	0.07	26	0.00	86,784	0.12	2,953	0.16	3,037	0.11
	Total special industry	64	0.00	115	0.00	3,052	0.00	33	0.00	64	0.00
	State total	46,819	1.00	14,682	1.00	739,067	1.00	18,116	1.00	27,749	1.00

Table C2—Base year statistics for selected states —con.

1990\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
90-OK	Metal mining svc	6.48	0.00	5.97	0.00	96	0.00	1.87	0.00	2.58	0.00
	Coal	55.87	0.00	47.79	0.00	619	0.00	27.51	0.00	39.44	0.00
	Oil and gas	17901.13	0.16	17340.97	0.33	61391	0.04	1564.35	0.05	11016.78	0.19
	Natural gas liquids	95.81	0.00	13.62	0.00	279	0.00	8.64	0.00	61.43	0.00
	Nonmetallic ores	316.23	0.00	272.97	0.00	1528	0.00	38.27	0.00	167.60	0.00
	Total mining & energy	18,376	0.17	17,681	0.34	63,913	0.04	1,641	0.05	11,288	0.19
	New min extraction facil	934.50	0.00	0.00	0.00	12666	0.00	220.44	0.00	641.45	0.01
	Maint /repr oil & gas wells	14.08	0.00	0.00	0.00	872	0.00	11.33	0.00	11.31	0.00
	All other construction	5171.06	0.05	24.10	0.00	78196	0.05	1171.48	0.04	1763.45	0.03
	Total construction	6,120	0.06	24	0.00	91,734	0.06	1,403	0.05	2,416	0.04
	Total agriculture	4,732	0.04	3,184	0.06	101,084	0.06	245	0.00	1,634	0.03
	Total manufacturing	27,580	0.25	18,519	0.35	172,566	0.11	5,336	0.17	9,127	0.16
	Total transportation	9,734	0.09	3,407	0.06	72,758	0.04	2,345	0.08	4,999	0.09
	Total trade	9,695	0.09	2,813	0.05	322,328	0.20	4,760	0.15	6,183	0.11
	Total real estate	10,388	0.09	1,511	0.03	92,869	0.06	1,552	0.05	6,108	0.10
	Total services	14,754	0.13	2,558	0.05	375,088	0.23	5,578	0.18	8,348	0.14
	Total govt enterprises	9,235	0.08	1,887	0.05	303,629	0.19	8,016	0.26	8,292	0.14
	Total special industry	147	0.00	209	0.00	15,573	0.00	96	0.00	147	0.00
	State total	110,760	1.00	52,720	1.00	1,619,077	1.00	30,957	1.00	58,169	1.00
90-PA	Metallic ores	5.97	0.00	5.95	0.00	94	0.00	0	0.00	1.10	0.00
	Coal	1756.84	0.00	1571.85	0.00	18733	0.00	874.70	0.00	1225.85	0.00
	Oil and gas	1522.40	0.00	1414.55	0.00	6752	0.00	122.71	0.00	1011.55	0.00
	Natural gas liquids	4.99	0.00	0.50	0.00	21	0.00	0.48	0.00	3.58	0.00
	Nonmetallic ores	756.34	0.00	674.75	0.00	6345	0.00	232.72	0.00	476.46	0.00
	Nonmet min svc (exc fuel)	8.82	0.00	8.33	0.00	64	0.00	2.17	0.00	4.61	0.00
	Total mining & energy	4,055	0.00	3,676	0.02	32,009	0.00	1,233	0.00	2,723	0.01
	New min extraction facil	339.84	0.00	0.00	0.00	2942	0.00	85.79	0.00	233.26	0.00
	All other construction	33256.69	0.08	1358.03	0.00	419202	0.07	10190.33	0.07	13106.77	0.06
	Total construction	33,597	0.08	1,358	0.00	422,144	0.07	10,276	0.07	13,340	0.06
	Total agriculture	6,470	0.02	2,581	0.01	101,830	0.02	715	0.00	1,896	0.00
	Total manufacturing	150,900	0.35	95,296	0.49	1,039,406	0.17	35,886	0.24	56,302	0.25
	Total transportation	35,332	0.08	21,591	0.10	276,421	0.04	9,316	0.06	19,208	0.09
	Total trade	42,804	0.10	23,433	0.12	1,358,424	0.21	23,040	0.15	29,543	0.13
	Total real estate	52,636	0.12	4,474	0.02	397,960	0.06	10,125	0.07	29,615	0.12
	Total services	81,612	0.19	33,066	0.17	1,778,641	0.29	36,394	0.24	47,807	0.22
	Total govt enterprises	25,766	0.05	7,132	0.04	754,459	0.12	23,387	0.16	23,676	0.11
	Total special industry	525	0.00	1,050	0.00	41,328	0.00	267	0.00	525	0.00
	State total	429,493	1.00	189,451	1.00	6,161,294	1.00	150,373	1.00	221,512	1.00
90-SD	Metallic ores	310.25	0.01	138.90	0.02	1490	0.00	63.73	0.01	133.34	0.01
	Metal mining svc	13.94	0.00	13.12	0.00	130	0.00	6.16	0.00	6.94	0.00
	Coal	1.43	0.00	0.56	0.00	13	0.00	0.00	0.00	0.89	0.00
	Oil and gas	56.07	0.00	51.34	0.00	293	0.00	2.76	0.00	24.59	0.00
	Nonmetallic ores	81.67	0.00	79.88	0.01	792	0.00	22.33	0.00	44.68	0.00
	Total mining & energy	463	0.02	284	0.04	2718	0.00	95	0.02	210	0.02
	New min extraction facil	40.68	0.00	0.00	0.00	549	0.00	9.97	0.00	27.92	0.00
	All other construction	1576.67	0.07	48.74	0.00	23164	0.05	353.70	0.06	493.00	0.05
	Total construction	1,617	0.08	49	0.00	23,713	0.06	364	0.06	521	0.05
	Total agriculture	2,846	0.13	1,595	0.21	54,259	0.14	145	0.02	1,547	0.15
	Total manufacturing	4,952	0.23	3,684	0.47	35,706	0.09	793	0.13	1,216	0.12
	Total transportation	1,537	0.07	460	0.06	15,835	0.05	342	0.06	823	0.08
	Total trade	2,372	0.11	422	0.05	90,650	0.21	1,128	0.19	1,501	0.14
	Total real estate	2,170	0.10	329	0.04	25,302	0.06	390	0.06	1,165	0.11
	Total services	3,373	0.16	700	0.09	94,009	0.22	1,218	0.20	1,779	0.17
	Total govt enterprises	1,833	0.09	206	0.03	66,585	0.16	1,644	0.27	1,684	0.16
	Total special industry	25	0.00	39	0.00	3,801	0.00	15	0.00	25	0.00
	State total	21,190	1.00	7,769	1.00	424,056	1.00	6,179	1.00	10,471	1.00

Table C2—Base year statistics for selected states —con.

1990\$

Year-State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
90-TX	Metallic ores	95.72	0.00	32.32	0.00	632	0.00	28.95	0.00	45.80	0.00
	Metal mining svc	1.66	0.00	0.83	0.00	22	0.00	0.52	0.00	0.68	0.00
	Coal	381.40	0.00	317.99	0.00	3799	0.00	215.90	0.00	271.68	0.00
	Oil and gas	83346.31	0.12	80544.37	0.27	207328	0.02	7317.11	0.04	51394.43	0.14
	Natural gas liquids	2374.65	0.00	447.88	0.00	5494	0.00	214.37	0.00	1522.43	0.00
	Nonmetallic ores	3239.72	0.00	2683.11	0.00	5242	0.00	170.34	0.00	1480.80	0.00
	Nonmet min svc (exc fuel)	0.17	0.00	0.15	0.00	2	0.00	0.03	0.00	0.07	0.00
	Total mining & energy	89,440	0.13	84,027	0.28	222,519	0.03	7,947	0.04	54,716	0.15
	New min extraction facil	4349.15	0.00	0.00	0.00	42278	0.00	1078.15	0.00	2985.02	0.00
	Maint /repr oil & gas wells	85.03	0.00	0.00	0.00	4430	0.00	69.39	0.00	69.19	0.00
	All other construction	44345.31	0.06	587.98	0.00	560132	0.06	12073.63	0.06	16380.16	0.05
	Total construction	48,779	0.07	588	0.00	606,840	0.07	13,221	0.06	19,434	0.05
	Total agriculture	15,695	0.02	7,382	0.02	331,833	0.04	1,615	0.00	6,498	0.02
	Total manufacturing	179,188	0.26	110,054	0.36	1,016,157	0.12	34,797	0.17	59,942	0.17
	Total transportation	57,641	0.08	27,876	0.09	439,519	0.05	14,487	0.07	29,765	0.08
	Total trade	64,363	0.09	11,813	0.04	1,927,968	0.22	35,455	0.17	44,341	0.11
	Total real estate	82,099	0.12	15,473	0.05	612,858	0.07	13,540	0.07	48,939	0.14
	Total services	100,502	0.15	28,233	0.09	2,213,944	0.24	42,391	0.21	59,900	0.17
	Total govt enterprises	47,428	0.07	6,591	0.03	1,392,741	0.16	40,516	0.20	42,159	0.12
	Total special industry	1,136	0.00	1,550	0.02	124,226	0.01	810	0.00	1,136	0.00
	State total	686,271	1.00	301,726	1.00	8,763,490	1.00	204,190	1.00	360,456	1.00
90-UT	Metallic ores	759.52	0.01	437.06	0.02	2485	0.00	117.32	0.00	149.15	0.00
	Metal mining svc	46.28	0.00	44.21	0.00	448	0.00	19.46	0.00	22.10	0.00
	Coal	261.53	0.00	240.31	0.01	2531	0.00	138.74	0.00	173.45	0.00
	Oil and gas	728.18	0.01	684.49	0.03	2008	0.00	53.85	0.00	383.05	0.01
	Natural gas liquids	97.81	0.00	32.65	0.00	255	0.00	7.65	0.00	54.52	0.00
	Nonmetallic ores	308.42	0.00	253.85	0.01	915	0.00	25.37	0.00	147.01	0.00
	Nonmet min svc (exc fuel)	12.10	0.00	11.94	0.00	19	0.00	3.59	0.00	7.58	0.00
	Total mining & energy	2,214	0.04	1,705	0.08	8,661	0.00	366	0.02	937	0.03
	New min extraction facil	187.93	0.00	0.00	0.00	2063	0.00	46.60	0.00	128.98	0.00
	All other construction	3839.88	0.07	2.82	0.00	49987	0.06	952.19	0.05	1287.99	0.05
	Total construction	4,028	0.08	3	0.00	52,050	0.06	999	0.06	1,417	0.05
	Total agriculture	1,262	0.02	647	0.03	30,438	0.03	114	0.00	529	0.02
	Total manufacturing	14,811	0.28	9,571	0.48	111,368	0.13	3,224	0.18	5,012	0.18
	Total transportation	5,117	0.10	2,476	0.12	42,417	0.05	1,427	0.08	2,659	0.10
	Total trade	5,617	0.10	1,464	0.07	193,219	0.21	2,899	0.16	3,628	0.14
	Total real estate	5,695	0.11	914	0.05	54,550	0.06	898	0.05	3,263	0.12
	Total services	9,386	0.18	3,051	0.15	235,348	0.26	3,884	0.21	5,127	0.19
	Total govt enterprises	4,756	0.10	195	0.00	162,283	0.18	4,312	0.24	4,411	0.16
	Total special industry	51	0.00	115	0.00	4,727	0.00	19	0.00	51	0.00
	State total	53,507	1.00	20,140	1.00	890,334	1.00	18,122	1.00	26,872	1.00
90-WV	Metallic ores	10.02	0.00	10.01	0.00	52	0.00	1.27	0.00	2.85	0.00
	Coal	3222.36	0.06	3118.99	0.12	30163	0.04	1662.19	0.10	2102.02	0.09
	Oil and gas	1292.17	0.03	1219.37	0.05	4471	0.00	117.18	0.00	827.83	0.03
	Natural gas liquids	25.56	0.00	2.99	0.00	82	0.00	2.40	0.00	17.06	0.00
	Nonmetallic ores	99.78	0.00	93.91	0.00	1480	0.00	31.15	0.00	60.89	0.00
	Total mining & energy	4,650	0.09	4,445	0.17	36,248	0.05	1,814	0.11	3,011	0.12
	New min extraction facil	732.65	0.01	0.00	0.00	8263	0.01	190.11	0.01	502.77	0.02
	All other construction	2908.39	0.06	28.16	0.00	43055	0.06	847.19	0.05	1024.28	0.04
	Total construction	3,641	0.07	28	0.00	51,318	0.07	1,037	0.06	1,527	0.06
	Total agriculture	1,346	0.03	767	0.03	28,160	0.04	62	0.00	160	0.00
	Total manufacturing	15,441	0.30	11,107	0.43	91,801	0.12	3,018	0.19	5,116	0.20
	Total transportation	5,737	0.11	3,048	0.12	38,275	0.05	1,212	0.08	2,654	0.10
	Total trade	4,599	0.09	732	0.03	169,975	0.22	2,307	0.14	2,904	0.11
	Total real estate	4,617	0.09	1,366	0.05	35,008	0.04	586	0.04	2,719	0.11
	Total services	7,060	0.14	2,376	0.09	180,504	0.23	2,729	0.17	3,782	0.16
	Total govt enterprises	3,510	0.07	1,620	0.07	129,935	0.17	3,202	0.20	3,248	0.13
	Total special industry	75	0.00	111	0.00	7,895	0.01	48	0.00	75	0.00
	State total	50,675	1.00	25,767	1.00	755,651	1.00	15,965	1.00	24,375	1.00

Table C2—Base year statistics for selected states —con.

1990\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
90-WY	Metallic ores	40.43	0.00	16.50	0.00	320	0.00	17.89	0.00	19.75	0.00
	Metal mining svc	40.73	0.00	39.12	0.00	331	0.00	17.31	0.00	19.42	0.00
	Coal	650.83	0.03	625.14	0.06	4814	0.02	282.23	0.06	362.01	0.04
	Oil and gas	3541.99	0.18	3428.16	0.31	8942	0.03	272.18	0.05	1967.82	0.20
	Natural gas liquids	142.48	0.00	69.13	0.00	310	0.00	11.81	0.00	84.66	0.00
	Nonmetallic ores	1481.63	0.08	1423.43	0.13	3818	0.01	186.13	0.04	692.52	0.07
	Nonmet min svc (exc fuel)	0.26	0.00	0.22	0.00	3	0.00	0.05	0.00	0.10	0.00
	Total mining & energy	5,898	0.31	5,602	0.51	18,538	0.07	788	0.15	3,146	0.31
	New min extraction facil	549.94	0.03	0.00	0.00	6373	0.02	138.77	0.03	377.41	0.04
	Maint /repr oil & gas wells	5.47	0.00	1.50	0.00	266	0.00	4.43	0.00	4.47	0.00
	All other construction	934.68	0.05	0.06	0.00	13569	0.05	257.18	0.05	333.76	0.03
	Total construction	1,490	0.08	2	0.00	20,208	0.08	400	0.08	716	0.07
	Total agriculture	744	0.04	570	0.05	21,222	0.07	102	0.02	268	0.03
	Total manufacturing	2,579	0.13	1,871	0.17	10,877	0.03	269	0.05	542	0.05
	Total transportation	2,142	0.11	1,255	0.11	15,229	0.06	513	0.10	1,091	0.11
	Total trade	1,426	0.07	354	0.03	52,312	0.20	663	0.13	835	0.08
	Total real estate	1,357	0.07	127	0.01	11,707	0.04	176	0.03	754	0.08
	Total services	1,959	0.10	989	0.09	58,523	0.22	686	0.13	1,075	0.11
	Total govt enterprises	1,661	0.09	209	0.02	57,294	0.22	1,525	0.30	1,555	0.16
	Total special industry	17	0.00	33	0.00	1,555	0.00	9	0.00	17	0.00
	State total	19,274	1.00	11,012	1.00	261,762	1.00	5,118	1.00	10,000	1.00

Table C2—Base year statistics for selected states —con.

1985\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ FTES)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
85-AK	Metallic ores	40.78	0.00	31.88	0.00	404	0.00	17.08	0.00	8.53	0.00
	Metal mining svc	6.02	0.00	4.73	0.00	99	0.00	3.27	0.00	1.74	0.00
	Coal	69.68	0.00	37.51	0.00	728	0.00	18.05	0.00	26.31	0.00
	Oil and gas	8789.52	0.26	8041.33	0.33	9126	0.03	628.95	0.07	5280.64	0.24
	Natural gas liquids	95.63	0.00	74.53	0.00	139	0.00	9.37	0.00	54.09	0.00
	Nonmetallic ores	6.60	0.00	6.41	0.00	88	0.00	2.19	0.00	3.21	0.00
	Nonmet min svc (exc fuel)	5.34	0.00	5.26	0.00	52	0.00	2.20	0.00	3.11	0.00
	Total mining & energy	9,014	0.26	8,202	0.34	10,636	0.04	681	0.08	5,378	0.24
	New min extraction facil	132.76	0.00	0.00	0.00	919	0.00	35.26	0.00	57.19	0.00
	Maint /repr oil & gas wells	125.41	0.00	0.04	0.00	1089	0.00	41.48	0.00	70.74	0.00
	All other construction	2742.46	0.08	138.35	0.00	22061	0.08	895.70	0.10	1317.67	0.06
	Total construction	3,001	0.09	138	0.00	24,069	0.09	972	0.11	1,446	0.07
	Total agriculture	1,176	0.03	965	0.04	12,099	0.04	20	0.00	533	0.02
	Total manufacturing	2,028	0.06	1,522	0.06	12,074	0.04	360	0.04	565	0.03
	Total transportation	3,540	0.10	2,295	0.10	19,478	0.07	798	0.09	1,846	0.08
	Total trade	1,859	0.05	518	0.02	31,591	0.12	923	0.11	1,160	0.05
	Total real estate	2,451	0.07	1,949	0.08	17,740	0.06	394	0.05	1,461	0.07
	Total services	3,309	0.10	1,295	0.05	67,384	0.25	1,432	0.17	2,051	0.09
	Total govt enterprises	462	0.01	295	0.01	5,520	0.02	219	0.03	171	0.00
	Total special industry	7,470	0.22	6,887	0.29	73,282	0.27	2,850	0.33	7,470	0.34
	State total	34,310	1.00	24,066	1.00	273,873	1.00	8,650	1.00	22,081	1.00
85-AZ	Metallic ores	1033.28	0.01	725.32	0.02	11973	0.00	382.26	0.01	257.94	0.00
	Metal mining svc	23.10	0.00	19.15	0.00	215	0.00	11.72	0.00	5.86	0.00
	Coal	139.97	0.00	88.90	0.00	1069	0.00	44.20	0.00	63.51	0.00
	Oil and gas	248.32	0.00	99.43	0.00	1952	0.00	4.05	0.00	93.61	0.00
	Nonmetallic ores	43.10	0.00	40.21	0.00	660	0.00	15.02	0.00	22.65	0.00
	Nonmet min svc (exc fuel)	2.75	0.00	2.69	0.00	34	0.00	1.13	0.00	1.59	0.00
	Total mining & energy	1,491	0.02	976	0.03	15,903	0.01	458	0.02	445	0.00
	Total agriculture	2,198	0.03	1,479	0.04	38,306	0.03	348	0.01	874	0.02
	Total construction	9,240	0.11	84	0.00	124,283	0.09	2,661	0.09	3,583	0.08
	Total manufacturing	16,148	0.19	8,742	0.25	181,688	0.13	5,086	0.18	5,843	0.13
	Total transportation	6,951	0.08	2,063	0.06	59,550	0.04	1,690	0.06	3,498	0.08
	Total trade	9,789	0.12	7,172	0.21	210,367	0.15	4,364	0.15	5,492	0.12
	Total real estate	11,660	0.14	3,198	0.09	144,067	0.10	2,109	0.07	6,864	0.15
	Total services	16,001	0.19	6,167	0.18	435,030	0.30	6,428	0.22	8,853	0.20
	Total govt enterprises	2,106	0.03	881	0.03	22,622	0.02	667	0.02	766	0.02
	Total special industry	8,544	0.10	4,166	0.12	200,593	0.14	5,122	0.18	8,544	0.19
	State total	84,128	1.00	34,928	1.00	1,432,409	1.00	28,933	1.00	44,762	1.00
85-GA	Metallic ores	0.85	0.00	0.35	0.00	29	0.00	0.24	0.00	0.16	0.00
	Metal mining svc	0.76	0.00	0.10	0.00	27	0.00	0.22	0.00	0.15	0.00
	Coal	4.59	0.00	0.63	0.00	74	0.00	0.40	0.00	0.70	0.00
	Oil and gas	79.33	0.00	1.39	0.00	1269	0.00	2.97	0.00	23.87	0.00
	Nonmetallic ores	669.09	0.00	639.55	0.00	7947	0.00	222.36	0.00	344.99	0.00
	Nonmet min svc (exc fuel)	5.55	0.00	4.55	0.00	79	0.00	2.16	0.00	3.04	0.00
	Total mining & energy	760	0.00	647	0.00	9,425	0.00	228	0.00	373	0.00
	Maint /repr oil & gas wells	63.63	0.00	9.31	0.00	956	0.00	16.22	0.00	26.45	0.00
	All other construction	11468.02	0.06	17.37	0.00	181184	0.06	3266.98	0.06	4606.74	0.05
	Total construction	11,532	0.06	27	0.00	182,140	0.06	3,283	0.06	4,633	0.05
	Total agriculture	6,571	0.04	3,318	0.04	87,001	0.03	392	0.00	2,236	0.02
	Total manufacturing	57,599	0.32	36,796	0.47	547,352	0.19	12,554	0.22	17,522	0.19
	Total transportation	17,990	0.10	8,388	0.11	168,506	0.06	5,351	0.09	9,306	0.10
	Total trade	22,778	0.13	10,599	0.13	479,846	0.17	10,600	0.18	13,320	0.15
	Total real estate	18,088	0.10	3,369	0.04	196,287	0.07	3,696	0.06	11,337	0.12
	Total services	25,167	0.14	6,073	0.08	666,878	0.23	9,985	0.17	14,496	0.16
	Total govt enterprises	1,825	0.01	401	0.00	36,674	0.01	922	0.02	806	0.00
	Total special industry	17,294	0.10	9,492	0.12	482,831	0.17	10,542	0.18	17,294	0.19
	State total	179,603	1.00	79,109	1.00	2,856,940	1.00	57,554	1.00	91,323	1.00

Table C2—Base year statistics for selected states —con.

1985\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ FTES)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
85-ID	Metallic ores	206.20	0.00	169.16	0.00	2525	0.00	92.77	0.01	75.00	0.00
	Metal mining svc	1.97	0.00	1.43	0.00	28	0.00	1.17	0.00	0.77	0.00
	Oil and gas	21.22	0.00	0.33	0.00	493	0.00	1.92	0.00	5.88	0.00
	Nonmetallic ores	114.51	0.00	82.52	0.00	1109	0.00	30.51	0.00	50.18	0.00
	Nonmet min svc (exc fuel)	22.49	0.00	20.57	0.00	262	0.00	9.39	0.00	13.24	0.00
	Total mining & energy	366	0.00	274	0.00	4,417	0.01	136	0.02	145	0.00
	Total agriculture	2,496	0.05	1,487	0.04	41,676	0.10	213	0.03	994	0.05
	Total construction	2,011	0.04	95	0.00	23,275	0.06	450	0.06	867	0.04
	Total manufacturing	32,859	0.62	29,494	0.86	55,716	0.13	1,486	0.19	9,907	0.45
	Total transportation	1,958	0.04	243	0.00	21,774	0.05	592	0.08	1,098	0.05
	Total trade	2,872	0.05	325	0.00	62,707	0.15	1,164	0.15	1,601	0.07
	Total real estate	2,967	0.06	165	0.00	29,028	0.07	382	0.05	1,889	0.09
	Total services	4,089	0.08	555	0.02	106,127	0.26	1,505	0.20	2,304	0.11
	Total govt enterprises	247	0.00	8	0.00	4,182	0.01	114	0.01	108	0.00
	Total special industry	3,019	0.06	1,727	0.05	65,947	0.16	1,587	0.21	3,019	0.14
	State total	52,885	1.00	34,373	1.00	414,849	1.00	7,629	1.00	21,931	1.00
85-KY	Metallic ores	0.81	0.00	0.10	0.00	42	0.00	0.03	0.00	0.01	0.00
	Metal mining svc	0.62	0.00	0.08	0.00	33	0.00	0.03	0.00	0.02	0.00
	Coal	5264.05	0.05	4338.04	0.11	39278	0.03	1438.64	0.05	2150.59	0.04
	Oil and gas	515.99	0.00	16.46	0.00	6973	0.00	72.99	0.00	258.38	0.00
	Natural gas liquids	37.48	0.00	1.09	0.00	513	0.00	7.27	0.00	20.33	0.00
	Nonmetallic ores	157.63	0.00	149.28	0.00	2215	0.00	57.37	0.00	89.37	0.00
	Nonmet min svc (exc fuel)	0.51	0.00	0.48	0.00	7	0.00	0.21	0.00	0.29	0.00
	Total mining & energy	5,977	0.06	4,506	0.11	49,061	0.03	1,577	0.06	2,519	0.05
	Maint /repr oil & gas wells	70.16	0.00	0.02	0.00	1046	0.00	15.54	0.00	29.35	0.00
	All other construction	4938.57	0.05	676.33	0.02	74564	0.05	1178.35	0.04	1954.55	0.04
	Total construction	5,009	0.05	676	0.02	75,610	0.05	1,194	0.04	1,984	0.04
	Total agriculture	3,955	0.04	2,747	0.07	87,170	0.06	312	0.01	1,742	0.04
	Total manufacturing	33,760	0.34	20,952	0.52	256,906	0.18	7,101	0.26	10,371	0.21
	Total transportation	7,752	0.08	1,349	0.03	77,767	0.05	1,996	0.07	3,882	0.08
	Total trade	9,503	0.09	1,405	0.03	220,448	0.15	3,861	0.14	5,305	0.11
	Total real estate	9,620	0.10	509	0.01	86,278	0.06	1,329	0.05	5,932	0.12
	Total services	12,849	0.13	2,748	0.07	354,353	0.24	4,554	0.16	7,004	0.14
	Total govt enterprises	1,516	0.02	225	0.00	19,629	0.01	531	0.02	483	0.00
	Total special industry	10,111	0.10	5,451	0.13	231,870	0.16	5,223	0.19	10,111	0.20
	State total	100,051	1.00	40,568	1.00	1,459,092	1.00	27,677	1.00	49,334	1.00
85-LA	Metallic ores	2.60	0.00	0.33	0.00	78	0.00	0.48	0.00	0.29	0.00
	Metal mining svc	1.72	0.00	0.22	0.00	60	0.00	0.54	0.00	0.35	0.00
	Coal	18.82	0.00	12.95	0.00	112	0.00	5.46	0.00	7.44	0.00
	Oil and gas	15392.62	0.11	8567.92	0.16	76744	0.04	2490.09	0.07	10563.00	0.15
	Natural gas liquids	1651.51	0.01	1110.79	0.02	10343	0.00	326.68	0.00	1104.72	0.02
	Nonmetallic ores	304.23	0.00	280.93	0.00	2952	0.00	95.89	0.00	146.98	0.00
	Nonmet min svc (exc fuel)	1.57	0.00	1.47	0.00	19	0.00	0.60	0.00	0.85	0.00
	Total mining & energy	17,373	0.13	9,975	0.19	90,308	0.05	2,920	0.08	11,824	0.16
	New min extraction facil	585.92	0.00	0.00	0.00	6798	0.00	136.58	0.00	206.38	0.00
	Maint /repr oil & gas wells	940.02	0.00	146.88	0.00	13092	0.00	261.18	0.00	414.83	0.00
	All other construction	7893.87	0.06	435.15	0.00	113988	0.06	2413.20	0.07	3337.12	0.05
	Total construction	9,420	0.07	582	0.01	133,878	0.08	2,811	0.08	3,958	0.06
	Total agriculture	2,144	0.02	1,258	0.02	50,521	0.03	227	0.00	738	0.01
	Total manufacturing	31,235	0.23	20,591	0.39	177,016	0.10	5,361	0.15	8,076	0.11
	Total transportation	14,378	0.10	4,548	0.09	119,795	0.07	3,392	0.09	6,065	0.08
	Total trade	13,182	0.10	2,944	0.06	278,961	0.16	5,428	0.15	6,994	0.10
	Total real estate	15,092	0.11	1,587	0.03	117,331	0.07	1,983	0.05	7,653	0.11
	Total services	18,588	0.13	2,880	0.05	453,071	0.26	6,938	0.19	10,596	0.15
	Total govt enterprises	1,304	0.00	109	0.00	23,583	0.01	575	0.02	562	0.00
	Total special industry	15,219	0.11	8,357	0.16	322,763	0.18	6,752	0.19	15,219	0.21
	State total	137,935	1.00	52,831	1.00	1,767,227	1.00	36,388	1.00	71,685	1.00

Table C2—Base year statistics for selected states —con.

1985\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ FTES)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
85-MT	Metallic ores	70.06	0.00	47.30	0.00	861	0.00	23.24	0.00	13.03	0.00
	Metal mining svc	15.83	0.00	12.37	0.00	187	0.00	7.68	0.00	4.35	0.00
	Coal	425.65	0.02	361.32	0.05	1413	0.00	64.08	0.01	138.44	0.01
	Oil and gas	782.93	0.04	282.95	0.04	3826	0.01	101.85	0.02	475.63	0.04
	Natural gas liquids	18.80	0.00	0.37	0.00	121	0.00	3.16	0.00	10.99	0.00
	Nonmetallic ores	109.05	0.00	104.13	0.02	1256	0.00	34.03	0.00	53.37	0.00
	Total mining & energy	1,422	0.07	808	0.12	7,664	0.02	234	0.04	696	0.06
	New min extraction facil	19.19	0.00	0.00	0.00	236	0.00	3.32	0.00	6.54	0.00
	Maint /repr oil & gas wells	5.27	0.00	0.00	0.00	76	0.00	1.09	0.00	2.26	0.00
	All other construction	1292.93	0.06	0.17	0.00	19686	0.06	291.74	0.05	523.50	0.05
	Total construction	1,317	0.06	0.17	0.00	19,998	0.06	296	0.05	532	0.05
	Total agriculture	1,030	0.05	772	0.11	25,418	0.07	126	0.02	180	0.02
	Total manufacturing	3,441	0.16	1,947	0.29	23,535	0.07	583	0.10	925	0.08
	Total transportation	2,579	0.12	1,018	0.15	24,284	0.07	647	0.11	1,371	0.12
	Total trade	2,311	0.11	307	0.05	55,128	0.16	954	0.16	1,309	0.11
	Total real estate	2,561	0.12	148	0.02	24,212	0.07	295	0.05	1,473	0.13
	Total services	3,363	0.16	443	0.07	102,835	0.30	1,170	0.20	1,824	0.16
	Total govt enterprises	242	0.01	26	0.00	4,299	0.01	110	0.02	101	0.00
	Total special industry	2,990	0.14	1,311	0.19	59,347	0.17	1,449	0.25	2,990	0.26
	State total	21,257	1.00	6,779	1.00	346,720	1.00	5,865	1.00	11,401	1.00
85-NM	Metallic ores	336.51	0.00	237.15	0.02	3,477	0.00	116.89	0.01	99.09	0.00
	Metal mining svc	1.80	0.00	1.05	0.00	31	0.00	0.78	0.00	0.40	0.00
	Coal	356.61	0.00	290.15	0.02	2015	0.00	100.69	0.00	163.92	0.00
	Oil and gas	2658.53	0.07	1648.79	0.11	11061	0.02	301.11	0.03	1723.79	0.08
	Natural gas liquids	621.19	0.02	474.95	0.03	3457	0.00	88.89	0.00	388.65	0.02
	Nonmetallic ores	233.43	0.00	211.51	0.01	2372	0.00	68.93	0.00	103.79	0.00
	Nonmet min svc (exc fuel)	3.22	0.00	2.93	0.00	39	0.00	1.38	0.00	1.89	0.00
	Total mining & energy	4,211	0.11	2,867	0.19	22,452	0.04	679	0.06	2,482	0.11
	New min extraction facil	44.93	0.00	0.00	0.00	564	0.00	9.25	0.00	15.05	0.00
	Maint /repr oil & gas wells	71.38	0.00	0.02	0.00	1068	0.00	17.42	0.00	29.76	0.00
	All other construction	2950.37	0.07	4.65	0.00	42305	0.07	733.83	0.06	1104.25	0.05
	Total construction	3,067	0.08	5	0.00	43,937	0.07	761	0.07	1,149	0.05
	Total agriculture	1,676	0.04	1,141	0.07	21,163	0.04	115	0.00	498	0.02
	Total manufacturing	4,154	0.11	1,943	0.13	37,725	0.06	870	0.08	1,135	0.05
	Total transportation	4,113	0.10	1,644	0.11	31,881	0.05	935	0.08	1,909	0.09
	Total trade	3,662	0.09	855	0.06	84,713	0.14	1,522	0.13	1,980	0.09
	Total real estate	4,373	0.11	675	0.04	40,446	0.07	551	0.05	2,336	0.10
	Total services	6,464	0.16	1,447	0.09	169,180	0.29	2,559	0.22	3,534	0.16
	Total govt enterprises	683	0.02	227	0.01	9,256	0.02	244	0.02	230	0.01
	Total special industry	7,124	0.18	4,527	0.30	126,357	0.22	3,330	0.29	7,124	0.32
	State total	39,527	1.00	15,329	1.00	587,110	1.00	11,565	1.00	22,377	1.00
85-NV	Metallic ores	321.73	0.01	245.98	0.03	3906	0.00	123.26	0.01	97.42	0.00
	Metal mining svc	12.69	0.00	10.06	0.00	163	0.00	7.46	0.00	5.50	0.00
	Coal	28.88	0.00	28.30	0.00	10	0.00	13.34	0.00	17.02	0.00
	Oil and gas	79.67	0.00	25.04	0.00	657	0.00	12.41	0.00	44.42	0.00
	Nonmetallic ores	118.28	0.00	111.88	0.01	1289	0.00	39.46	0.00	61.25	0.00
	Nonmet min svc (exc fuel)	5.26	0.00	4.97	0.00	47	0.00	2.33	0.00	3.24	0.00
	Total mining & energy	567	0.02	426	0.05	6,072	0.01	198	0.02	229	0.01
	Total agriculture	350	0.01	242	0.03	7,680	0.02	59	0.00	99	0.00
	Total construction	2,251	0.08	54	0.00	27,357	0.06	675	0.07	934	0.06
	Total manufacturing	2,058	0.07	1,196	0.13	22,431	0.05	544	0.05	729	0.04
	Total transportation	2,626	0.09	246	0.03	25,960	0.05	748	0.07	1,343	0.08
	Total trade	2,929	0.11	295	0.03	62,029	0.13	1,297	0.13	1,641	0.10
	Total real estate	3,387	0.12	110	0.01	35,535	0.07	492	0.05	2,132	0.13
	Total services	10,396	0.37	5,727	0.62	224,249	0.47	4,526	0.44	6,136	0.38
	Total govt enterprises	292	0.01	9	0.00	4,707	0.00	134	0.01	131	0.00
	Total special industry	2,888	0.10	937	0.10	59,076	0.12	1,670	0.16	2,888	0.18
	State total	27,745	1.00	9,243	1.00	475,096	1.00	10,344	1.00	16,260	1.00

Table C2—Base year statistics for selected states —con.

1985\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ FTES)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
85-OK	Metallic ores	3.21	0.00	1.20	0.00	158	0.00	0.18	0.00	0.18	0.00
	Metal mining svc	0.77	0.00	0.10	0.00	39	0.00	0.07	0.00	0.05	0.00
	Coal	178.68	0.00	135.72	0.00	1447	0.00	38.65	0.00	60.38	0.00
	Oil and gas	10855.71	0.11	6221.99	0.13	85918	0.06	2108.30	0.08	6773.15	0.13
	Natural gas liquids	855.05	0.00	535.88	0.01	8043	0.00	206.54	0.00	528.29	0.00
	Nonmetallic ores	126.42	0.00	119.87	0.00	1655	0.00	47.69	0.00	72.80	0.00
	Nonmet min svc (exc fuel)	1.25	0.00	1.18	0.00	23	0.00	0.46	0.00	0.63	0.00
	Total mining & energy	12,021	0.12	7,016	0.15	97,283	0.07	2,402	0.09	7,435	0.14
	New min extraction facil	155.10	0.00	0.00	0.00	1818	0.00	24.80	0.00	54.44	0.00
	Maint /repr oil & gas wells	101.00	0.00	0.03	0.00	1418	0.00	19.19	0.00	44.30	0.00
	All other construction	5079.54	0.05	4.20	0.00	74216	0.05	1068.71	0.04	2129.67	0.04
	Total construction	5,336	0.05	4	0.00	77,452	0.05	1,113	0.04	2,228	0.04
	Total agriculture	5,248	0.05	3,635	0.08	70,611	0.05	195	0.00	1,266	0.02
	Total manufacturing	24,396	0.24	15,090	0.32	171,755	0.12	4,995	0.18	7,202	0.13
	Total transportation	8,396	0.08	1,933	0.04	70,956	0.05	2,119	0.08	4,170	0.08
	Total trade	10,328	0.10	7,297	0.16	211,533	0.15	4,258	0.15	5,751	0.11
	Total real estate	9,421	0.09	956	0.02	98,885	0.07	1,617	0.06	5,953	0.11
	Total services	13,610	0.13	4,008	0.09	348,122	0.25	4,827	0.17	7,693	0.14
	Total govt enterprises	1,182	0.01	234	0.00	19,474	0.01	505	0.02	490	0.00
	Total special industry	11,633	0.11	6,667	0.14	247,223	0.17	6,058	0.22	11,633	0.22
	State total	101,572	1.00	46,841	1.00	1,413,294	1.00	28,089	1.00	53,821	1.00
85-PA	Metallic ores	10.80	0.00	2.52	0.00	324	0.00	0.70	0.00	1.03	0.00
	Metal mining svc	1.09	0.00	0.14	0.00	53	0.00	0.15	0.00	0.09	0.00
	Coal	3152.44	0.00	2366.76	0.01	27302	0.00	945.86	0.00	1339.88	0.00
	Oil and gas	831.84	0.00	22.94	0.00	9879	0.00	170.52	0.00	482.02	0.00
	Natural gas liquids	22.08	0.00	0.62	0.00	320	0.00	5.45	0.00	12.65	0.00
	Nonmetallic ores	344.18	0.00	312.15	0.00	4589	0.00	126.61	0.00	195.97	0.00
	Nonmet min svc (exc fuel)	10.28	0.00	9.49	0.00	135	0.00	4.33	0.00	5.96	0.00
	Total mining & energy	4,373	0.01	2,715	0.02	42,602	0.00	1,254	0.01	2,038	0.01
	Maint /repr oil & gas wells	574.51	0.00	9.81	0.00	7629	0.00	147.87	0.00	262.26	0.00
	All other construction	17489.57	0.05	316.72	0.00	239886	0.05	4933.80	0.05	7610.31	0.04
	Total construction	18,064	0.05	327	0.00	247,515	0.05	5,082	0.05	7,873	0.05
	Total agriculture	4,804	0.01	2,199	0.01	103,902	0.02	548	0.00	1,992	0.01
	Total manufacturing	119,829	0.36	73,226	0.42	1,077,034	0.21	30,470	0.28	41,686	0.24
	Total transportation	28,626	0.09	16,673	0.10	257,640	0.05	7,620	0.07	14,832	0.09
	Total trade	35,106	0.10	35,106	0.20	803,662	0.16	15,079	0.14	20,210	0.12
	Total real estate	39,490	0.12	3,155	0.02	344,774	0.07	6,784	0.06	22,926	0.13
	Total services	58,698	0.17	27,243	0.16	1,529,229	0.30	24,716	0.23	34,580	0.20
	Total govt enterprises	3,942	0.01	1,346	0.00	78,352	0.02	2,310	0.02	1,809	0.01
	Total special industry	23,608	0.07	11,419	0.07	585,204	0.12	14,773	0.14	23,607	0.14
	State total	336,540	1.00	173,409	1.00	5,069,914	1.00	108,635	1.00	171,552	1.00
85-SD	Metallic ores	153.68	0.00	116.12	0.01	1360	0.00	68.43	0.01	41.33	0.00
	Metal mining svc	0.71	0.00	0.60	0.00	7	0.00	0.48	0.00	0.31	0.00
	Coal	5.60	0.00	4.41	0.00	23	0.00	2.45	0.00	3.08	0.00
	Oil and gas	22.72	0.00	12.43	0.00	111	0.00	4.20	0.00	15.61	0.00
	Nonmetallic ores	61.39	0.00	59.09	0.00	839	0.00	19.22	0.00	30.37	0.00
	Total mining & energy	244	0.01	193	0.02	2,340	0.00	95	0.02	91	0.00
	Total agriculture	5,555	0.24	3,503	0.34	36,423	0.12	118	0.02	1,559	0.14
	Total construction	1,023	0.04	19	0.00	14,570	0.05	226	0.04	427	0.04
	Total manufacturing	3,329	0.14	2,307	0.22	27,908	0.09	673	0.13	858	0.08
	Total transportation	1,669	0.07	542	0.05	15,135	0.05	389	0.07	964	0.08
	Total trade	2,381	0.10	757	0.07	51,144	0.16	922	0.17	1,336	0.12
	Total real estate	2,548	0.11	389	0.04	21,732	0.07	356	0.07	1,478	0.13
	Total services	3,159	0.14	827	0.08	83,782	0.27	1,095	0.21	1,729	0.15
	Total govt enterprises	244	0.01	44	0.00	3,862	0.01	112	0.02	106	0.00
	Total special industry	2,875	0.12	1,694	0.16	53,278	0.17	1,300	0.25	2,875	0.25
	State total	23,028	1.00	10,274	1.00	310,174	1.00	5,286	1.00	11,422	1.00

Table C2—Base year statistics for selected states —con.

1985\$

Year-State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ FTES)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
85-TX	Metallic ores	39.20	0.00	12.81	0.00	895	0.00	10.08	0.00	7.91	0.00
	Metal mining svc	13.34	0.00	2.05	0.00	255	0.00	6.55	0.00	4.13	0.00
	Coal	226.90	0.00	134.03	0.00	1463	0.00	64.96	0.00	89.80	0.00
	Oil and gas	48820.80	0.08	20819.03	0.09	292815	0.04	9214.37	0.05	32688.90	0.11
	Natural gas liquids	4064.31	0.00	2136.66	0.00	34871	0.00	911.69	0.00	2586.57	0.00
	Nonmetallic ores	769.50	0.00	650.14	0.00	14583	0.00	206.49	0.00	343.43	0.00
	Nonmet min svc (exc fuel)	0.75	0.00	0.68	0.00	10	0.00	0.29	0.00	0.41	0.00
	Total mining & energy	53,935	0.09	23,755	0.11	344,892	0.05	10,414	0.06	35,721	0.12
	New min extraction facil	376.60	0.00	0.00	0.00	4158	0.00	80.15	0.00	136.35	0.00
	Maint /repr oil & gas wells	4,465.44	0.00	0.89	0.00	59452	0.00	1,137.55	0.00	2,034.73	0.00
	All other construction	38,521.85	0.07	904.15	0.00	522144	0.07	10,619.44	0.06	16,358.68	0.05
	Total construction	43,364	0.08	905	0.00	585,754	0.08	11,837	0.07	18,530	0.06
	Total agriculture	19,752	0.03	11,226	0.05	268,227	0.04	1,271	0.00	5,717	0.02
	Total manufacturing	149,108	0.26	89,594	0.40	997,240	0.13	29,177	0.17	40,968	0.14
	Total transportation	53,891	0.09	23,326	0.10	409,476	0.05	12,334	0.07	26,153	0.09
	Total trade	61,566	0.11	22,577	0.10	1,244,630	0.16	28,080	0.17	35,657	0.12
	Total real estate	57,271	0.10	5,800	0.03	630,002	0.08	12,487	0.07	34,184	0.11
	Total services	80,176	0.14	18,632	0.08	1,967,262	0.26	32,482	0.19	47,708	0.16
	Total govt enterprises	7,062	0.01	2,698	0.01	107,124	0.01	3,079	0.02	2,859	0.00
	Total special industry	52,018	0.09	25,635	0.11	1,079,289	0.14	27,192	0.16	52,017	0.17
	State total	578,140	1.00	224,148	1.00	7,633,896	1.00	168,354	1.00	299,514	1.00
85-UT	Metallic ores	222.39	0.00	130.87	0.00	2397	0.00	89.13	0.00	57.88	0.00
	Metal mining svc	10.50	0.00	7.37	0.00	100	0.00	5.98	0.00	3.28	0.00
	Coal	404.29	0.00	320.92	0.02	2857	0.00	121.86	0.00	179.19	0.00
	Oil and gas	607.74	0.01	22.26	0.00	3584	0.00	93.50	0.00	355.39	0.02
	Natural gas liquids	114.03	0.00	40.80	0.00	871	0.00	22.80	0.00	64.24	0.00
	Nonmetallic ores	85.22	0.00	77.82	0.00	969	0.00	27.55	0.00	41.99	0.00
	Nonmet min svc (exc fuel)	1.31	0.00	1.28	0.00	11	0.00	0.59	0.00	0.83	0.00
	Total mining & energy	1,445	0.04	601	0.04	10,789	0.02	361	0.03	703	0.03
	New min extraction facil	20.37	0.00	0.00	0.00	236	0.00	4.32	0.00	7.18	0.00
	Maint /repr oil & gas wells	56.57	0.00	0.02	0.00	790	0.00	14.25	0.00	24.91	0.00
	All other construction	3072.53	0.07	1.89	0.00	44049	0.06	845.88	0.06	1272.28	0.06
	Total construction	3,149	0.08	2	0.00	45,075	0.07	864	0.06	1,304	0.06
	Total agriculture	733	0.02	278	0.02	21,126	0.03	89	0.00	198	0.00
	Total manufacturing	9,802	0.24	5,482	0.35	94,497	0.14	2,395	0.18	3,104	0.14
	Total transportation	4,361	0.11	2,038	0.13	37,980	0.06	1,156	0.09	2,129	0.10
	Total trade	4,739	0.11	2,365	0.15	107,752	0.16	1,989	0.15	2,585	0.12
	Total real estate	4,720	0.11	948	0.06	51,151	0.07	689	0.05	2,806	0.13
	Total services	6,695	0.16	1,925	0.12	190,877	0.28	2,582	0.19	3,608	0.17
	Total govt enterprises	431	0.01	97	0.00	7,713	0.01	200	0.02	183	0.00
	Total special industry	5,214	0.13	1,889	0.12	123,186	0.18	2,983	0.22	5,214	0.24
	State total	41,290	1.00	15,627	1.00	690,146	1.00	13,309	1.00	21,834	1.00
85-WV	Coal	5135.76	0.12	4256.78	0.19	38357	0.06	1502.67	0.12	2199.53	0.10
	Oil and gas	681.14	0.02	61.13	0.00	5555	0.00	128.08	0.01	439.11	0.02
	Natural gas liquids	15.48	0.00	0.29	0.00	128	0.00	3.67	0.00	10.23	0.00
	Nonmetallic ores	71.10	0.00	66.41	0.00	1200	0.00	23.33	0.00	36.29	0.00
	Nonmet min svc (exc fuel)	3.99	0.00	3.76	0.00	62	0.00	1.54	0.00	2.12	0.00
	Total mining & energy	5,907	0.14	4,388	0.20	45,302	0.07	1,659	0.13	2,687	0.12
	Total agriculture	507	0.01	247	0.01	27,482	0.04	48	0.00	121	0.00
	Total construction	2,021	0.05	18	0.00	31,742	0.05	549	0.04	797	0.04
	Total manufacturing	11,112	0.26	7,660	0.35	90,564	0.14	2,542	0.20	3,603	0.16
	Total transportation	5,155	0.12	2,541	0.12	40,337	0.06	1,177	0.09	2,286	0.10
	Total trade	4,395	0.10	2,135	0.10	107,824	0.17	1,749	0.14	2,321	0.11
	Total real estate	3,955	0.09	660	0.03	32,932	0.05	481	0.04	2,594	0.12
	Total services	5,654	0.13	1,269	0.06	158,936	0.24	2,018	0.16	3,025	0.14
	Total govt enterprises	411	0.00	121	0.00	8,789	0.01	205	0.02	185	0.00
	Total special industry	4,260	0.10	2,848	0.13	109,369	0.17	2,366	0.18	4,260	0.19
	State total	43,379	1.00	21,888	1.00	653,277	1.00	12,794	1.00	21,879	1.00

Table C2—Base year statistics for selected states —con.

1985\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ FTES)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
85-WY	Metallic ores	87.22	0.00	71.80	0.00	926	0.00	34.78	0.00	20.60	0.00
	Metal mining svc	6.09	0.00	5.19	0.00	51	0.00	3.08	0.00	1.73	0.00
	Coal	1700.78	0.08	1468.80	0.14	5885	0.02	273.28	0.06	526.93	0.05
	Oil and gas	2652.89	0.13	1928.32	0.18	13970	0.06	430.89	0.09	1725.78	0.15
	Natural gas liquids	315.08	0.02	234.83	0.02	2423	0.01	62.40	0.01	194.70	0.02
	Nonmetallic ores	612.18	0.03	581.78	0.05	4286	0.02	169.15	0.03	275.21	0.02
	Nonmet min svc (exc fuel)	0.47	0.00	0.37	0.00	4	0.00	0.18	0.00	0.26	0.00
	Total mining & energy	5,375	0.26	4,291	0.40	27,545	0.11	974	0.20	2,745	0.25
	New min extraction facil	107.64	0.00	0.00	0.00	1192	0.00	24.87	0.00	38.90	0.00
	Maint /repr oil & gas wells	82.69	0.00	0.02	0.00	1103	0.00	22.88	0.00	37.62	0.00
	All other construction	1534.07	0.07	13.53	0.00	20401	0.08	451.27	0.09	642.50	0.06
	Total construction	1,724	0.08	14	0.00	22,696	0.09	499	0.10	719	0.06
	Total agriculture	609	0.03	440	0.04	13,476	0.06	68	0.01	92	0.00
	Total manufacturing	1,672	0.08	1,038	0.10	8,807	0.04	194	0.04	341	0.03
	Total transportation	2,508	0.12	1,458	0.14	17,245	0.07	530	0.11	1,163	0.10
	Total trade	1,471	0.07	290	0.03	33,138	0.14	610	0.12	802	0.07
	Total real estate	2,078	0.10	347	0.03	12,386	0.05	183	0.04	980	0.09
	Total services	1,976	0.09	827	0.08	57,769	0.24	615	0.12	1,002	0.09
	Total govt enterprises	152	0.00	32	0.00	2,530	0.01	67	0.01	66	0.00
	Total special industry	3,238	0.16	1,861	0.18	46,557	0.19	1,211	0.24	3,238	0.29
	State total	20,804	1.00	10,597	1.00	242,149	1.00	4,952	1.00	11,149	1.00

Table C2—Base year statistics for selected states —con.

1982\$

Year-State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
82-AK	Metallic ores	8.10	0.00	7.94	0.00	118	0.00	3.18	0.00	2.81	0.00
	Metal mining svc	1.56	0.00	1.43	0.00	22	0.00	0.61	0.00	0.54	0.00
	Coal	196.43	0.00	162.52	0.00	1713	0.00	62.20	0.00	90.09	0.00
	Oil and gas	11117.63	0.39	10557.52	0.55	18944	0.08	783.83	0.12	5658.59	0.40
	Nonmetallic ores	619.17	0.02	571.84	0.03	7330	0.03	200.02	0.03	304.15	0.02
	Nonmet min svc (exc fuel)	12.53	0.00	8.88	0.00	146	0.00	3.70	0.00	5.87	0.00
	Total mining & energy	11,955	0.42	11,310	0.59	28,273	0.12	1,054	0.16	6,062	0.43
	New min extraction facil	744.96	0.03	38.10	0.00	4650	0.02	165.47	0.02	262.47	0.02
	Maint /repr oil & gas wells	184.81	0.00	0.00	0.00	1834	0.00	66.78	0.00	103.28	0.00
	All other construction	2457.89	0.09	483.15	0.03	21398	0.09	816.34	0.12	900.41	0.06
	Total construction	3,388	0.12	521	0.03	27,882	0.12	1,049	0.16	1,266	0.09
	Total agriculture	537	0.02	516	0.03	1,850	0.00	134	0.02	301	0.02
	Total manufacturing	2,539	0.09	1,356	0.07	11,817	0.05	391	0.06	579	0.04
	Total transportation	2,665	0.09	1,681	0.09	17,077	0.07	528	0.08	1,042	0.07
	Total trade	872	0.03	277	0.01	27,964	0.12	402	0.06	500	0.04
	Total real estate	1,584	0.06	1,204	0.06	8,824	0.04	232	0.03	988	0.07
	Total services	2,704	0.10	974	0.05	45,857	0.20	1,005	0.15	1,461	0.10
	Total govt enterprises	225	0.00	111	0.00	3,988	0.02	86	0.01	109	0.00
	Total special industry	1,950	0.07	1,191	0.06	55,924	0.24	1,843	0.27	1,950	0.14
	State total	28,419	1.00	19,141	1.00	229,456	1.00	6,724	1.00	14,257	1.00
82-AZ	Metallic ores	871.55	0.02	610.52	0.02	12468	0.01	517.57	0.03	478.63	0.02
	Metal mining svc	1.52	0.00	0.10	0.00	21	0.00	0.60	0.00	0.53	0.00
	Coal	136.37	0.00	83.95	0.00	1185	0.00	43.18	0.00	62.55	0.00
	Oil and gas	3.74	0.00	0.20	0.00	7	0.00	0.26	0.00	1.90	0.00
	Nonmetallic ores	67.04	0.00	31.72	0.00	790	0.00	20.47	0.00	32.83	0.00
	Nonmet min svc (exc fuel)	1.09	0.00	0.68	0.00	13	0.00	0.32	0.00	0.51	0.00
	Total mining & energy	1,081	0.02	727	0.03	14,484	0.01	582	0.03	577	0.02
	New min extraction facil	75.99	0.00	0.00	0.00	609	0.00	16.88	0.00	26.77	0.00
	Maint /repr oil & gas wells	4.30	0.00	4.06	0.00	80	0.00	1.55	0.00	2.40	0.00
	All other construction	5890.40	0.11	37.39	0.00	59721	0.05	1887.27	0.10	2092.91	0.07
	Total construction	5,971	0.11	41	0.00	60,410	0.06	1,906	0.10	2,122	0.07
	Total agriculture	2,193	0.04	1,384	0.06	41,096	0.04	268	0.01	743	0.03
	Total manufacturing	12,546	0.23	7,695	0.31	149,152	0.14	4,138	0.21	4,714	0.16
	Total transportation	4,230	0.08	1,366	0.05	47,281	0.04	1,187	0.06	2,138	0.07
	Total trade	3,490	0.06	3,394	0.14	183,352	0.17	1,610	0.08	2,002	0.07
	Total real estate	9,006	0.16	3,970	0.16	64,022	0.06	1,202	0.06	5,517	0.19
	Total services	11,107	0.20	5,369	0.21	303,893	0.28	4,201	0.22	6,050	0.21
	Total govt enterprises	1,367	0.02	568	0.02	19,054	0.02	383	0.02	493	0.02
	Total special industry	4,480	0.08	553	0.02	214,927	0.20	4,056	0.21	4,480	0.16
	State total	55,471	1.00	25,067	1.00	1,097,671	1.00	19,532	1.00	28,835	1.00
82-GA	Metallic ores	4.61	0.00	4.43	0.00	63	0.00	1.66	0.00	1.45	0.00
	Metal mining svc	0.08	0.00	0.06	0.00	1	0.00	0.03	0.00	0.03	0.00
	Nonmetallic ores	587.14	0.00	517.66	0.00	6399	0.00	165.76	0.00	268.65	0.00
	Nonmet min svc (exc fuel)	0.12	0.00	0.00	0.00	1	0.00	0.04	0.00	0.06	0.00
	Total mining & energy	591.95	0.00	522.16	0.00	6,464	0.00	167.48	0.00	270.19	0.00
	New min extraction facil	24.56	0.00	0.00	0.00	282	0.00	5.45	0.00	8.65	0.00
	Maint /repr oil & gas wells	2.46	0.00	2.46	0.00	54	0.00	0.89	0.00	1.37	0.00
	All other construction	8746.99	0.07	763.21	0.01	112194	0.05	2878.73	0.07	3177.90	0.05
	Total construction	8,774	0.07	766	0.01	112,530	0.05	2,885	0.07	3,188	0.05
	Total agriculture	4,144	0.03	1,655	0.03	67,376	0.03	376	0.00	1,423	0.02
	Total manufacturing	48,476	0.37	32,276	0.50	478,956	0.20	10,957	0.27	14,364	0.24
	Total transportation	14,630	0.11	6,783	0.10	134,565	0.06	3,783	0.09	6,435	0.11
	Total trade	6,668	0.05	2,496	0.04	366,429	0.16	3,042	0.08	3,803	0.06
	Total real estate	15,014	0.11	5,049	0.08	124,194	0.05	2,407	0.06	8,903	0.15
	Total services	22,991	0.18	9,911	0.15	545,950	0.23	8,621	0.21	13,298	0.22
	Total govt enterprises	1,522	0.01	442	0.00	33,031	0.01	600	0.01	721	0.01
	Total special industry	8,186	0.06	5,296	0.08	471,136	0.20	7,400	0.18	8,186	0.14
	State total	130,996	1.00	65,196	1.00	2,340,631	1.00	40,239	1.00	60,592	1.00

Table C2—Base year statistics for selected states —con.

1982\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
82-ID	Metallic ores	134.12	0.00	121.15	0.02	1823	0.00	53.59	0.01	47.56	0.00
	Metal mining svc	0.27	0.00	0.00	0.00	4	0.00	0.10	0.00	0.09	0.00
	Nonmetallic ores	110.29	0.00	99.81	0.02	1245	0.00	28.53	0.00	50.75	0.00
	Nonmetal mineral svc	0.63	0.00	0.09	0.00	8	0.00	0.19	0.00	0.29	0.00
	Total mining & energy	245	0.01	221	0.04	3,080	0.00	82	0.02	99	0.01
	New min extraction facil	33.31	0.00	0.00	0.00	303	0.00	7.40	0.00	11.73	0.00
	Maint /repr oil & gas wells	6.01	0.00	6.01	0.00	87	0.00	2.17	0.00	3.36	0.00
	All other construction	1168.37	0.06	24.40	0.00	19460	0.05	401.78	0.08	439.49	0.05
	Total construction	1,208	0.07	30	0.00	19,850	0.05	411	0.08	455	0.06
	Total agriculture	2,707	0.15	1,422	0.23	48,357	0.13	210	0.04	911	0.11
	Total manufacturing	5,442	0.30	3,468	0.56	54,308	0.15	1,038	0.21	1,433	0.17
	Total transportation	1,619	0.09	140	0.02	17,801	0.05	424	0.08	773	0.09
	Total trade	1,024	0.06	137	0.02	59,492	0.16	470	0.09	586	0.07
	Total real estate	2,039	0.11	146	0.02	14,701	0.04	231	0.05	1,243	0.15
	Total services	2,503	0.14	461	0.07	77,236	0.21	957	0.19	1,329	0.16
	Total govt enterprises	199	0.01	9	0.00	3,627	0.00	81	0.02	97	0.01
	Total special industry	1,272	0.07	167	0.03	75,806	0.20	1,145	0.23	1,272	0.16
	State total	18,258	1.00	6,203	1.00	374,258	1.00	5,049	1.00	8,196	1.00
82-KY	Metal mining svc	0.00	0.00	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00
	Coal	4873.66	0.06	3693.34	0.10	43233	0.03	1543.16	0.07	2235.29	0.07
	Oil and gas	681.19	0.00	82.82	0.00	1305	0.00	48.03	0.00	346.71	0.01
	Natural gas liquids	79.28	0.00	10.14	0.00	138	0.00	5.59	0.00	40.35	0.00
	Nonmetallic ores	139.43	0.00	88.17	0.00	1695	0.00	42.52	0.00	72.95	0.00
	Total mining & energy	5,774	0.07	3,874	0.11	46,372	0.03	1,639	0.08	2,695	0.08
	New min extraction facil	177.83	0.00	0.00	0.00	1853	0.00	39.50	0.00	62.65	0.00
	Maint /repr oil & gas wells	19.90	0.00	0.00	0.00	369	0.00	7.19	0.00	11.12	0.00
	All other construction	4069.48	0.05	332.86	0.00	59636	0.04	1379.30	0.07	1519.33	0.05
	Total construction	4,267	0.06	333	0.00	61,858	0.05	1,426	0.07	1,593	0.05
	Total agriculture	4,069	0.05	2,181	0.06	71,102	0.05	336	0.02	1,338	0.04
	Total manufacturing	31,619	0.41	19,469	0.55	274,784	0.20	5,911	0.28	8,404	0.26
	Total transportation	7,128	0.09	2,179	0.06	70,779	0.05	1,669	0.08	3,150	0.10
	Total trade	3,409	0.04	554	0.02	206,334	0.15	1,569	0.07	1,953	0.06
	Total real estate	6,407	0.08	154	0.00	57,597	0.04	880	0.04	3,840	0.12
	Total services	9,155	0.12	2,308	0.06	296,419	0.22	3,527	0.17	4,828	0.15
	Total govt enterprises	1,283	0.02	518	0.01	18,056	0.01	383	0.02	514	0.02
	Total special industry	4,269	0.06	3,998	0.11	241,593	0.18	3,792	0.18	4,269	0.13
	State total	77,381	1.00	35,569	1.00	1,344,894	1.00	21,132	1.00	32,585	1.00
82-LA	Oil and gas	32089.50	0.19	15570.11	0.21	45948	0.03	2262.41	0.06	16332.74	0.24
	Natural gas liquids	3640.66	0.02	1415.74	0.02	5428	0.00	256.68	0.00	1853.01	0.03
	Nonmetallic ores	315.35	0.00	242.31	0.00	3362	0.00	72.31	0.00	141.54	0.00
	Nonmet min svc (exc fuel)	1.69	0.00	0.19	0.00	18	0.00	0.50	0.00	0.79	0.00
	Total mining & energy	36,047	0.22	17,228	0.23	54,756	0.03	2,592	0.07	18,328	0.27
	New min extraction facil	5443.70	0.03	-0.00	-0.00	41852	0.02	1209.17	0.03	1917.96	0.03
	Maint /repr oil & gas wells	1354.06	0.00	0.00	0.00	16529	0.00	489.31	0.01	756.71	0.01
	All other construction	8977.54	0.05	2125.49	0.03	142933	0.09	3222.97	0.09	3518.21	0.05
	Total construction	15,775	0.09	2,125	0.03	201,314	0.12	4,921	0.14	6,193	0.09
	Total agriculture	2,762	0.02	1,669	0.02	36,435	0.02	292	0.00	1,132	0.02
	Total manufacturing	57,953	0.35	41,834	0.57	194,637	0.12	7,343	0.21	10,432	0.16
	Total transportation	14,521	0.09	3,890	0.05	109,196	0.06	2,839	0.08	5,110	0.08
	Total trade	4,944	0.03	452	0.00	255,923	0.15	2,273	0.06	2,831	0.04
	Total real estate	9,436	0.06	346	0.00	73,039	0.04	1,519	0.04	5,594	0.08
	Total services	17,784	0.11	4,965	0.07	393,476	0.23	6,703	0.19	9,792	0.15
	Total govt enterprises	833	0.00	28	0.00	16,290	0.00	398	0.01	434	0.00
	Total special industry	6,975	0.04	835	0.01	346,005	0.21	6,326	0.18	6,975	0.10
	State total	167,030	1.00	73,373	1.00	1,681,071	1.00	35,205	1.00	66,822	1.00

Table C2—Base year statistics for selected states —con.

1982\$

Year-State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
82-MT	Metallic ores	157.03	0.00	147.38	0.02	1668	0.00	93.60	0.02	86.59	0.01
	Metal mining svc	2.40	0.00	1.89	0.00	26	0.00	0.94	0.00	0.83	0.00
	Coal	553.92	0.03	416.91	0.06	3584	0.01	175.39	0.04	254.05	0.03
	Oil and gas	842.96	0.05	433.57	0.06	986	0.00	59.43	0.01	429.05	0.05
	Natural gas liquids	41.18	0.00	3.02	0.00	53	0.00	2.90	0.00	20.96	0.00
	Nonmetallic ores	83.48	0.00	66.60	0.00	726	0.00	21.49	0.00	38.73	0.00
	Nonmet min svc (exc fuel)	0.14	0.00	0.03	0.00	1	0.00	0.04	0.00	0.07	0.00
	Total mining & energy	1,681	0.09	1,069	0.15	7,044	0.03	354	0.07	830	0.10
	New min extraction facil	414.78	0.02	190.64	0.03	2713	0.01	92.13	0.02	146.14	0.02
	Maint /repr oil & gas wells	73.57	0.00	20.67	0.00	799	0.00	26.59	0.00	41.12	0.00
	All other construction	1061.63	0.06	87.18	0.01	12492	0.05	358.30	0.07	393.98	0.05
	Total construction	1,550	0.09	298	0.04	16,004	0.06	477	0.10	581	0.07
	Total agriculture	2,231	0.13	1,564	0.21	26,593	0.10	131	0.03	598	0.07
	Total manufacturing	3,563	0.20	1,709	0.23	19,634	0.08	572	0.12	784	0.10
	Total transportation	2,044	0.11	799	0.11	15,611	0.06	522	0.11	977	0.12
	Total trade	1,111	0.06	246	0.03	44,745	0.17	512	0.10	637	0.08
	Total real estate	1,757	0.10	105	0.01	10,738	0.04	228	0.05	1,079	0.13
	Total services	2,423	0.14	294	0.04	62,366	0.24	906	0.18	1,241	0.15
	Total govt enterprises	225	0.01	76	0.01	2,913	0.01	93	0.02	111	0.01
	Total special industry	1,245	0.07	1,120	0.15	52,027	0.20	1,133	0.23	1,245	0.15
	State total	17,830	1.00	7,281	1.00	257,675	1.00	4,929	1.00	8,083	1.00
82-NM	Metallic ores	390.49	0.01	308.74	0.02	5392	0.01	184.99	0.02	167.46	0.01
	Metal mining svc	1.82	0.00	0.15	0.00	25	0.00	0.71	0.00	0.63	0.00
	Coal	211.67	0.00	158.08	0.01	1740	0.00	67.02	0.00	97.08	0.00
	Oil and gas	4801.91	0.15	3312.60	0.21	6188	0.01	338.55	0.04	2444.05	0.15
	Natural gas liquids	3059.87	0.10	2195.45	0.14	4943	0.00	215.73	0.02	1557.40	0.10
	Nonmetallic ores	202.62	0.00	129.76	0.00	2348	0.00	43.07	0.00	88.94	0.00
	Nonmet min svc (exc fuel)	7.05	0.00	5.31	0.00	77	0.00	2.08	0.00	3.30	0.00
	Total mining & energy	8,675	0.27	6,110	0.39	20,713	0.04	852	0.10	4,359	0.27
	New min extraction facil	897.83	0.03	396.73	0.03	8094	0.02	199.43	0.02	316.33	0.02
	Maint /repr oil & gas wells	214.50	0.00	0.00	0.00	3085	0.00	77.51	0.00	119.87	0.00
	All other construction	2089.80	0.07	278.80	0.02	36095	0.07	715.41	0.08	785.50	0.05
	Total construction	3,202	0.10	676	0.04	47,274	0.09	992	0.11	1,222	0.08
	Total agriculture	1,260	0.04	783	0.05	19,037	0.04	104	0.01	314	0.02
	Total manufacturing	3,837	0.12	1,856	0.12	33,497	0.07	702	0.08	901	0.06
	Total transportation	3,223	0.10	1,621	0.10	26,328	0.05	656	0.07	1,377	0.09
	Total trade	1,512	0.05	319	0.02	76,914	0.15	696	0.08	866	0.05
	Total real estate	2,726	0.08	417	0.03	20,943	0.04	351	0.04	1,676	0.10
	Total services	4,906	0.15	1,722	0.11	142,036	0.28	1,993	0.23	2,741	0.17
	Total govt enterprises	290	0.00	71	0.00	6,076	0.01	108	0.01	140	0.00
	Total special industry	2,513	0.08	2,204	0.14	121,575	0.24	2,332	0.27	2,513	0.16
	State total	32,144	1.00	15,777	1.00	514,393	1.00	8,786	1.00	16,109	1.00
82-NV	Metallic ores	350.45	0.01	328.35	0.04	4370	0.01	160.57	0.02	144.83	0.01
	Oil and gas	34.13	0.00	19.75	0.00	49	0.00	2.41	0.00	17.37	0.00
	Nonmetallic ores	101.35	0.00	78.66	0.00	1028	0.00	25.84	0.00	46.31	0.00
	Nonmet min svc (exc fuel)	0.43	0.00	0.06	0.00	4	0.00	0.13	0.00	0.20	0.00
	Total mining & energy	486	0.02	427	0.05	5,451	0.01	189	0.02	209	0.02
	New min extraction facil	76.56	0.00	8.11	0.00	595	0.00	17.01	0.00	26.98	0.00
	Maint /repr oil & gas wells	10.24	0.00	7.93	0.00	126	0.00	3.70	0.00	5.72	0.00
	All other construction	2385.46	0.10	145.99	0.02	22204	0.05	790.96	0.09	873.88	0.07
	Total construction	2,472	0.10	162	0.02	22,925	0.06	812	0.10	907	0.07
	Total agriculture	428	0.02	278	0.03	5,407	0.01	40	0.00	122	0.00
	Total manufacturing	1,775	0.07	895	0.10	21,941	0.05	473	0.06	619	0.05
	Total transportation	2,562	0.10	468	0.05	24,159	0.06	710	0.08	1,286	0.10
	Total trade	1,422	0.06	468	0.05	52,242	0.13	655	0.08	815	0.06
	Total real estate	2,922	0.12	645	0.07	18,009	0.04	420	0.05	1,841	0.14
	Total services	10,566	0.43	5,443	0.60	199,021	0.48	3,572	0.43	5,207	0.41
	Total govt enterprises	310	0.01	42	0.00	4,668	0.01	111	0.01	141	0.01
	Total special industry	1,559	0.06	200	0.02	57,454	0.14	1,406	0.17	1,559	0.12
	State total	24,501	1.00	9,029	1.00	411,277	1.00	8,387	1.00	12,706	1.00

Table C2—Base year statistics for selected states —con.

1982\$

Year-State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
82-OK	Metallic ores	1.25	0.00	0.02	0.00	17	0.00	0.49	0.00	0.43	0.00
	Metal mining svc	0.07	0.00	0.07	0.00	1	0.00	0.03	0.00	0.03	0.00
	Coal	157.83	0.00	115.13	0.00	1356	0.00	49.97	0.00	72.39	0.00
	Oil and gas	11428.38	0.13	6846.75	0.16	21249	0.02	805.74	0.03	5816.76	0.14
	Natural gas liquids	1718.73	0.02	816.41	0.02	2901	0.00	121.18	0.00	874.79	0.02
	Nonmetallic ores	135.09	0.00	65.22	0.00	1595	0.00	41.98	0.00	70.34	0.00
	Nonmet min svc (exc fuel)	1.10	0.00	0.55	0.00	13	0.00	0.33	0.00	0.52	0.00
	Total mining & energy	13,442	0.15	7,844	0.18	27,132	0.02	1,020	0.04	6,835	0.17
	New min extraction facil	4334.36	0.05	2685.86	0.06	41331	0.03	962.76	0.04	1527.11	0.04
	Maint /repr oil & gas wells	1077.79	0.01	426.80	0.00	16323	0.01	389.48	0.02	602.32	0.01
	All other construction	6132.43	0.07	1723.40	0.04	79851	0.06	2005.87	0.09	2219.31	0.05
	Total construction	11,545	0.13	4,836	0.11	137,505	0.10	3,358	0.14	4,349	0.11
	Total agriculture	3,945	0.04	2,341	0.05	57,847	0.04	289	0.01	848	0.02
	Total manufacturing	22,933	0.25	12,943	0.30	198,126	0.14	4,656	0.20	5,965	0.15
	Total transportation	9,066	0.10	3,151	0.07	76,610	0.06	1,829	0.08	4,085	0.10
	Total trade	4,070	0.05	3,907	0.09	219,512	0.16	1,868	0.08	2,328	0.06
	Total real estate	7,919	0.09	994	0.02	66,237	0.05	1,262	0.05	4,826	0.12
	Total services	11,406	0.13	3,331	0.08	308,590	0.22	4,363	0.19	6,256	0.15
	Total govt enterprises	801	0.00	199	0.00	16,855	0.01	348	0.01	404	0.00
	Total special industry	4,839	0.05	3,850	0.09	268,135	0.19	4,313	0.19	4,839	0.12
	State total	89,965	1.00	43,395	1.00	1,376,549	1.00	23,307	1.00	40,736	1.00
82-PA	Metallic ores	10.99	0.00	10.93	0.00	153	0.00	3.76	0.00	3.25	0.00
	Metal mining svc	0.08	0.00	0.07	0.00	1	0.00	0.03	0.00	0.03	0.00
	Coal	3277.81	0.01	2536.33	0.02	27020	0.00	1037.87	0.01	1503.36	0.01
	Oil and gas	438.97	0.00	343.27	0.00	305	0.00	30.95	0.00	223.43	0.00
	Natural gas liquids	12.38	0.00	1.46	0.00	20	0.00	0.87	0.00	6.30	0.00
	Nonmetallic ores	152.13	0.00	13.82	0.00	1701	0.00	46.93	0.00	79.81	0.00
	Nonmet min svc (exc fuel)	1.35	0.00	0.83	0.00	15	0.00	0.40	0.00	0.63	0.00
	Total mining & energy	3,894	0.01	2,907	0.02	29,215	0.00	1,121	0.01	1,817	0.02
	New min extraction facil	312.50	0.00	0.00	0.00	2733	0.00	69.41	0.00	110.10	0.00
	Maint /repr oil & gas wells	64.46	0.00	47.64	0.00	910	0.00	23.29	0.00	36.02	0.00
	All other construction	16442.97	0.06	4379.14	0.03	231407	0.05	6020.77	0.07	6543.13	0.05
	Total construction	16,820	0.06	4,427	0.03	235,050	0.05	6,113	0.07	6,689	0.06
	Total agriculture	4,177	0.02	1,502	0.01	76,913	0.02	480	0.00	1,263	0.01
	Total manufacturing	101,872	0.39	61,583	0.47	1,084,589	0.24	25,360	0.31	32,103	0.27
	Total transportation	28,397	0.11	15,163	0.11	259,554	0.06	6,651	0.08	12,161	0.10
	Total trade	12,435	0.05	12,435	0.09	696,633	0.15	5,709	0.07	7,116	0.06
	Total real estate	29,617	0.11	2,040	0.02	243,712	0.05	4,607	0.06	17,162	0.14
	Total services	44,187	0.17	16,798	0.13	1,163,611	0.25	17,751	0.21	24,513	0.20
	Total govt enterprises	3,250	0.01	1,406	0.01	80,684	0.02	1,850	0.02	1,756	0.01
	Total special industry	15,187	0.06	13,716	0.10	706,154	0.15	13,297	0.16	15,187	0.13
	State total	259,836	1.00	131,977	1.00	4,576,115	1.00	82,940	1.00	119,767	1.00
82-SD	Metallic ores	47.69	0.00	47.68	0.00	700	0.00	18.70	0.00	16.55	0.00
	Coal	73.39	0.00	55.85	0.01	631	0.00	23.24	0.00	33.66	0.00
	Oil and gas	3.18	0.00	1.91	0.00	5	0.00	0.22	0.00	1.62	0.00
	Nonmetallic ores	11.09	0.00	5.69	0.00	131	0.00	3.34	0.00	5.53	0.00
	Total mining & energy	135	0.00	111	0.02	1,467	0.00	46	0.01	57	0.01
	New min extraction facil	9.92	0.00	0.00	0.00	113	0.00	2.20	0.00	3.49	0.00
	Maint /repr oil & gas wells	2.25	0.00	2.04	0.00	40	0.00	0.81	0.00	1.26	0.00
	All other construction	849.11	0.06	61.84	0.01	13030	0.05	292.99	0.08	320.34	0.06
	Total construction	861	0.06	64	0.01	13,183	0.05	296	0.09	325	0.06
	Total agriculture	3,600	0.27	1,704	0.31	43,134	0.15	188	0.05	869	0.16
	Total manufacturing	2,851	0.21	1,921	0.35	27,269	0.10	540	0.16	707	0.13
	Total transportation	1,104	0.08	355	0.06	12,366	0.04	282	0.08	517	0.09
	Total trade	743	0.05	130	0.02	47,780	0.17	342	0.10	425	0.08
	Total real estate	1,263	0.09	70	0.01	12,093	0.04	196	0.06	750	0.13
	Total services	1,869	0.14	235	0.04	67,193	0.23	711	0.20	958	0.17
	Total govt enterprises	221	0.02	60	0.01	3,532	0.01	75	0.02	97	0.02
	Total special industry	895	0.07	819	0.15	58,772	0.20	797	0.23	895	0.16
	State total	13,543	1.00	5,470	1.00	286,789	1.00	3,473	1.00	5,600	1.00

Table C2—Base year statistics for selected states —con.

1982\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
82-TX	Metallic ores	63.75	0.00	22.61	0.00	879	0.00	24.69	0.00	21.81	0.00
	Metal mining svc	0.42	0.00	0.32	0.00	6	0.00	0.17	0.00	0.15	0.00
	Coal	502.69	0.00	313.28	0.00	4174	0.00	159.17	0.00	230.56	0.00
	Oil and gas	43625.26	0.09	9985.77	0.05	76794	0.01	3075.71	0.02	22204.14	0.10
	Natural gas liquids	9253.45	0.02	4671.55	0.02	15091	0.00	652.40	0.00	4709.78	0.02
	Nonmetallic ores	654.75	0.00	265.76	0.00	7534	0.00	168.75	0.00	309.88	0.00
	Nonmet min svc (exc fuel)	1.38	0.00	0.06	0.00	15	0.00	0.41	0.00	0.64	0.00
	Total mining & energy	54,102	0.11	15,259	0.08	104,493	0.02	4,081	0.03	27,477	0.13
	New min extraction facil	12220.76	0.02	376.84	0.00	110472	0.02	2714.52	0.02	4305.70	0.02
	Maint /repr oil & gas wells	3042.96	0.00	238.68	0.00	43695	0.00	1099.63	0.00	1700.55	0.00
	All other construction	39408.57	0.08	12161.16	0.06	482531	0.07	13233.51	0.10	14547.63	0.07
	Total construction	54,672	0.11	12,777	0.06	636,698	0.10	17,048	0.13	20,554	0.09
	Total agriculture	12,748	0.02	4,627	0.02	202,490	0.03	1,304	0.01	3,523	0.02
	Total manufacturing	170,070	0.33	106,663	0.53	1,050,077	0.16	31,129	0.24	40,466	0.19
	Total transportation	54,854	0.11	22,975	0.11	409,366	0.06	10,382	0.08	20,690	0.10
	Total trade	21,492	0.04	5,245	0.03	1,154,792	0.17	9,832	0.08	12,276	0.06
	Total real estate	49,580	0.10	10,772	0.05	381,403	0.06	7,869	0.06	29,786	0.14
	Total services	65,897	0.13	16,851	0.08	1,515,091	0.23	25,376	0.20	37,333	0.17
	Total govt enterprises	4,612	0.00	1,703	0.00	87,078	0.01	1,833	0.01	2,081	0.00
	Total special industry	22,468	0.04	3,255	0.02	1,125,935	0.17	19,929	0.15	22,468	0.10
	State total	510,494	1.00	200,127	1.00	6,667,423	1.00	128,783	1.00	216,654	1.00
82-UT	Metallic ores	540.09	0.02	431.82	0.03	7373	0.01	272.16	0.03	247.95	0.02
	Metal mining svc	1.97	0.00	0.18	0.00	27	0.00	0.77	0.00	0.69	0.00
	Coal	676.07	0.02	551.67	0.04	5546	0.00	214.06	0.02	310.08	0.02
	Oil and gas	960.82	0.03	229.92	0.01	1252	0.00	67.74	0.00	489.03	0.03
	Natural gas liquids	50.73	0.00	13.97	0.00	81	0.00	3.58	0.00	25.82	0.00
	Nonmetallic ores	103.91	0.00	65.02	0.00	1172	0.00	25.02	0.00	47.34	0.00
	Nonmet min svc (exc fuel)	0.36	0.00	0.17	0.00	4	0.00	0.11	0.00	0.17	0.00
	Total mining & energy	2,334	0.07	1,293	0.08	15,455	0.03	583	0.06	1,121	0.07
	New min extraction facil	524.29	0.02	227.94	0.01	2462	0.00	116.46	0.01	184.72	0.01
	Maint /repr oil & gas wells	122.90	0.00	66.25	0.00	861	0.00	44.41	0.00	68.68	0.00
	All other construction	2315.24	0.07	23.96	0.00	29006	0.05	762.42	0.07	839.03	0.05
	Total construction	2,962	0.09	318	0.02	32,329	0.06	923	0.09	1,092	0.07
	Total agriculture	861	0.03	433	0.03	12,555	0.02	65	0.00	212	0.01
	Total manufacturing	9,045	0.27	5,162	0.34	92,727	0.16	2,073	0.20	2,528	0.16
	Total transportation	4,097	0.12	2,240	0.15	35,764	0.06	893	0.09	1,607	0.10
	Total trade	1,812	0.05	859	0.06	92,118	0.16	822	0.08	1,031	0.07
	Total real estate	3,929	0.12	1,259	0.08	29,320	0.05	483	0.05	2,429	0.16
	Total services	5,593	0.17	2,248	0.15	152,222	0.26	2,251	0.22	3,102	0.20
	Total govt enterprises	436	0.01	151	0.00	7,558	0.01	157	0.02	202	0.01
	Total special industry	2,138	0.06	1,444	0.09	110,766	0.19	1,937	0.19	2,138	0.14
	State total	33,207	1.00	15,407	1.00	580,814	1.00	10,189	1.00	15,463	1.00
82-WV	Metal mining svc	0.08	0.00	0.08	0.00	1	0.00	0.03	0.00	0.03	0.00
	Coal	5399.32	0.14	4295.65	0.20	43425	0.07	1709.60	0.15	2476.39	0.14
	Oil and gas	623.42	0.02	264.90	0.01	490	0.00	43.95	0.00	317.31	0.02
	Natural gas liquids	77.80	0.00	28.00	0.00	122	0.00	5.49	0.00	39.60	0.00
	Nonmetallic ores	36.86	0.00	13.17	0.00	407	0.00	11.54	0.00	19.25	0.00
	Total mining & energy	6,137	0.16	4,602	0.21	44,445	0.07	1,771	0.15	2,853	0.16
	New min extraction facil	414.18	0.01	150.69	0.00	3532	0.00	92.00	0.00	145.93	0.00
	Maint /repr oil & gas wells	78.04	0.00	49.78	0.00	1068	0.00	28.20	0.00	43.61	0.00
	All other construction	1,581.07	0.04	144.55	0.00	25213	0.04	564.06	0.05	616.58	0.03
	Total construction	2,073	0.05	345	0.02	29,813	0.05	684	0.06	806	0.04
	Total agriculture	379	0.00	201	0.00	6,644	0.01	41	0.00	107	0.00
	Total manufacturing	9,700	0.25	6,897	0.32	102,495	0.16	2,285	0.20	2,967	0.17
	Total transportation	7,903	0.21	5,306	0.24	50,976	0.08	1,373	0.12	3,156	0.18
	Total trade	1,821	0.05	932	0.04	94,339	0.15	840	0.07	1,044	0.06
	Total real estate	3,133	0.08	1,040	0.05	21,055	0.03	360	0.03	1,914	0.11
	Total services	4,522	0.12	1,943	0.09	129,743	0.21	1,745	0.15	2,393	0.13
	Total govt enterprises	284	0.00	89	0.00	6,505	0.01	160	0.01	164	0.00
	Total special industry	2,566	0.07	437	0.02	135,803	0.22	2,317	0.20	2,566	0.14
	State total	38,521	1.00	21,791	1.00	621,818	1.00	11,575	1.00	17,971	1.00

Table C2—Base year statistics for selected states —con.

1982\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
82-WY	Metallic ores	398.78	0.02	329.96	0.03	5145	0.02	156.07	0.03	138.13	0.01
	Metal mining svc	2.23	0.00	0.19	0.00	28	0.00	0.87	0.00	0.77	0.00
	Coal	1292.37	0.06	999.57	0.08	9809	0.04	409.21	0.08	592.74	0.06
	Oil and gas	4175.39	0.19	2937.30	0.24	5961	0.03	294.38	0.06	2125.17	0.22
	Natural gas liquids	454.58	0.02	156.13	0.01	677	0.00	32.05	0.00	231.37	0.02
	Nonmetallic ores	697.57	0.03	563.43	0.05	7419	0.03	151.01	0.03	305.62	0.03
	Total mining & energy	7,021	0.32	4,987	0.41	29,039	0.12	1,044	0.21	3,394	0.35
	New min extraction facil	1202.92	0.05	657.52	0.05	9217	0.04	267.20	0.05	423.82	0.04
	Maint /repr oil & gas wells	283.91	0.01	17.33	0.00	3474	0.01	102.59	0.02	158.66	0.02
	All other construction	1100.21	0.05	149.18	0.01	17545	0.07	371.06	0.07	408.09	0.04
	Total construction	2,587	0.12	824	0.07	30,236	0.13	741	0.15	991	0.10
	Total agriculture	810	0.04	593	0.05	8,828	0.04	51	0.01	172	0.02
	Total manufacturing	2,644	0.12	1,419	0.12	11,124	0.05	255	0.05	385	0.04
	Total transportation	3,322	0.15	1,971	0.16	20,507	0.09	602	0.12	1,383	0.14
	Total trade	702	0.03	79	0.00	30,618	0.13	323	0.06	402	0.04
	Total real estate	1,202	0.05	76	0.00	7,261	0.03	145	0.03	746	0.08
	Total services	2,363	0.11	1,160	0.10	50,689	0.21	802	0.16	1,185	0.12
	Total govt enterprises	140	0.00	54	0.00	2,146	0.00	50	0.01	64	0.00
	Total special industry	1,081	0.05	987	0.08	47,741	0.20	991	0.20	1,081	0.11
	State total	21,872	1.00	12,149	1.00	238,189	1.00	5,003	1.00	9,803	1.00

Table C2—Base year statistics for selected states —con.

1977\$

Year-State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
77-AK	Metallic ores	0.52	0.00	0.77	0.00	0	0.00	0.19	0.00	0.29	0.00
	Metal mining svc	0.78	0.00	0.52	0.00	0	0.00	0.23	0.00	0.32	0.00
	Coal	16.81	0.00	17.76	0.00	0	0.00	6.67	0.00	9.61	0.00
	Oil and gas	1535.70	0.15	1484.78	0.29	1	0.00	156.51	0.04	1026.53	0.16
	Nonmetallic ores	103.66	0.00	100.36	0.02	0	0.00	35.42	0.00	63.37	0.00
	Nonmet min svc (exc fuel)	6.15	0.00	5.77	0.00	0	0.00	2.42	0.00	3.42	0.00
	Total mining & energy	1,664	0.16	1,610	0.32	1	0.00	201	0.05	1,104	0.17
	Total agriculture	388	0.04	394	0.08	0	0.00	79	0.02	256	0.04
	Total construction	1,498	0.14	401	0.08	25	0.09	543	0.12	671	0.10
	Total manufacturing	784	0.07	716	0.14	9	0.03	129	0.03	203	0.03
	Total transportation	938	0.09	477	0.09	14	0.05	353	0.08	522	0.08
	Total trade	806	0.08	105	0.02	23	0.08	356	0.08	499	0.08
	Total real estate	997	0.09	792	0.16	8	0.03	139	0.03	570	0.09
	Total services	1,354	0.13	548	0.11	28	0.10	525	0.12	712	0.11
	Total govt enterprises	124	0.01	53	0.01	3	0.01	48	0.01	69	0.01
	Total special industry	1,990	0.19	0	0.00	160	0.59	1,989	0.46	1,990	0.30
	State total	10,542	1.00	5,096	1.00	271	1.00	4,363	1.00	6,595	1.00
77-AZ	Metallic ores	1224.73	0.04	856.73	0.06	14	0.02	372.94	0.03	611.72	0.04
	Metal mining svc	5.11	0.00	0.00	0.00	0	0.00	1.54	0.00	2.08	0.00
	Coal	79.19	0.00	82.41	0.00	1	0.00	31.42	0.00	45.24	0.00
	Oil and gas	3.63	0.00	1.54	0.00	0	0.00	0.38	0.00	2.42	0.00
	Nonmetallic ores	57.22	0.00	57.27	0.00	1	0.00	20.94	0.00	36.51	0.00
	Nonmet min svc (exc fuel)	3.63	0.00	3.44	0.00	0	0.00	1.43	0.00	2.03	0.00
	Total mining & energy	1,374	0.05	1,001	0.07	16	0.02	429	0.04	700	0.04
	Total agriculture	1,630	0.05	1,124	0.08	23	0.03	129	0.01	509	0.03
	Total construction	3,374	0.11	229	0.02	60	0.07	1,223	0.11	1,512	0.09
	Total manufacturing	5,860	0.19	4,153	0.31	93	0.11	1,772	0.16	2,184	0.13
	Total transportation	2,288	0.08	762	0.06	38	0.04	699	0.06	1,224	0.07
	Total trade	3,339	0.11	2,304	0.17	151	0.17	1,470	0.13	2,065	0.13
	Total real estate	4,304	0.14	1,559	0.12	42	0.05	571	0.05	2,483	0.15
	Total services	4,629	0.15	1,982	0.15	208	0.24	1,877	0.17	2,597	0.16
	Total govt enterprises	764	0.03	327	0.02	15	0.02	263	0.02	405	0.02
	Total special industry	2,814	0.09	0	0.00	233	0.27	2,813	0.25	2,814	0.17
	State total	30,375	1.00	13,441	1.00	879	1.00	11,245	1.00	16,493	1.00
77-GA	Metallic ores	14.26	0.00	12.09	0.00	0	0.00	4.37	0.00	6.52	0.00
	Metal mining svc	0.31	0.00	0.29	0.00	0	0.00	0.09	0.00	0.13	0.00
	Nonmetallic ores	301.02	0.00	298.23	0.00	7	0.00	96.80	0.00	177.65	0.00
	Nonmet min svc (exc fuel)	0.49	0.00	0.40	0.00	0	0.00	0.19	0.00	0.27	0.00
	Total mining & energy	316	0.00	311	0.00	7	0.00	101	0.00	185	0.00
	Total agriculture	2,636	0.03	1,956	0.05	51	0.02	239	0.00	1,084	0.03
	Total construction	4,739	0.06	351	0.00	117	0.05	1,718	0.07	2,123	0.06
	Total manufacturing	28,743	0.38	20,874	0.58	514	0.24	6,602	0.25	8,890	0.24
	Total transportation	7,091	0.09	3,710	0.10	121	0.06	2,301	0.09	3,799	0.10
	Total trade	8,046	0.11	3,312	0.09	347	0.16	3,527	0.13	4,980	0.13
	Total real estate	8,071	0.11	2,676	0.07	89	0.04	1,249	0.05	4,602	0.12
	Total services	8,931	0.12	2,551	0.07	372	0.17	3,651	0.14	5,070	0.13
	Total govt enterprises	770	0.01	192	0.00	34	0.02	379	0.01	470	0.01
	Total special industry	6,411	0.08	0	0.00	528	0.24	6,408	0.24	6,411	0.17
	State total	75,754	1.00	35,932	1.00	2,180	1.00	26,175	1.00	37,615	1.00

Table C2—Base year statistics for selected states —con.

1977\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
77-ID	Metallic ores	101.74	0.00	68.53	0.01	3	0.00	36.94	0.00	54.59	0.00
	Metal mining svc	0.74	0.00	0.36	0.00	0	0.00	0.22	0.00	0.30	0.00
	Nonmetallic ores	67.34	0.00	80.93	0.01	1	0.00	24.75	0.00	42.64	0.00
	Nonmet min svc (exc fuel)	1.72	0.00	1.49	0.00	0	0.00	0.68	0.00	0.96	0.00
	Total mining & energy	172	0.01	151	0.02	4	0.01	63	0.02	98	0.02
	Total agriculture	1,844	0.14	1,397	0.23	27	0.08	181	0.04	822	0.13
	Total construction	1,275	0.10	551	0.09	35	0.11	462	0.11	571	0.09
	Total manufacturing	4,200	0.32	3,257	0.53	45	0.14	863	0.21	1,269	0.20
	Total transportation	829	0.06	213	0.03	15	0.05	263	0.07	448	0.07
	Total trade	1,389	0.11	213	0.03	59	0.18	609	0.15	860	0.13
	Total real estate	1,153	0.09	148	0.02	10	0.03	140	0.03	728	0.11
	Total services	1,402	0.11	212	0.03	63	0.19	574	0.14	785	0.12
	Total govt enterprises	109	0.00	12	0.00	3	0.00	54	0.01	68	0.01
	Total special industry	831	0.06	0	0.00	70	0.21	831	0.21	831	0.13
	State total	13,204	1.00	6,154	1.00	331	1.00	4,039	1.00	6,481	1.00
77-KY	Metal mining svc	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Metallic ores	0.04	0.00	0.02	0.00	0	0.00	0.01	0.00	0.02	0.00
	Coal	1654.61	0.04	1621.39	0.08	39	0.03	656.54	0.04	945.46	0.04
	Oil and gas	326.07	0.00	0.21	0.00	1	0.00	36.89	0.00	214.85	0.00
	Natural gas liquids	8.91	0.00	2.46	0.00	0	0.00	1.08	0.00	2.02	0.00
	Nonmetallic ores	69.10	0.00	58.78	0.00	3	0.00	23.26	0.00	40.78	0.00
	Total mining & energy	2,059	0.04	1,683	0.08	43	0.03	718	0.05	1,203	0.05
	Total agriculture	1,840	0.04	1,371	0.07	40	0.03	180	0.01	864	0.04
	Total construction	2,759	0.06	134	0.00	59	0.05	1,000	0.06	1,236	0.05
	Total manufacturing	20,732	0.44	14,707	0.71	272	0.22	4,697	0.30	7,127	0.30
	Total transportation	3,249	0.07	881	0.04	61	0.05	1,054	0.07	1,764	0.08
	Total trade	4,122	0.09	570	0.03	196	0.16	1,813	0.12	2,550	0.11
	Total real estate	3,649	0.08	683	0.03	41	0.03	504	0.03	2,363	0.10
	Total services	4,440	0.09	495	0.02	223	0.18	1,837	0.12	2,460	0.11
	Total govt enterprises	600	0.01	155	0.00	19	0.02	245	0.02	351	0.02
	Total special industry	3,461	0.07	0	0.00	290	0.23	3,459	0.22	3,461	0.15
	State total	46,910	1.00	20,679	1.00	1,244	1.00	15,506	1.00	23,378	1.00
77-LA	Oil and gas	9354.51	0.15	4585.22	0.17	9	0.00	1285.81	0.07	5966.88	0.19
	Natural gas liquids	480.69	0.00	152.36	0.00	2	0.00	55.47	0.00	104.20	0.00
	Nonmetallic ores	247.41	0.00	250.62	0.00	4	0.00	81.42	0.00	152.87	0.00
	Nonmet min svc (exc fuel)	3.67	0.00	2.88	0.00	0	0.00	1.45	0.00	2.05	0.00
	Total mining & energy	10,086	0.16	4,991	0.18	15	0.01	1,424	0.08	6,226	0.20
	Total agriculture	1,852	0.03	1,859	0.07	31	0.02	243	0.01	1,016	0.03
	Total construction	4,824	0.07	15	0.00	195	0.14	1,748	0.10	2,161	0.07
	Total manufacturing	21,882	0.34	16,690	0.61	214	0.15	4,238	0.23	6,064	0.19
	Total transportation	5,296	0.08	1,727	0.06	102	0.07	1,691	0.09	2,684	0.09
	Total trade	5,640	0.09	1,218	0.04	255	0.18	2,476	0.14	3,490	0.11
	Total real estate	5,223	0.08	670	0.02	59	0.04	755	0.04	3,191	0.10
	Total services	6,494	0.10	228	0.00	283	0.20	2,697	0.15	3,677	0.12
	Total govt enterprises	441	0.00	35	0.00	22	0.02	232	0.01	277	0.00
	Total special industry	2,674	0.04	0	0.00	230	0.16	2,672	0.15	2,674	0.08
	State total	64,412	1.00	27,433	1.00	1,406	1.00	18,175	1.00	31,460	1.00

Table C2—Base year statistics for selected states —con.

1977\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
77-MT	Metallic ores	126.08	0.01	20.01	0.00	3	0.01	36.16	0.01	60.10	0.01
	Metal mining service	4.36	0.00	3.30	0.00	0	0.00	1.31	0.00	1.78	0.00
	Coal	173.21	0.02	182.49	0.04	1	0.00	68.73	0.02	98.97	0.02
	Oil and gas	369.13	0.03	0.10	0.00	0	0.00	39.43	0.01	245.19	0.04
	Natural gas liquids	4.46	0.00	1.09	0.00	0	0.00	0.52	0.00	0.97	0.00
	Nonmetallic ores	36.99	0.00	41.90	0.00	1	0.00	12.34	0.00	21.37	0.00
	Nonmet min svc (exc fuel)	0.25	0.00	0.22	0.00	0	0.00	0.10	0.00	0.14	0.00
	Total mining & energy	714	0.06	249	0.06	5	0.02	159	0.05	429	0.08
	Total agriculture	1,414	0.12	1,117	0.25	16	0.06	85	0.02	529	0.10
	Total construction	908	0.08	139	0.03	17	0.06	329	0.10	407	0.07
	Total manufacturing	2,934	0.26	2,102	0.48	20	0.07	436	0.13	646	0.12
	Total transportation	1,105	0.10	388	0.09	20	0.07	355	0.10	601	0.11
	Total trade	1,080	0.10	135	0.03	48	0.17	475	0.14	668	0.12
	Total real estate	957	0.08	79	0.02	9	0.03	128	0.04	599	0.11
	Total services	1,213	0.11	181	0.04	64	0.23	486	0.14	647	0.12
	Total govt enterprises	131	0.01	28	0.00	3	0.01	63	0.02	82	0.01
	Total special industry	883	0.08	—	-0.00	73	0.27	882	0.26	883	0.16
	State total	11,339	1.00	4,419	1.00	275	1.00	3,398	1.00	5,490	1.00
77-NM	Metallic ores	478.65	0.03	394.82	0.07	7	0.01	138.93	0.02	225.43	0.02
	Metal mining service	6.02	0.00	0.00	0.00	0	0.00	1.82	0.00	2.46	0.00
	Coal	120.85	0.00	125.38	0.02	1	0.00	47.95	0.00	69.05	0.00
	Oil and gas	1679.51	0.10	1219.26	0.20	1	0.00	235.05	0.04	1067.63	0.12
	Natural gas liquids	611.93	0.04	414.63	0.07	1	0.00	69.96	0.01	131.41	0.01
	Nonmetallic ores	219.87	0.01	168.55	0.03	3	0.00	68.90	0.01	130.40	0.01
	Nonmet min svc (exc fuel)	23.09	0.00	20.86	0.00	0	0.00	9.08	0.00	12.86	0.00
	Total mining & energy	3,140	0.19	2,344	0.39	13	0.03	572	0.10	1,639	0.18
	Total agriculture	896	0.05	560	0.09	13	0.03	88	0.01	271	0.03
	Total construction	1,290	0.08	0	0.00	47	0.10	468	0.08	578	0.06
	Total manufacturing	2,439	0.15	1,494	0.25	29	0.06	484	0.08	647	0.07
	Total transportation	1,149	0.07	297	0.05	19	0.04	334	0.06	606	0.07
	Total trade	1,440	0.09	341	0.06	72	0.15	636	0.11	891	0.10
	Total real estate	1,555	0.09	175	0.03	16	0.03	193	0.03	940	0.10
	Total services	2,338	0.14	753	0.13	95	0.20	964	0.16	1,330	0.15
	Total govt enterprises	140	0.00	14	0.00	6	0.01	71	0.01	87	0.00
	Total special industry	2,054	0.12	0	0.00	167	0.35	2,053	0.35	2,054	0.23
	State total	16,441	1.00	5,978	1.00	477	1.00	5,861	1.00	9,044	1.00
77-NV	Metallic ores	141.42	0.01	67.23	0.02	2	0.00	45.89	0.01	73.17	0.01
	Oil and gas	19.93	0.00	18.17	0.00	0	0.00	2.03	0.00	13.32	0.00
	Nonmetallic ores	48.77	0.00	47.63	0.01	1	0.00	16.43	0.00	29.93	0.00
	Nonmet min svc (exc fuel)	0.81	0.00	0.63	0.00	0	0.00	0.32	0.00	0.45	0.00
	Total mining & energy	214	0.02	134	0.03	3	0.00	65	0.02	117	0.02
	Total agriculture	224	0.02	178	0.04	3	0.00	23	0.00	73	0.01
	Total construction	1,342	0.12	114	0.03	23	0.07	486	0.12	601	0.10
	Total manufacturing	1,148	0.10	853	0.21	8	0.02	263	0.06	355	0.06
	Total transportation	1,059	0.09	316	0.08	18	0.06	334	0.08	567	0.09
	Total trade	1,126	0.10	242	0.06	46	0.14	498	0.12	696	0.11
	Total real estate	1,326	0.12	132	0.03	11	0.03	148	0.04	797	0.13
	Total services	3,774	0.34	2,118	0.52	135	0.42	1,365	0.33	1,946	0.32
	Total govt enterprises	116	0.01	15	0.00	3	0.00	53	0.01	71	0.01
	Total special industry	871	0.08	0	0.00	73	0.23	871	0.21	871	0.14
	State total	11,197	1.00	4,103	1.00	323	1.00	4,106	1.00	6,093	1.00

Table C2—Base year statistics for selected states —con.

1977\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
77-OK	Metallic ores	2.09	0.00	0.28	0.00	0	0.00	0.76	0.00	1.15	0.00
	Metal mining svc	0.12	0.00	0.11	0.00	0	0.00	0.04	0.00	0.05	0.00
	Coal	42.89	0.00	41.01	0.00	1	0.00	17.02	0.00	24.51	0.00
	Oil and gas	2913.69	0.07	774.02	0.04	15	0.01	388.65	0.03	1868.75	0.09
	Natural gas liquids	162.79	0.00	53.51	0.00	1	0.00	18.71	0.00	35.14	0.00
	Nonmetallic ores	76.61	0.00	74.60	0.00	2	0.00	25.52	0.00	44.70	0.00
	Nonmet min svc (exc fuel)	1.72	0.00	1.60	0.00	0	0.00	0.68	0.00	0.96	0.00
	Total mining & energy	3,200	0.08	945	0.05	19	0.02	451	0.03	1,975	0.10
	Total agriculture	2,246	0.05	1,585	0.09	26	0.02	123	0.00	746	0.04
	Total construction	2,849	0.07	18	0.00	96	0.09	1,033	0.08	1,276	0.06
	Total manufacturing	13,854	0.33	10,527	0.58	155	0.14	2,830	0.21	3,795	0.18
	Total transportation	3,125	0.08	676	0.04	52	0.05	914	0.07	1,669	0.08
	Total trade	3,805	0.09	2,498	0.14	177	0.16	1,672	0.13	2,355	0.11
	Total real estate	3,870	0.09	627	0.03	44	0.04	552	0.04	2,329	0.11
	Total services	4,438	0.11	1,285	0.07	211	0.19	1,836	0.14	2,503	0.12
	Total govt enterprises	356	0.00	78	0.00	15	0.01	198	0.01	230	0.01
	Total special industry	3,637	0.09	0	0.00	300	0.27	3,635	0.27	3,637	0.18
	State total	41,381	1.00	18,241	1.00	1,095	1.00	13,244	1.00	20,515	1.00
77-PA	Metallic ores	40.35	0.00	38.42	0.00	1	0.00	8.43	0.00	13.13	0.00
	Metal mining svc	0.35	0.00	0.31	0.00	0	0.00	0.11	0.00	0.14	0.00
	Coal	2816.40	0.01	2555.09	0.02	35	0.00	995.96	0.02	1431.12	0.02
	Oil and gas	99.00	0.00	0.38	0.00	32	0.00	14.90	0.00	61.87	0.00
	Natural gas liquids	3.48	0.00	1.03	0.00	0	0.00	0.39	0.00	0.74	0.00
	Nonmetallic ores	170.99	0.00	110.53	0.00	5	0.00	56.23	0.00	100.41	0.00
	Nonmet min svc (exc fuel)	6.14	0.00	5.70	0.00	0	0.00	2.41	0.00	3.42	0.00
	Total mining & energy	3,137	0.02	2,711	0.03	73	0.02	1,078	0.02	1,611	0.02
	Total agriculture	2,552	0.01	1,576	0.02	45	0.00	278	0.00	987	0.01
	Total construction	11,256	0.06	2,766	0.03	239	0.05	4,079	0.07	5,042	0.06
	Total manufacturing	88,001	0.46	58,254	0.56	1,381	0.29	21,628	0.36	28,578	0.33
	Total transportation	15,176	0.08	8,075	0.08	244	0.05	4,488	0.07	7,627	0.09
	Total trade	17,328	0.09	17,328	0.17	741	0.16	7,450	0.12	10,497	0.12
	Total real estate	18,295	0.10	1,162	0.01	206	0.04	2,825	0.05	10,764	0.12
	Total services	24,135	0.13	11,510	0.11	1,065	0.22	10,467	0.17	13,841	0.16
	Total govt enterprises	1,804	0.00	638	0.00	82	0.02	1,010	0.02	1,137	0.01
	Total special industry	7,570	0.04	0	0.00	667	0.14	7,562	0.12	7,570	0.09
	State total	189,253	1.00	104,019	1.00	4,743	1.00	60,865	1.00	87,653	1.00
77-SD	Metallic ores	38.37	0.00	37.50	0.01	1	0.00	14.09	0.00	21.96	0.00
	Coal	119.34	0.01	118.60	0.03	2	0.00	47.36	0.02	68.19	0.02
	Oil and gas	9.14	0.00	7.86	0.00	0	0.00	0.93	0.00	6.11	0.00
	Natural gas liquids	0.89	0.00	0.02	0.00	0	0.00	0.10	0.00	0.19	0.00
	Nonmetallic ores	27.19	0.00	28.68	0.00	1	0.00	9.64	0.00	16.90	0.00
	Total mining & energy	195	0.02	193	0.06	4	0.02	72	0.03	113	0.03
	Total agriculture	2,287	0.25	1,223	0.36	20	0.08	103	0.04	702	0.16
	Total construction	637	0.07	59	0.02	12	0.05	231	0.09	285	0.07
	Total manufacturing	1,844	0.20	1,347	0.39	13	0.05	339	0.13	440	0.10
	Total transportation	640	0.07	202	0.06	12	0.05	193	0.07	338	0.08
	Total trade	932	0.10	178	0.05	46	0.19	409	0.15	577	0.13
	Total real estate	766	0.08	68	0.02	9	0.04	110	0.04	480	0.11
	Total services	929	0.10	119	0.03	54	0.23	389	0.15	508	0.12
	Total govt enterprises	158	0.02	56	0.02	4	0.02	67	0.02	94	0.02
	Total special industry	765	0.08	y	-0.00	63	0.27	764	0.29	765	0.18
	State total	9,152	1.00	3,443	1.00	237	1.00	2,676	1.00	4,302	1.00

Table C2—Base year statistics for selected states —con.

1977\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
77-TX	Metallic ores	48.42	0.00	9.93	0.00	1	0.00	12.81	0.00	20.56	0.00
	Metal mining svc	0.92	0.00	0.16	0.00	0	0.00	0.28	0.00	0.37	0.00
	Coal	187.92	0.00	199.91	0.00	1	0.00	74.57	0.00	107.38	0.00
	Oil and gas	16855.96	0.08	3452.67	0.04	35	0.00	2135.54	0.03	10907.98	0.10
	Natural gas liquids	1202.23	0.00	387.09	0.00	5	0.00	138.52	0.00	260.22	0.00
	Nonmetallic ores	411.67	0.00	345.02	0.00	7	0.00	135.77	0.00	251.95	0.00
	Nonmet min svc (exc fuel)	2.94	0.00	2.31	0.00	0	0.00	1.16	0.00	1.64	0.00
	Total mining & energy	18,710	0.08	4,397	0.05	49	0.00	2,499	0.04	11,550	0.11
	Total agriculture	8,419	0.04	5,907	0.07	103	0.02	554	0.00	2,647	0.02
	Total construction	22,137	0.10	1,605	0.02	606	0.11	8,023	0.11	9,917	0.09
	Total manufacturing	72,127	0.32	52,188	0.61	911	0.16	14,729	0.21	20,153	0.18
	Total transportation	16,330	0.07	5,633	0.07	298	0.05	5,169	0.07	8,731	0.08
	Total trade	21,638	0.10	6,681	0.08	945	0.17	9,491	0.14	13,392	0.12
	Total real estate	21,923	0.10	1,981	0.02	254	0.05	3,474	0.05	12,313	0.11
	Total services	27,350	0.12	6,992	0.08	1,119	0.20	11,182	0.16	15,482	0.14
	Total govt enterprises	2,037	0.00	818	0.00	78	0.01	983	0.01	1,227	0.01
	Total special industry	14,014	0.06	0	0.00	1,175	0.21	14,005	0.20	14,014	0.13
	State total	224,684	1.00	86,203	1.00	5,538	1.00	70,107	1.00	109,425	1.00
77-UT	Metallic ores	380.74	0.02	203.31	0.03	9	0.02	111.37	0.02	180.62	0.02
	Metal mining svc	4.11	0.00	0.81	0.00	0	0.00	1.24	0.00	1.68	0.00
	Coal	267.86	0.01	249.31	0.04	3	0.00	96.29	0.01	138.66	0.01
	Oil and gas	410.68	0.02	144.75	0.02	0	0.00	44.31	0.00	272.31	0.03
	Natural gas liquids	6.46	0.00	1.38	0.00	0	0.00	0.73	0.00	1.37	0.00
	Nonmetallic ores	71.01	0.00	46.46	0.00	1	0.00	21.66	0.00	39.36	0.00
	Nonmet min svc (exc fuel)	0.74	0.00	0.66	0.00	0	0.00	0.29	0.00	0.41	0.00
	Total mining & energy	1,142	0.06	647	0.09	13	0.02	276	0.04	634	0.07
	Total agriculture	527	0.03	318	0.04	6	0.01	43	0.00	161	0.02
	Total construction	1,991	0.11	175	0.02	40	0.07	722	0.11	892	0.09
	Total manufacturing	4,500	0.25	2,836	0.40	49	0.09	955	0.14	1,241	0.13
	Total transportation	1,325	0.07	533	0.08	25	0.05	438	0.07	707	0.07
	Total trade	1,970	0.11	983	0.14	86	0.16	846	0.13	1,193	0.12
	Total real estate	1,986	0.11	558	0.08	21	0.04	247	0.04	1,205	0.13
	Total services	2,585	0.14	980	0.14	127	0.24	1,097	0.16	1,463	0.15
	Total govt enterprises	221	0.01	64	0.00	7	0.01	94	0.01	129	0.01
	Total special industry	1,971	0.11	—	-0.00	161	0.30	1,970	0.29	1,971	0.21
	State total	18,217	1.00	7,093	1.00	535	1.00	6,688	1.00	9,597	1.00
77-WV	Metal mining svc	0.26	0.00	0.26	0.00	0	0.00	0.08	0.00	0.11	0.00
	Coal	3133.46	0.14	3067.66	0.23	56	0.10	1243.35	0.16	1790.49	0.16
	Oil and gas	108.54	0.00	0.32	0.00	2	0.00	17.18	0.00	67.32	0.00
	Natural gas liquids	14.85	0.00	3.55	0.00	0	0.00	1.81	0.00	3.40	0.00
	Nonmetallic ores	33.22	0.00	26.87	0.00	1	0.00	11.23	0.00	19.79	0.00
	Nonmet min svc (exc fuel)	0.24	0.00	0.24	0.00	0	0.00	0.10	0.00	0.14	0.00
	Total mining & energy	3,291	0.14	3,099	0.23	59	0.11	1,274	0.17	1,881	0.16
	Total agriculture	256	0.01	200	0.01	5	0.00	37	0.00	98	0.00
	Total construction	1,233	0.05	579	0.04	35	0.06	447	0.06	552	0.05
	Total manufacturing	9,110	0.40	6,956	0.51	116	0.21	2,270	0.30	3,111	0.27
	Total transportation	1,834	0.08	644	0.05	31	0.06	570	0.07	985	0.09
	Total trade	2,155	0.09	1,055	0.08	99	0.18	949	0.12	1,333	0.12
	Total real estate	1,944	0.08	608	0.04	19	0.03	222	0.03	1,257	0.11
	Total services	2,200	0.10	340	0.03	103	0.19	925	0.12	1,234	0.11
	Total govt enterprises	185	0.00	58	0.00	9	0.02	114	0.01	125	0.01
	Total special industry	849	0.04	—	-0.00	77	0.14	848	0.11	849	0.07
	State total	23,055	1.00	13,539	1.00	553	1.00	7,656	1.00	11,426	1.00

Table C2—Base year statistics for selected states —con.

1977\$

Year- State	Industry	TIO (×10 ⁶ \$)	Total (%)	Exports (×10 ⁶ \$)	Total (%)	Employment (×10 ³ jobs)	Total (%)	Employee comp (×10 ⁶ \$)	Total (%)	Total income (×10 ⁶ \$)	Total (%)
77-WY	Metallic ores	207.47	0.02	190.45	0.05	3	0.02	56.68	0.02	91.54	0.02
	Metal mining svc	3.49	0.00	0.00	0.00	0	0.00	1.05	0.00	1.42	0.00
	Coal	349.00	0.04	358.41	0.09	2	0.01	138.48	0.06	199.42	0.05
	Oil and gas	1440.41	0.17	813.49	0.19	5	0.03	160.66	0.07	950.91	0.22
	Natural gas liquids	42.79	0.00	13.43	0.00	0	0.00	4.92	0.00	9.23	0.00
	Nonmetallic ores	356.72	0.04	324.93	0.08	4	0.02	109.50	0.05	204.25	0.05
	Total mining & energy	2,400	0.28	1,701	0.41	14	0.08	471	0.20	1,457	0.33
	Total agriculture	701	0.08	550	0.13	12	0.07	95	0.04	238	0.05
	Total construction	710	0.08	0	0.00	24	0.14	257	0.11	318	0.07
	Total manufacturing	1,436	0.17	1,112	0.27	5	0.03	164	0.07	242	0.06
	Total transportation	778	0.09	411	0.10	12	0.07	242	0.10	423	0.10
	Total trade	578	0.07	69	0.02	26	0.15	255	0.11	357	0.08
	Total real estate	629	0.07	69	0.02	6	0.03	72	0.03	402	0.09
	Total services	694	0.08	249	0.06	33	0.19	262	0.11	365	0.08
	Total govt enterprises	56	0.00	16	0.00	2	0.01	29	0.01	36	0.00
	Total special industry	517	0.06	—	-0.00	43	0.24	517	0.22	517	0.12
	State total	8,500	1.00	4,178	1.00	177	1.00	2,365	1.00	4,356	1.00

Appendix D. Multipliers for Energy and Minerals Industry

Table D1 shows multipliers for the energy and minerals industry in the U.S. economy for 1977, 1982, 1985, and 1990. The impact of the minerals industry on the economy is shown in Table D2. Tables D3 and D4 show multipliers for energy and minerals industries by RPA region and selected states, respectively.

Table D1—Multipliers for energy and minerals industry in U.S. economy

Year-Region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
90-US	Metallic ores	1.96	3.12	2.53	4.76	2.52	4.50	2.53	4.52	3.17	7.61
	Metal mining services	1.60	3.11	1.39	2.54	1.62	3.19	1.61	3.15	1.59	3.86
	Coal	1.33	2.61	1.20	2.01	1.26	2.27	1.26	2.24	1.33	3.23
	Oil and gas	1.24	1.62	1.37	2.64	1.23	1.58	1.22	1.50	1.57	3.57
	Natural gas liquids	1.21	1.60	1.32	2.61	1.20	1.55	1.19	1.47	1.46	3.34
	Nonmetallic ores	1.46	2.10	2.00	3.93	1.49	2.22	1.50	2.24	2.08	4.90
	Nonmet min srv (exc. fuels)	1.51	2.64	1.63	3.25	1.53	2.77	1.53	2.75	1.68	4.04
	New min extraction facil	1.42	2.75	1.42	2.94	1.29	2.31	1.33	2.46	1.37	3.32
	Maint/repair oil & gas wells	1.27	7.41	1.11	3.74	1.15	4.83	1.18	5.63	1.04	2.56
85-US	Metallic ores	2.01	4.00	1.84	3.59	2.38	5.26	2.39	5.32	1.98	4.78
	Metal mining services	1.86	4.42	1.40	2.64	2.10	5.47	2.07	5.34	1.54	3.70
	Coal	1.87	3.38	1.86	3.42	2.00	3.81	1.95	3.66	2.24	5.37
	Oil and gas	1.32	2.15	1.41	2.89	1.28	1.92	1.27	1.86	1.55	3.68
	Natural gas liquids	1.34	2.44	1.33	2.75	1.33	2.24	1.32	2.16	1.38	3.31
	Nonmetallic ores	1.73	3.54	1.57	3.13	1.68	3.39	1.71	3.54	1.67	4.03
	Nonmet min srv (exc. fuels)	1.61	3.42	1.41	2.66	1.52	3.08	1.54	3.19	1.54	3.70
	New min extraction facil	1.94	3.66	2.92	6.13	2.12	4.12	2.21	4.46	2.48	5.94
	Maint/repair oil & gas wells	1.68	3.06	2.38	5.14	1.54	2.66	1.58	2.84	2.13	5.10
82-US	Metallic ores	1.91	3.78	1.53	2.65	1.94	4.07	1.87	3.86	1.70	3.76
	Metal mining services	1.94	3.87	1.61	2.91	2.16	4.69	1.95	4.07	1.77	3.90
	Coal	1.92	3.39	1.79	3.02	1.88	3.33	1.88	3.37	2.19	4.83
	Oil and gas	1.61	2.15	2.67	4.69	1.60	2.08	1.55	1.99	4.24	9.19
	Natural gas liquids	1.63	2.30	3.05	5.55	1.61	2.20	1.55	2.10	5.15	11.29
	Nonmetallic ores	1.90	3.55	1.77	3.37	1.78	3.34	1.79	3.41	1.80	3.98
	Nonmet min srv (exc. fuels)	1.88	3.56	1.75	3.26	1.79	3.42	1.77	3.42	1.83	4.05
	New min extraction facil	2.18	4.02	2.56	4.76	2.46	4.83	2.58	5.24	2.64	5.84
	Maint/repair oil & gas wells	1.85	3.71	1.60	2.96	1.61	3.12	1.67	3.36	1.67	3.69
77-US	Metallic ores	1.83	3.07	1.79	3.06	1.86	3.23	1.87	3.20	1.86	3.78
	Metal mining services	1.97	3.72	1.91	3.50	1.98	4.00	1.98	4.07	1.72	3.48
	Coal	1.78	2.94	1.62	2.50	1.69	2.74	1.75	2.91	1.96	3.98
	Oil and gas	1.40	1.79	1.75	2.59	1.29	1.57	1.33	1.62	2.88	5.77
	Natural gas liquids	2.24	3.24	3.67	6.10	3.60	5.82	4.01	6.40	5.61	11.33
	Nonmetallic ores	1.69	2.99	1.57	2.72	1.54	2.63	1.58	2.75	1.58	3.20
	Nonmet min srv (exc. fuels)	1.70	2.91	1.47	2.31	1.54	2.56	1.60	2.73	1.75	3.55

Table D2—Impact of minerals industries on U.S. Economy (constant 1982\$)

Year	Industrial output (×10 ⁶ \$)	Economy-wide output		Employ- ment (jobs)	Employment		Value added (×10 ⁶ \$)	Value added		Employee comp (×10 ⁶ \$)	Personal income		Total income (×10 ⁶ \$)	Total income	
		Type II	Type III		Type I	Type III		Type I	Type III		Type I	Type III			
Metallic ores															
1990	14293.720	28044.278	44619.274	54283.000	172343.100	412849.369	4863.115	12315.839	21968.636	2299.262	5818.742	10951.385	4435.531	11178.868	19942.145
1985	5829.277	11723.259	23293.791	55002.000	109112.968	262843.558	2268.936	5424.572	12060.076	1675.747	3078.515	6023.975	1855.285	4417.248	9759.170
1982	5267.042	10047.409	19931.014	71415.000	121684.019	268820.343	2528.731	4717.348	9757.614	2343.655	3580.167	6205.295	2105.043	4078.942	8569.630
1977	5502.072	10089.149	16883.658	81000.000	150781.500	305985.600	2710.441	5065.543	8677.206	1462.307	2618.261	4476.268	2329.891	4328.239	7515.529
Coal															
1990	15145.130	20111.219	39542.418	148834.000	198365.960	480302.186	11563.190	14532.618	25848.355	7589.570	9101.412	15226.196	10017.380	12634.921	22770.505
1985	35901.180	66966.471	121410.611	195785.000	439341.540	1052050.698	18763.160	36531.873	68729.455	7504.241	13948.883	25668.256	12286.310	24587.364	46857.529
1982	28151.160	54129.050	95350.794	231895.000	507502.208	1121142.757	14085.680	26444.456	47465.924	8913.599	15999.019	26948.484	12911.480	24209.025	42937.127
1977	16291.000	29030.562	47854.813	212000.000	416113.600	844438.400	8682.702	15226.854	25232.800	5839.803	9444.713	14592.500	8406.522	14173.396	23003.607
Oil & gas															
1990	189499.000	234107.057	306647.271	525968.000	823455.521	1876075.267	148975.703	181631.179	223880.685	15793.870	21563.372	41700.556	113234.602	139663.556	179080.528
1985	119316.300	157879.328	256219.823	737336.000	1144714.140	2713175.279	90822.110	115307.751	168874.631	20313.900	28689.321	58684.826	76911.250	98815.574	147315.808
1982	31426.900	50751.301	67555.264	211587.000	897425.102	1943490.071	81746.690	127099.754	162929.328	9265.996	24749.475	43414.898	66892.920	106874.818	138802.809
1977	43899.430	61498.711	78479.011	134000.000	386067.400	773260.400	31152.190	41451.104	50479.009	5481.888	9576.858	14220.566	28441.250	36612.421	44578.815
Nonmetallic ores															
1990	35350.430	51555.067	74338.420	117312.000	244548.592	575145.536	17972.189	26981.648	40250.514	4040.418	8065.482	15880.863	17419.840	25974.722	38750.433
1985	10124.850	17477.516	35796.407	120046.000	200776.935	483677.339	5482.911	9398.806	19410.053	3251.149	5116.658	10164.717	5114.303	8570.038	17341.579
1982	9399.287	17823.868	33399.426	106490.000	191767.192	423627.869	4906.683	8766.771	16709.709	2575.725	4555.170	8692.299	4516.624	8022.428	15099.526
1977	5916.911	10008.455	17692.156	108000.000	170294.400	345567.600	3479.431	5483.583	9567.739	1828.714	2865.961	4967.153	3288.264	5054.062	8658.328

Table D3—Multipliers for energy and minerals industries in RPA regional economies

			Metallic ores		Coal		Oil & gas		Nonmetallic ores		
			Year	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
North	Output	1990	1.5062	2.0094	1.1710	1.8694	1.0919	1.4374	1.2549	1.6412	
		1985	1.4838	2.0416	1.3415	1.7569	1.3417	2.1107	1.3553	2.2105	
		1982	1.4654	2.2290	1.3313	1.8076	1.2764	1.4339	1.3923	2.0362	
		1977	1.5886	2.1517	1.3236	1.8655	1.2453	2.0396	1.3437	2.2811	
	Employment	1990	2.1685	4.2233	1.1852	2.3463	1.1872	2.3121	1.5817	3.0805	
		1985	1.8188	3.2973	1.7930	3.2164	1.3257	2.4035	1.3237	2.3998	
		1982	1.3360	2.2743	1.4376	2.4294	3.7406	6.2097	1.3973	2.3786	
		1977	1.6467	2.7921	1.4025	2.3781	1.1384	1.9303	1.1993	2.0336	
	Value added	1990	1.7841	2.6093	1.1399	1.7090	1.0824	1.3559	1.2762	1.7269	
		1985	1.6431	2.4313	1.3698	1.8249	1.3518	2.0657	1.3529	2.2127	
		1982	1.5304	2.5866	1.3293	1.8509	1.2647	1.4035	1.3428	1.9726	
		1977	1.8185	2.5988	1.3485	1.9433	1.2146	1.8530	1.2905	2.1785	
	Personal income	1990	1.8816	2.9860	1.1015	1.5774	1.1019	1.8211	1.5298	2.5349	
		1985	1.7334	2.7181	1.4989	2.1869	1.4664	2.9672	1.2717	1.9855	
		1982	1.2926	1.8752	1.2760	1.6987	1.8456	2.4736	1.3215	1.9124	
		1977	1.5931	2.3552	1.2494	1.6959	1.5091	3.6350	1.2657	2.0961	
	Total income	1990	1.7866	2.6172	1.1407	1.7232	1.0834	1.3892	1.2764	1.7252	
		1985	1.6628	2.4720	1.5305	2.2135	1.3626	2.1070	1.3304	2.1280	
		1982	1.5990	2.7561	1.3318	1.8388	1.2922	1.4434	1.3451	1.9563	
		1977	1.7657	2.5904	1.2982	1.8363	1.1766	1.7908	1.2591	2.0734	
South	Output	1990	1.4585	1.9322	1.1647	1.7946	1.0900	1.2604	1.2783	1.5158	
		1985	1.5759	2.6115	1.4138	1.9283	1.2228	1.5882	1.4732	2.2127	
		1982	1.3811	1.9522	1.3894	1.7910	1.4392	1.5936	1.5433	2.0734	
		1977	1.3855	1.9147	1.3191	1.6972	1.3132	1.4377	1.3807	1.8266	
	Employment	1990	2.0008	3.6720	1.1747	2.1821	1.3725	2.4534	1.8964	3.3899	
		1985	1.3673	2.3148	1.6260	2.7335	1.4080	2.3670	1.4278	2.4173	
		1982	1.2674	1.9461	1.4124	2.1688	2.9493	4.4833	1.4034	2.1549	
		1977	1.3834	2.1374	1.4332	2.2064	3.3022	5.0318	1.3528	2.0825	
	Value added	1990	1.6181	2.2752	1.1305	1.6343	1.0795	1.2119	1.3081	1.6050	
		1985	1.9966	3.9196	1.4694	2.0823	1.1893	1.4651	1.4876	2.3011	
		1982	1.4101	2.0827	1.3925	1.8318	1.4212	1.5571	1.4985	2.0697	
		1977	1.3846	1.9327	1.3442	1.7566	1.2768	1.3799	1.3539	1.8147	
	Personal income	1990	1.5952	2.3738	1.0925	1.4991	1.1818	1.8077	1.7696	2.7125	
		1985	1.4397	2.3319	1.3995	1.9489	1.2481	1.8312	1.3938	2.1210	
		1982	1.2277	1.6188	1.3095	1.6545	2.0311	2.6267	1.4237	1.9764	
		1977	1.3301	1.8050	1.2377	1.5451	1.5293	1.8105	1.3066	1.7480	
	Total income	1990	1.5896	2.2143	1.1309	1.6399	1.0907	1.2522	1.3023	1.5940	
		1985	2.0798	4.1510	1.4926	2.1398	1.1929	1.4732	1.4729	2.2580	
		1982	1.4799	2.2584	1.3848	1.8052	1.4477	1.5933	1.4805	2.0209	
		1977	1.3633	1.9022	1.2955	1.6668	1.2340	1.3324	1.3214	1.7475	

Table D3—Multipliers for energy and minerals industries in RPA regional economies—con.

			Metallic ores		Coal		Oil & gas		Nonmetallic ores		
			Year	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
Rocky Mtn.	Output	1990	1.6084	2.0242	1.1501	1.5982	1.0832	1.2733	1.2933	1.5313	
		1985	1.5785	2.3130	1.3478	1.7090	1.2404	1.6404	1.4920	2.1422	
		1982	1.4359	2.0624	1.3810	1.7851	1.3838	1.5396	1.5661	2.1236	
		1977	1.4700	1.9390	1.3182	1.5778	1.3316	1.4637	1.3983	1.7882	
	Employment	1990	2.6047	4.7112	1.2196	2.2059	1.2963	2.2875	1.7924	3.1629	
		1985	1.5910	2.7107	1.8340	3.1019	1.4056	2.3774	1.5479	2.6375	
		1982	1.3342	2.1387	1.4787	2.3705	3.3560	5.3091	1.4593	2.3393	
		1977	1.4741	2.3109	1.8006	2.8228	2.9561	4.5810	1.4569	2.2840	
	Value added	1990	2.0397	2.8743	1.1207	1.4838	1.0736	1.2233	1.3176	1.6157	
		1985	1.8080	2.9599	1.3751	1.7749	1.2130	1.5320	1.5228	2.2770	
		1982	1.3908	2.0381	1.3762	1.8161	1.3623	1.4988	1.5098	2.1236	
		1977	1.4706	1.9898	1.3433	1.6299	1.2709	1.3800	1.3526	1.7400	
	Personal income	1990	1.9618	2.8303	1.0928	1.4116	1.1476	1.7961	1.6433	2.4449	
		1985	1.4131	1.9703	1.4073	1.8776	1.2665	1.9448	1.4022	2.0247	
		1982	1.2275	1.5666	1.2942	1.6330	1.9565	2.5432	1.4427	2.0481	
		1977	1.4121	1.8742	1.2394	1.4468	1.5883	1.9041	1.3118	1.6794	
	Total income	1990	2.0545	2.8876	1.1313	1.5321	1.0825	1.2676	1.3167	1.6119	
		1985	1.9037	3.1922	1.4572	1.9601	1.2208	1.5562	1.4948	2.2033	
		1982	1.4143	2.0911	1.3748	1.7990	1.3906	1.5380	1.4978	2.0844	
		1977	1.4610	1.9815	1.2962	1.5554	1.2318	1.3365	1.3241	1.6864	
Pacific	Output	1990	1.4507	1.8776	1.1521	1.6816	1.0926	1.1990	1.2120	1.5035	
		1985	1.5841	2.6706	1.2791	1.5512	1.1607	1.3726	1.4224	2.0970	
		1982	1.4965	2.2553	1.2756	1.7485	1.3437	1.5382	1.4626	2.1415	
		1977	1.5253	2.0723	1.2982	1.4933	1.2622	1.3900	1.3517	1.7393	
	Employment	1990	1.9661	3.4348	1.1714	2.0465	1.4891	2.4233	1.4794	2.5306	
		1985	1.3869	2.3400	2.0172	3.3228	1.5227	2.5083	1.4302	2.3964	
		1982	1.3509	2.2345	1.3185	2.1677	2.7460	4.4459	1.4025	2.3058	
		1977	1.4304	2.2605	2.4332	3.7988	2.6396	4.1209	1.4813	2.3409	
	Value added	1990	1.5950	2.1886	1.1255	1.5682	1.0836	1.1701	1.2202	1.5515	
		1985	1.9924	4.0521	1.2880	1.5777	1.1302	1.2842	1.4216	2.1620	
		1982	1.5202	2.5122	1.2667	1.7934	1.3267	1.5010	1.4065	2.1172	
		1977	1.6980	2.4398	1.3284	1.5489	1.2287	1.3347	1.3059	1.6884	
	Personal income	1990	1.6072	2.3451	1.0852	1.4389	1.1865	1.5998	1.3932	2.0637	
		1985	1.4798	2.4719	1.9262	2.9630	1.2452	1.7382	1.3117	1.8949	
		1982	1.2754	1.7969	1.1950	1.5933	1.8980	2.6339	1.3547	1.9737	
		1977	1.4715	2.1339	1.2215	1.3831	1.5499	1.9031	1.2731	1.6318	
	Total income	1990	1.5716	2.1390	1.1191	1.5447	1.0993	1.2086	1.2201	1.5460	
		1985	2.0783	4.3191	1.6989	2.4185	1.1487	1.3265	1.3865	2.0648	
		1982	1.5897	2.6823	1.2664	1.7747	1.3543	1.5427	1.4108	2.1048	
		1977	1.6494	2.4255	1.2773	1.4763	1.1886	1.2904	1.2743	1.6273	

Table D4—Multipliers for energy and minerals industry in selected states

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
90-AK	Metallic ores	1.16	1.22	1.27	1.41	1.22	1.31	1.19	1.26	1.39	1.70
	Metal mining services	1.14	1.25	1.12	1.26	1.18	1.35	1.14	1.27	1.15	1.40
	Coal	1.07	1.15	1.05	1.12	1.06	1.14	1.06	1.13	1.10	1.34
	Oil and gas	1.01	1.03	1.07	1.14	1.02	1.03	1.01	1.02	1.14	1.34
	Nonmetallic ores	1.07	1.09	1.54	1.73	1.09	1.12	1.08	1.11	1.49	1.76
	Nonmet min srv (exc. fuels)	1.13	1.20	1.22	1.36	1.18	1.27	1.14	1.21	1.28	1.56
	New min extraction facil	1.07	1.14	1.08	1.19	1.06	1.12	1.07	1.14	1.11	1.35
90-AZ	Metallic ores	1.54	1.76	2.03	2.63	2.43	3.24	2.48	3.36	2.50	3.85
	Metal mining services	1.27	1.67	1.17	1.53	1.29	1.77	1.28	1.75	1.30	2.02
	Coal	1.09	1.43	1.06	1.29	1.09	1.38	1.08	1.37	1.13	1.75
	Oil and gas	1.06	1.24	1.08	1.57	1.11	1.42	1.05	1.20	1.20	1.84
	Nonmetallic ores	1.12	1.35	1.32	2.04	1.14	1.41	1.14	1.42	1.24	1.91
	Nonmet min srv (exc. fuels)	1.22	1.59	1.34	1.97	1.27	1.74	1.27	1.76	1.29	2.00
	New min extraction facil	1.09	1.40	1.10	1.50	1.08	1.34	1.09	1.38	1.12	1.72
	Maint/repair oil & gas wells	1.12	9.27	1.08	6.46	1.09	7.22	1.13	10.16	1.01	1.58
90-GA	Metallic ores	1.47	2.14	2.07	4.03	2.15	3.78	2.81	5.38	1.31	2.03
	Coal	1.10	1.80	1.06	1.56	1.08	1.66	1.08	1.66	1.05	1.63
	Oil and gas	1.06	1.20	1.07	1.43	1.11	1.36	1.05	1.17	1.14	1.75
	Nonmetallic ores	1.13	1.30	1.25	1.65	1.15	1.36	1.15	1.36	1.31	2.00
	Nonmet min srv (exc. fuels)	1.19	1.46	1.28	1.69	1.22	1.52	1.21	1.51	1.34	2.05
	New min extraction facil	1.10	1.44	1.11	1.54	1.08	1.36	1.09	1.40	1.10	1.69
90-ID	Metallic ores	1.33	1.56	1.51	1.93	1.47	1.80	1.46	1.78	1.92	3.00
	Metal mining services	1.27	1.64	1.18	1.49	1.31	1.74	1.29	1.70	1.37	2.17
	Coal	1.09	2.20	1.05	1.75	1.05	1.66	1.07	1.98	1.04	1.65
	Oil and gas	1.04	1.36	1.02	1.31	1.03	1.25	1.04	1.29	1.07	1.69
	Nonmetallic ores	1.16	1.32	1.32	1.75	1.18	1.38	1.18	1.39	1.44	2.25
	New min extraction facil	1.08	1.41	1.09	1.48	1.07	1.33	1.08	1.37	1.11	1.75
90-KY	Metallic ores	1.45	1.82	2.65	4.34	2.19	3.20	2.37	3.57	1.84	2.95
	Coal	1.12	1.50	1.07	1.32	1.10	1.41	1.09	1.38	1.15	1.83
	Oil and gas	1.05	1.31	1.06	1.71	1.04	1.28	1.04	1.23	1.08	1.70
	Natural gas liquids	1.04	1.13	1.07	1.36	1.04	1.12	1.03	1.10	1.20	1.83
	Nonmetallic ores	1.16	1.55	1.16	1.60	1.14	1.49	1.14	1.49	1.20	1.92
	Nonmet min srv (exc. fuels)	1.28	1.72	1.40	2.15	1.33	1.91	1.32	1.90	1.30	2.08
	New min extraction facil	1.10	1.51	1.10	1.57	1.08	1.39	1.09	1.44	1.09	1.75
90-LA	Metallic ores	1.51	1.78	1.61	2.03	1.67	2.08	1.77	2.25	2.47	4.08
	Coal	1.12	1.39	1.06	1.22	1.08	1.25	1.10	1.32	1.24	2.04
	Oil and gas	1.06	1.16	1.14	1.56	1.05	1.15	1.05	1.13	1.30	2.12
	Natural gas liquids	1.05	1.13	1.13	1.49	1.05	1.13	1.04	1.11	1.29	2.02
	Nonmetallic ores	1.25	1.33	4.07	5.61	1.27	1.37	1.29	1.39	4.94	7.72
	Nonmet min srv (exc. fuels)	1.34	1.86	1.52	2.53	1.45	2.21	1.42	2.14	1.31	2.17
	New min extraction facil	1.16	1.58	1.17	1.69	1.12	1.46	1.14	1.52	1.17	1.93
	Maint/repair oil & gas wells	1.12	2.96	1.05	1.87	1.08	2.40	1.08	2.48	1.03	1.71

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
90-MT	Metallic ores	1.40	1.67	1.54	2.03	1.61	2.08	1.55	1.96	2.00	3.31
	Metal mining services	1.26	1.63	1.17	1.50	1.30	1.77	1.25	1.63	1.37	2.28
	Coal	1.11	1.39	1.07	1.30	1.11	1.41	1.08	1.31	1.18	1.96
	Oil and gas	1.05	1.15	1.10	1.49	1.04	1.15	1.04	1.12	1.30	2.12
	Natural gas liquids	1.04	1.12	1.09	1.44	1.04	1.12	1.03	1.10	1.29	2.01
	Nonmetallic ores	1.35	1.46	2.04	2.84	1.37	1.50	1.37	1.49	2.28	3.73
	Nonmet min srv (exc. fuels)	1.34	1.69	1.37	1.97	1.38	1.85	1.35	1.78	1.40	2.32
	New min extraction facil	1.10	1.56	1.09	1.62	1.08	1.44	1.09	1.49	1.09	1.81
	Maint/repair oil & gas wells	1.08	2.53	1.03	1.68	1.05	2.11	1.05	2.12	1.02	1.70
90-NM	Metallic ores	1.56	1.79	2.05	2.70	2.35	3.06	2.29	2.99	2.56	4.07
	Metal mining services	1.33	1.77	1.20	1.60	1.38	1.94	1.34	1.86	1.34	2.15
	Coal	1.11	1.42	1.06	1.26	1.09	1.33	1.09	1.34	1.16	1.87
	Oil and gas	1.07	1.17	1.13	1.57	1.07	1.17	1.06	1.14	1.32	2.10
	Natural gas liquids	1.06	1.14	1.12	1.46	1.06	1.14	1.05	1.11	1.36	2.08
	Nonmetallic ores	1.20	1.34	1.45	1.93	1.22	1.40	1.23	1.42	1.64	2.60
	Nonmet min srv (exc. fuels)	1.24	1.59	1.31	1.83	1.27	1.67	1.27	1.68	1.33	2.14
	New min extraction facil	1.13	1.55	1.13	1.61	1.10	1.42	1.11	1.49	1.13	1.83
	Maint/repair oil & gas wells	1.10	2.92	1.03	1.84	1.06	2.38	1.07	2.47	1.02	1.65
90-NV	Metallic ores	1.37	1.62	1.47	1.89	1.49	1.82	1.50	1.85	1.82	2.69
	Metal mining services	1.32	1.70	1.19	1.49	1.36	1.81	1.36	1.82	1.34	1.99
	Oil and gas	1.08	1.17	1.11	1.34	1.11	1.22	1.08	1.15	1.37	1.97
	Nonmetallic ores	1.29	1.38	2.03	2.67	1.32	1.44	1.33	1.46	2.15	3.10
	Nonmet min srv (exc. fuels)	1.31	1.67	1.38	1.93	1.35	1.78	1.37	1.85	1.33	1.98
	New min extraction facil	1.11	1.36	1.12	1.45	1.10	1.32	1.11	1.36	1.15	1.71
90-OK	Metal mining services	1.39	1.97	1.31	1.88	1.47	2.19	1.52	2.36	1.31	2.03
	Coal	1.13	1.51	1.07	1.30	1.09	1.37	1.10	1.40	1.14	1.77
	Oil and gas	1.06	1.18	1.12	1.57	1.06	1.17	1.05	1.14	1.22	1.87
	Natural gas liquids	1.05	1.14	1.12	1.49	1.05	1.14	1.04	1.11	1.23	1.83
	Nonmetallic ores	1.17	1.36	1.33	1.81	1.17	1.38	1.17	1.39	1.38	2.11
	New min extraction facil	1.15	1.61	1.16	1.68	1.12	1.47	1.13	1.55	1.14	1.76
	Maint/repair oil & gas wells	1.13	3.04	1.06	1.92	1.09	2.51	1.09	2.56	1.02	1.59
90-PA	Metallic ores	1.36	1.98	1.59	2.79	1.56	2.53	2.05	3.89	1.25	1.88
	Coal	1.10	1.45	1.05	1.27	1.07	1.33	1.07	1.36	1.10	1.63
	Oil and gas	1.05	1.21	1.05	1.34	1.04	1.16	1.05	1.16	1.12	1.66
	Natural gas liquids	1.05	1.19	1.06	1.44	1.04	1.15	1.04	1.15	1.11	1.65
	Nonmetallic ores	1.12	1.42	1.13	1.48	1.10	1.38	1.10	1.38	1.17	1.74
	Nonmet min srv (exc. fuels)	1.18	1.46	1.25	1.66	1.18	1.49	1.17	1.49	1.27	1.89
	New min extraction facil	1.12	1.41	1.10	1.44	1.08	1.31	1.08	1.34	1.10	1.64

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
90-SD	Metallic ores	1.25	1.46	1.37	1.73	1.33	1.62	1.31	1.57	1.78	2.76
	Metal mining services	1.20	1.51	1.14	1.41	1.23	1.61	1.21	1.54	1.34	2.11
	Coal	1.09	1.35	1.05	1.21	1.05	1.17	1.07	1.28	1.17	1.81
	Oil and gas	1.04	1.18	1.05	1.43	1.04	1.20	1.03	1.14	1.12	1.74
	Nonmetallic ores	1.13	1.41	1.16	1.55	1.14	1.45	1.13	1.42	1.21	1.88
	New min extraction facil	1.07	1.44	1.09	1.54	1.07	1.36	1.07	1.40	1.09	1.72
90-TX	Metallic ores	1.30	1.63	1.23	1.56	1.32	1.68	1.33	1.71	1.46	2.29
	Metal mining services	1.37	1.97	1.28	1.86	1.46	2.22	1.48	2.26	1.29	2.04
	Coal	1.13	1.53	1.07	1.32	1.10	1.43	1.10	1.43	1.14	1.82
	Oil and gas	1.08	1.18	1.16	1.54	1.08	1.18	1.07	1.15	1.32	2.00
	Natural gas liquids	1.07	1.17	1.15	1.52	1.07	1.16	1.06	1.14	1.31	1.98
	Nonmetallic ores	1.20	1.31	1.96	2.66	1.23	1.37	1.24	1.38	2.11	3.19
	Nonmet min srv (exc. fuels)	1.27	1.80	1.46	2.48	1.37	2.15	1.36	2.12	1.25	1.98
	New min extraction facil	1.17	1.57	1.19	1.66	1.13	1.46	1.15	1.52	1.17	1.86
	Maint/repair oil & gas wells	1.12	3.02	1.05	1.91	1.09	2.48	1.09	2.54	1.02	1.63
90-UT	Metallic ores	1.55	1.77	1.90	2.37	2.18	2.78	2.15	2.74	2.52	3.84
	Metal mining services	1.30	1.66	1.19	1.48	1.32	1.73	1.30	1.67	1.36	2.10
	Coal	1.11	1.41	1.07	1.26	1.10	1.34	1.09	1.32	1.15	1.75
	Oil and gas	1.06	1.15	1.12	1.47	1.07	1.16	1.05	1.12	1.29	1.91
	Natural gas liquids	1.05	1.13	1.12	1.46	1.06	1.14	1.05	1.11	1.28	1.89
	Nonmetallic ores	1.17	1.29	1.52	2.05	1.18	1.33	1.19	1.34	1.56	2.37
	Nonmet min srv (exc. fuels)	1.17	1.25	1.18	1.28	1.14	1.22	1.14	1.22	2.24	3.31
	New min extraction facil	1.13	1.46	1.13	1.51	1.09	1.35	1.11	1.40	1.13	1.73
90-WV	Metallic ores	1.28	1.50	1.53	2.06	1.49	1.90	1.52	1.95	1.61	2.54
	Coal	1.09	1.37	1.06	1.25	1.08	1.32	1.07	1.29	1.13	1.79
	Oil and gas	1.04	1.14	1.06	1.42	1.03	1.12	1.03	1.11	1.14	1.78
	Natural gas liquids	1.03	1.13	1.06	1.41	1.03	1.11	1.03	1.10	1.13	1.77
	Nonmetallic ores	1.10	1.53	1.11	1.63	1.10	1.51	1.09	1.49	1.11	1.75
	New min extraction facil	1.10	1.43	1.11	1.52	1.08	1.34	1.09	1.37	1.10	1.74
90-WY	Metallic ores	1.19	1.37	1.10	1.23	1.19	1.40	1.18	1.36	1.25	1.72
	Metal mining services	1.20	1.38	1.11	1.25	1.20	1.41	1.18	1.37	1.24	1.71
	Coal	1.09	1.25	1.06	1.17	1.08	1.23	1.07	1.20	1.13	1.56
	Oil and gas	1.04	1.09	1.06	1.23	1.04	1.09	1.03	1.08	1.18	1.60
	Natural gas liquids	1.04	1.08	1.06	1.22	1.03	1.07	1.03	1.06	1.19	1.61
	Nonmetallic ores	1.15	1.21	1.25	1.43	1.14	1.22	1.15	1.24	1.47	2.00
	Nonmet min srv (exc. fuels)	1.21	1.46	1.31	1.75	1.26	1.62	1.26	1.62	1.20	1.65
	New min extraction facil	1.11	1.34	1.09	1.34	1.07	1.25	1.09	1.30	1.08	1.49
	Maint/repair oil & gas wells	1.07	1.98	1.02	1.39	1.04	1.67	1.05	1.74	1.01	1.40

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
85-AK	Metallic ores	1.28	1.44	1.21	1.35	1.64	2.06	1.44	1.71	1.27	1.52
	Metal mining services	1.23	1.46	1.13	1.29	1.41	1.87	1.32	1.65	1.14	1.35
	Coal	1.28	1.44	1.31	1.56	1.36	1.61	1.37	1.62	1.27	1.51
	Oil and gas	1.04	1.06	1.14	1.22	1.04	1.05	1.03	1.05	1.29	1.50
	Natural gas liquids	1.10	1.12	1.14	1.21	1.10	1.12	1.09	1.11	1.21	1.41
	Nonmetallic ores	1.18	1.36	1.15	1.37	1.20	1.41	1.21	1.43	1.12	1.34
	Nonmet min srv (exc. fuels)	1.15	1.29	1.11	1.24	1.15	1.28	1.16	1.29	1.14	1.36
	New min extraction facil	1.19	1.30	1.28	1.45	1.26	1.42	1.29	1.46	1.34	1.60
	Maint/repair oil & gas wells	1.14	1.27	1.15	1.30	1.14	1.27	1.16	1.31	1.18	1.40
85-AZ	Metallic ores	1.40	1.68	1.32	1.54	1.69	2.27	1.62	2.13	1.40	1.79
	Metal mining services	1.28	1.49	1.16	1.29	1.53	1.99	1.29	1.54	1.39	1.78
	Coal	1.22	1.40	1.20	1.37	1.25	1.46	1.27	1.49	1.39	1.77
	Oil and gas	1.20	1.38	3.49	6.80	1.28	1.53	1.17	1.32	1.34	1.72
	Nonmetallic ores	1.23	1.54	1.18	1.45	1.22	1.54	1.24	1.58	1.20	1.54
	Nonmet min srv (exc. fuels)	1.18	1.43	1.12	1.31	1.15	1.39	1.17	1.42	1.19	1.52
85-GA	Metallic ores	1.43	2.39	1.44	2.45	2.09	4.72	2.01	4.42	1.19	1.66
	Metal mining services	1.42	2.38	1.42	2.41	2.11	4.70	2.02	4.38	1.15	1.61
	Coal	1.26	1.71	1.84	3.36	1.89	3.41	1.48	2.29	1.22	1.69
	Oil and gas	1.32	1.78	2.87	6.54	1.60	2.39	1.38	1.88	1.26	1.75
	Nonmetallic ores	1.25	1.59	1.20	1.50	1.24	1.58	1.26	1.62	1.25	1.74
	Nonmet min srv (exc. fuels)	1.20	1.58	1.15	1.45	1.18	1.55	1.20	1.58	1.19	1.65
	Maint/repair oil & gas wells	1.23	1.65	1.30	1.79	1.29	1.81	1.32	1.90	1.23	1.71
85-ID	Metallic ores	1.24	1.61	1.16	1.38	1.34	1.89	1.32	1.85	1.26	1.82
	Metal mining services	1.22	1.63	1.10	1.29	1.30	1.88	1.27	1.82	1.21	1.74
	Oil and gas	1.43	2.12	1.72	3.78	1.92	3.29	1.79	2.99	1.24	1.79
	Nonmetallic ores	1.22	1.53	1.23	1.54	1.27	1.65	1.29	1.70	1.33	1.91
	Nonmet min srv (exc. fuels)	1.13	1.45	1.09	1.29	1.12	1.42	1.13	1.44	1.16	1.67
85-KY	Metallic ores	1.61	3.50	5.46	20.98	16.35	69.60	14.30	61.39	1.15	1.75
	Metal mining services	1.65	3.61	3.96	13.74	10.92	43.54	9.89	39.73	1.15	1.74
	Coal	1.40	1.77	1.36	1.72	1.44	1.90	1.43	1.86	1.58	2.40
	Oil and gas	1.30	1.84	1.36	2.35	1.34	1.88	1.32	1.85	1.27	1.92
	Natural gas liquids	1.18	1.68	1.16	1.83	1.18	1.64	1.18	1.63	1.16	1.76
	Nonmetallic ores	1.30	1.86	1.19	1.58	1.24	1.73	1.26	1.81	1.25	1.90
	Nonmet min srv (exc. fuels)	1.24	1.75	1.13	1.45	1.18	1.63	1.20	1.69	1.22	1.84
	Maint/repair oil & gas wells	1.26	1.85	1.33	2.01	1.30	2.01	1.33	2.13	1.25	1.90

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
85-LA	Metallic ores	1.58	2.91	1.76	3.73	3.48	9.44	3.19	8.69	1.22	1.92
	Metal mining services	1.54	3.02	1.42	2.73	2.31	5.96	2.27	5.95	1.17	1.83
	Coal	1.26	1.57	1.21	1.51	1.32	1.72	1.30	1.67	1.48	2.32
	Oil and gas	1.18	1.41	1.19	1.59	1.14	1.31	1.16	1.34	1.34	2.07
	Natural gas liquids	1.22	1.50	1.21	1.59	1.20	1.41	1.21	1.43	1.27	1.97
	Nonmetallic ores	1.39	1.88	1.29	1.72	1.39	1.90	1.41	1.96	1.41	2.20
	Nonmet min srv (exc. fuels)	1.26	1.79	1.17	1.55	1.24	1.73	1.25	1.78	1.24	1.94
	New min extraction facil	1.36	1.96	1.49	2.20	1.54	2.39	1.61	2.65	1.44	2.25
	Maint/repair oil & gas wells	1.29	1.93	1.30	1.94	1.33	2.05	1.39	2.27	1.28	2.00
85-MT	Metallic ores	1.45	2.10	1.32	1.85	2.09	3.95	1.66	2.72	1.47	2.50
	Metal mining services	1.34	1.93	1.16	1.49	1.61	2.75	1.40	2.12	1.38	2.36
	Coal	1.28	1.51	1.38	1.81	1.40	1.78	1.29	1.54	1.98	3.36
	Oil and gas	1.16	1.40	1.18	1.68	1.15	1.36	1.14	1.33	1.39	2.35
	Natural gas liquids	1.18	1.47	1.17	1.64	1.18	1.45	1.17	1.41	1.27	2.15
	Nonmetallic ores	1.30	1.87	1.22	1.71	1.30	1.92	1.32	1.96	1.36	2.31
	New min extraction facil	1.27	1.89	1.44	2.42	1.41	2.38	1.46	2.57	1.39	2.38
	Maint/repair oil & gas wells	1.24	1.92	1.33	2.21	1.30	2.13	1.52	2.65	1.28	2.19
85-NM	Metallic ores	1.43	1.86	1.32	1.66	1.65	2.38	1.56	2.19	1.45	2.16
	Metal mining services	1.39	2.02	1.23	1.63	1.83	3.24	1.50	2.36	1.27	1.89
	Coal	1.30	1.55	1.27	1.51	1.31	1.58	1.33	1.62	1.58	2.34
	Oil and gas	1.15	1.31	1.22	1.62	1.13	1.25	1.13	1.25	1.40	2.07
	Natural gas liquids	1.20	1.40	1.22	1.60	1.19	1.35	1.19	1.34	1.29	1.91
	Nonmetallic ores	1.46	1.89	1.35	1.75	1.47	1.96	1.54	2.10	1.48	2.22
	Nonmet min srv (exc. fuels)	1.24	1.67	1.14	1.41	1.20	1.56	1.22	1.65	1.24	1.85
	New min extraction facil	1.33	1.84	1.53	2.21	1.51	2.26	1.57	2.47	1.41	2.10
	Maint/repair oil & gas wells	1.26	1.79	1.31	1.91	1.31	1.95	1.36	2.13	1.25	1.86
85-NV	Metallic ores	1.47	2.01	1.36	1.82	1.77	2.77	1.76	2.74	1.49	2.24
	Metal mining services	1.36	1.89	1.18	1.46	1.43	2.11	1.44	2.12	1.36	2.05
	Coal	1.17	1.24	1.11	1.16	1.16	1.23	1.17	1.25	7.91	11.50
	Oil and gas	1.26	1.60	1.37	2.07	1.28	1.62	1.24	1.54	1.41	2.10
	Nonmetallic ores	1.32	1.77	1.27	1.70	1.32	1.80	1.34	1.86	1.36	2.04
	Nonmet min srv (exc. fuels)	1.21	1.55	1.15	1.40	1.18	1.50	1.20	1.53	1.31	1.96
85-OK	Metallic ores	1.65	2.83	3.59	9.09	6.61	17.96	6.53	17.60	1.15	1.50
	Metal mining services	1.68	2.88	2.77	6.25	6.28	16.31	6.10	15.70	1.15	1.49
	Coal	1.32	1.56	1.35	1.64	1.46	1.83	1.37	1.67	1.44	1.85
	Oil and gas	1.20	1.41	1.19	1.47	1.19	1.37	1.18	1.35	1.27	1.64
	Natural gas liquids	1.26	1.50	1.23	1.50	1.25	1.46	1.25	1.45	1.27	1.65
	Nonmetallic ores	1.31	1.64	1.19	1.43	1.27	1.58	1.29	1.62	1.26	1.63
	Nonmet min srv (exc. fuels)	1.33	1.78	1.20	1.53	1.32	1.79	1.34	1.84	1.19	1.54
	New min extraction facil	1.43	1.79	1.82	2.43	1.66	2.21	1.71	2.31	1.50	1.94
	Maint/repair oil & gas wells	1.30	1.67	1.41	1.92	1.35	1.79	1.39	1.87	1.26	1.63

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
85-PA	Metallic ores	1.34	1.93	2.29	4.63	2.59	5.70	2.59	5.80	1.13	1.39
	Metal mining services	1.42	2.35	1.81	3.59	3.32	8.67	3.26	8.63	1.10	1.36
	Coal	1.28	1.47	1.23	1.40	1.31	1.54	1.31	1.55	1.33	1.63
	Oil and gas	1.25	1.50	1.21	1.53	1.25	1.46	1.26	1.49	1.21	1.49
	Natural gas liquids	1.13	1.41	1.10	1.38	1.13	1.37	1.14	1.39	1.09	1.35
	Nonmetallic ores	1.20	1.47	1.14	1.32	1.17	1.41	1.18	1.44	1.17	1.44
	Nonmet min srv (exc. fuels)	1.17	1.43	1.10	1.26	1.13	1.36	1.14	1.39	1.14	1.41
	Maint/repair oil & gas wells	1.23	1.50	1.23	1.50	1.23	1.53	1.24	1.58	1.18	1.46
85-SD	Metallic ores	1.40	1.74	1.24	1.45	1.73	2.39	1.65	2.24	1.54	2.18
	Metal mining services	1.26	1.58	1.09	1.21	1.32	1.69	1.30	1.66	1.35	1.92
	Coal	1.18	1.34	1.10	1.20	1.18	1.33	1.20	1.38	1.58	2.24
	Oil and gas	1.15	1.32	1.13	1.37	1.13	1.25	1.13	1.26	1.35	1.92
	Nonmetallic ores	1.27	1.70	1.20	1.56	1.28	1.74	1.31	1.81	1.24	1.77
85-TX	Metallic ores	1.46	2.28	1.47	2.41	2.10	4.22	1.91	3.68	1.23	1.79
	Metal mining services	1.40	2.09	1.22	1.63	1.64	2.80	1.53	2.50	1.24	1.80
	Coal	1.26	1.54	1.25	1.53	1.33	1.69	1.30	1.61	1.48	2.14
	Oil and gas	1.20	1.43	1.22	1.59	1.17	1.36	1.17	1.35	1.37	1.99
	Natural gas liquids	1.26	1.58	1.26	1.68	1.25	1.51	1.25	1.51	1.30	1.89
	Nonmetallic ores	1.38	2.06	1.36	2.11	1.42	2.22	1.44	2.28	1.23	1.79
	Nonmet min srv (exc. fuels)	1.27	1.77	1.18	1.57	1.24	1.72	1.25	1.75	1.22	1.78
	New min extraction facil	1.44	1.93	1.70	2.39	1.66	2.37	1.72	2.51	1.52	2.21
	Maint/repair oil & gas wells	1.28	1.78	1.34	1.92	1.32	1.89	1.36	2.00	1.28	1.87
85-UT	Metallic ores	1.46	1.81	1.32	1.55	1.75	2.41	1.65	2.21	1.48	2.06
	Metal mining services	1.31	1.61	1.14	1.28	1.47	1.94	1.33	1.65	1.41	1.96
	Coal	1.31	1.54	1.27	1.47	1.33	1.59	1.34	1.62	1.51	2.10
	Oil and gas	1.16	1.33	1.18	1.48	1.15	1.30	1.14	1.26	1.32	1.84
	Natural gas liquids	1.23	1.44	1.22	1.51	1.23	1.41	1.22	1.38	1.28	1.79
	Nonmetallic ores	1.33	1.66	1.24	1.52	1.31	1.64	1.34	1.71	1.34	1.87
	Nonmet min srv (exc. fuels)	1.20	1.45	1.11	1.25	1.15	1.34	1.16	1.38	1.30	1.81
	New min extraction facil	1.31	1.67	1.47	1.93	1.45	1.95	1.49	2.07	1.41	1.97
	Maint/repair oil & gas wells	1.25	1.64	1.28	1.69	1.27	1.71	1.31	1.81	1.25	1.75
85-WV	Coal	1.32	1.57	1.29	1.52	1.35	1.65	1.35	1.65	1.45	2.08
	Oil and gas	1.17	1.40	1.16	1.49	1.16	1.34	1.16	1.34	1.23	1.76
	Natural gas liquids	1.09	1.30	1.07	1.31	1.08	1.25	1.08	1.25	1.11	1.59
	Nonmetallic ores	1.20	1.65	1.15	1.52	1.20	1.66	1.21	1.70	1.15	1.66
	Nonmet min srv (exc. fuels)	1.16	1.57	1.10	1.39	1.15	1.55	1.16	1.58	1.14	1.64

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
85-WY	Metallic ores	1.28	1.56	1.16	1.32	1.52	2.07	1.36	1.74	1.25	1.68
	Metal mining services	1.24	1.47	1.10	1.21	1.39	1.76	1.27	1.53	1.27	1.71
	Coal	1.29	1.40	1.34	1.50	1.38	1.54	1.31	1.43	1.59	2.11
	Oil and gas	1.16	1.29	1.13	1.32	1.13	1.22	1.15	1.25	1.22	1.62
	Natural gas liquids	1.23	1.43	1.20	1.44	1.21	1.36	1.23	1.39	1.23	1.65
	Nonmetallic ores	1.36	1.56	1.24	1.42	1.34	1.56	1.39	1.65	1.42	1.90
	Nonmet min srv (exc. fuels)	1.16	1.39	1.08	1.23	1.12	1.32	1.14	1.36	1.15	1.55
	New min extraction facil	1.18	1.46	1.22	1.51	1.24	1.60	1.29	1.77	1.20	1.61
	Maint/repair oil & gas wells	1.19	1.51	1.18	1.46	1.19	1.53	1.24	1.68	1.16	1.56
82-AK	Metallic ores	1.20	1.40	1.12	1.29	1.23	1.49	1.19	1.41	1.11	1.32
	Metal mining services	1.19	1.39	1.11	1.28	1.22	1.48	1.18	1.39	1.11	1.31
	Coal	1.22	1.35	1.19	1.33	1.21	1.34	1.21	1.34	1.22	1.44
	Oil and gas	1.10	1.13	1.33	1.45	1.09	1.12	1.08	1.11	1.46	1.69
	Nonmetallic ores	1.20	1.37	1.16	1.33	1.18	1.34	1.17	1.33	1.16	1.37
	Nonmet min srv (exc. fuels)	1.17	1.33	1.12	1.30	1.15	1.31	1.15	1.31	1.10	1.31
	New min extraction facil	1.20	1.31	1.27	1.43	1.27	1.41	1.29	1.44	1.34	1.59
	Maint/repair oil & gas wells	1.15	1.28	1.08	1.20	1.09	1.21	1.10	1.23	1.09	1.29
82-AZ	Metallic ores	1.23	1.44	1.13	1.23	1.19	1.39	1.18	1.39	1.20	1.45
	Metal mining services	1.29	1.51	1.19	1.35	1.39	1.72	1.31	1.58	1.26	1.53
	Coal	1.17	1.31	1.15	1.27	1.18	1.34	1.18	1.33	1.25	1.51
	Oil and gas	1.24	1.30	1.78	2.02	1.26	1.32	1.24	1.29	2.61	3.15
	Nonmetallic ores	1.24	1.43	1.21	1.38	1.23	1.43	1.22	1.42	1.26	1.53
	Nonmet min srv (exc. fuels)	1.22	1.40	1.19	1.37	1.22	1.42	1.21	1.41	1.23	1.49
	New min extraction facil	1.28	1.44	1.43	1.63	1.41	1.64	1.43	1.69	1.58	1.92
	Maint/repair oil & gas wells	1.15	1.41	1.11	1.31	1.12	1.36	1.13	1.40	1.11	1.35
82-GA	Metallic ores	1.28	1.58	1.19	1.42	1.40	1.85	1.34	1.74	1.24	1.64
	Metal mining services	1.26	1.55	1.17	1.37	1.36	1.77	1.29	1.63	1.26	1.66
	Nonmetallic ores	1.23	1.47	1.19	1.42	1.22	1.47	1.22	1.49	1.25	1.65
	Nonmet min srv (exc. fuels)	1.20	1.39	1.18	1.36	1.21	1.40	1.20	1.40	1.33	1.75
	New min extraction facil	1.31	1.59	1.45	1.80	1.43	1.81	1.45	1.89	1.40	1.85
	Maint/repair oil & gas wells	1.15	1.57	1.11	1.44	1.12	1.49	1.13	1.54	1.10	1.45
82-ID	Metallic ores	1.25	1.54	1.15	1.34	1.32	1.73	1.27	1.62	1.24	1.67
	Metal mining services	1.25	1.55	1.14	1.35	1.33	1.77	1.27	1.65	1.21	1.63
	Nonmetallic ores	1.19	1.42	1.16	1.39	1.17	1.43	1.17	1.44	1.21	1.63
	Nonmet min srv (exc. fuels)	1.15	1.40	1.12	1.35	1.15	1.42	1.15	1.43	1.17	1.58
	New min extraction facil	1.23	1.46	1.36	1.62	1.34	1.66	1.36	1.74	1.48	1.99
	Maint/repair oil & gas wells	1.14	1.42	1.10	1.30	1.11	1.36	1.12	1.41	1.14	1.54

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
82-KY	Metal mining services	1.40	3.91	1.22	2.83	1.46	4.82	1.37	4.26	1.04	1.48
	Coal	1.41	1.69	1.34	1.56	1.38	1.67	1.38	1.68	1.48	2.09
	Oil and gas	1.23	1.33	1.59	1.94	1.22	1.31	1.21	1.29	2.36	3.33
	Natural gas liquids	1.28	1.39	1.75	2.14	1.27	1.37	1.25	1.34	2.93	4.13
	Nonmetallic ores	1.33	1.67	1.23	1.51	1.24	1.55	1.25	1.57	1.30	1.85
	New min extraction facil	1.36	1.70	1.46	1.85	1.44	1.89	1.47	1.99	1.52	2.16
	Maint/repair oil & gas wells	1.25	1.71	1.15	1.47	1.16	1.54	1.17	1.62	1.15	1.63
82-LA	Oil and gas	1.36	1.44	1.75	2.05	1.35	1.43	1.34	1.40	2.45	3.38
	Natural gas liquids	1.28	1.38	1.87	2.24	1.27	1.36	1.24	1.33	2.84	3.92
	Nonmetallic ores	1.51	1.85	1.39	1.79	1.44	1.81	1.46	1.84	1.35	1.89
	Nonmet min srv (exc. fuels)	1.33	1.64	1.21	1.51	1.29	1.61	1.29	1.62	1.25	1.76
	New min extraction facil	1.38	1.67	1.48	1.84	1.49	1.88	1.52	1.98	1.59	2.24
	Maint/repair oil & gas wells	1.28	1.62	1.15	1.41	1.19	1.48	1.21	1.55	1.19	1.67
82-MT	Metallic ores	1.32	1.71	1.14	1.31	1.23	1.58	1.24	1.60	1.23	1.82
	Metal mining services	1.37	1.79	1.19	1.47	1.44	2.02	1.36	1.86	1.28	1.89
	Coal	1.36	1.63	1.28	1.50	1.34	1.63	1.34	1.64	1.42	2.07
	Oil and gas	1.29	1.39	1.80	2.19	1.28	1.38	1.26	1.35	3.00	4.38
	Natural gas liquids	1.31	1.43	1.95	2.40	1.31	1.42	1.28	1.38	3.21	4.69
	Nonmetallic ores	1.35	1.70	1.26	1.62	1.30	1.66	1.30	1.68	1.31	1.93
	Nonmet min srv (exc. fuels)	1.31	1.60	1.20	1.46	1.27	1.57	1.26	1.57	1.34	1.98
	New min extraction facil	1.30	1.60	1.38	1.74	1.39	1.81	1.42	1.90	1.52	2.25
	Maint/repair oil & gas wells	1.24	1.63	1.13	1.41	1.16	1.50	1.18	1.56	1.17	1.73
82-NM	Metallic ores	1.33	1.66	1.22	1.41	1.34	1.73	1.32	1.69	1.28	1.75
	Metal mining services	1.33	1.66	1.18	1.41	1.43	1.91	1.36	1.77	1.27	1.74
	Coal	1.25	1.45	1.19	1.36	1.25	1.47	1.25	1.49	1.32	1.80
	Oil and gas	1.33	1.39	1.62	1.85	1.33	1.39	1.32	1.37	2.54	3.42
	Natural gas liquids	1.24	1.32	1.70	2.01	1.25	1.33	1.23	1.30	2.71	3.66
	Nonmetallic ores	1.46	1.76	1.41	1.79	1.46	1.80	1.48	1.84	1.37	1.88
	Nonmet min srv (exc. fuels)	1.29	1.55	1.20	1.44	1.28	1.57	1.28	1.57	1.28	1.75
	New min extraction facil	1.30	1.55	1.39	1.70	1.42	1.78	1.45	1.86	1.48	2.03
	Maint/repair oil & gas wells	1.22	1.53	1.12	1.36	1.17	1.45	1.18	1.51	1.16	1.58
82-NV	Metallic ores	1.31	1.74	1.17	1.45	1.35	1.89	1.31	1.81	1.25	1.78
	Oil and gas	1.33	1.45	1.99	2.50	1.36	1.48	1.32	1.44	3.23	4.52
	Nonmetallic ores	1.35	1.71	1.30	1.74	1.33	1.74	1.33	1.76	1.32	1.88
	Nonmet min srv (exc. fuels)	1.25	1.58	1.21	1.55	1.26	1.63	1.26	1.63	1.29	1.84
	New min extraction facil	1.30	1.63	1.44	1.89	1.45	1.94	1.48	2.03	1.54	2.20
	Maint/repair oil & gas wells	1.17	1.57	1.13	1.46	1.15	1.52	1.16	1.57	1.16	1.66

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
82-OK	Metallic ores	1.36	1.62	1.18	1.34	1.44	1.80	1.36	1.66	1.25	1.52
	Metal mining services	1.40	1.67	1.20	1.36	1.48	1.85	1.40	1.71	1.28	1.56
	Coal	1.25	1.41	1.17	1.29	1.23	1.41	1.23	1.41	1.28	1.54
	Oil and gas	1.38	1.45	1.82	2.04	1.38	1.45	1.36	1.42	2.40	2.90
	Natural gas liquids	1.34	1.41	1.96	2.22	1.34	1.41	1.31	1.37	2.99	3.62
	Nonmetallic ores	1.35	1.58	1.23	1.41	1.29	1.50	1.29	1.51	1.28	1.56
	Nonmet min srv (exc. fuels)	1.35	1.58	1.23	1.41	1.31	1.55	1.31	1.54	1.26	1.53
	New min extraction facil	1.37	1.59	1.46	1.69	1.48	1.78	1.51	1.85	1.50	1.82
	Maint/repair oil & gas wells	1.28	1.55	1.15	1.33	1.19	1.43	1.21	1.47	1.16	1.41
82-PA	Metallic ores	1.29	1.57	1.19	1.39	1.36	1.80	1.31	1.71	1.21	1.50
	Metal mining services	1.30	1.58	1.18	1.35	1.37	1.75	1.30	1.61	1.26	1.56
	Coal	1.26	1.45	1.21	1.35	1.25	1.44	1.25	1.44	1.32	1.63
	Oil and gas	1.16	1.20	1.46	1.59	1.17	1.21	1.16	1.19	3.34	4.12
	Natural gas liquids	1.34	1.42	1.96	2.25	1.35	1.43	1.32	1.39	3.10	3.82
	Nonmetallic ores	1.26	1.50	1.19	1.38	1.21	1.42	1.21	1.42	1.25	1.55
	Nonmet min srv (exc. fuels)	1.25	1.48	1.18	1.37	1.21	1.44	1.20	1.43	1.22	1.52
	New min extraction facil	1.36	1.59	1.48	1.73	1.46	1.76	1.49	1.82	1.53	1.90
	Maint/repair oil & gas wells	1.24	1.52	1.14	1.33	1.15	1.38	1.16	1.42	1.18	1.47
82-SD	Metallic ores	1.26	1.64	1.17	1.45	1.34	1.88	1.27	1.73	1.27	1.91
	Coal	1.17	1.40	1.15	1.36	1.18	1.42	1.17	1.43	1.29	1.94
	Oil and gas	1.23	1.33	1.78	2.19	1.23	1.33	1.20	1.29	3.16	4.72
	Nonmetallic ores	1.23	1.54	1.19	1.49	1.20	1.51	1.20	1.52	1.28	1.93
	New min extraction facil	1.23	1.57	1.36	1.80	1.34	1.80	1.36	1.88	1.41	2.12
	Maint/repair oil & gas wells	1.13	1.55	1.10	1.44	1.11	1.47	1.11	1.53	1.14	1.71
82-TX	Metallic ores	1.41	1.86	1.28	1.59	1.46	2.09	1.41	1.94	1.31	1.85
	Metal mining services	1.41	1.86	1.21	1.51	1.49	2.10	1.41	1.92	1.27	1.78
	Coal	1.24	1.50	1.17	1.38	1.23	1.49	1.23	1.51	1.27	1.78
	Oil and gas	1.40	1.51	1.91	2.31	1.41	1.51	1.38	1.47	2.64	3.63
	Natural gas liquids	1.38	1.51	2.08	2.57	1.38	1.50	1.35	1.46	3.25	4.56
	Nonmetallic ores	1.44	1.82	1.32	1.70	1.37	1.74	1.38	1.77	1.32	1.85
	Nonmet min srv (exc. fuels)	1.35	1.70	1.24	1.55	1.31	1.65	1.30	1.65	1.28	1.80
	New min extraction facil	1.46	1.81	1.57	1.99	1.57	2.04	1.62	2.15	1.59	2.23
	Maint/repair oil & gas wells	1.31	1.74	1.17	1.48	1.21	1.57	1.23	1.63	1.19	1.68
82-UT	Metallic ores	1.33	1.60	1.17	1.31	1.30	1.59	1.28	1.56	1.27	1.63
	Metal mining services	1.37	1.65	1.21	1.39	1.45	1.84	1.37	1.70	1.30	1.67
	Coal	1.31	1.49	1.24	1.38	1.29	1.48	1.29	1.49	1.38	1.77
	Oil and gas	1.27	1.33	1.76	1.97	1.28	1.33	1.25	1.30	2.84	3.63
	Natural gas liquids	1.33	1.40	1.99	2.25	1.33	1.40	1.30	1.37	2.98	3.81
	Nonmetallic ores	1.38	1.62	1.32	1.58	1.32	1.58	1.32	1.59	1.34	1.72
	Nonmet min srv (exc. fuels)	1.32	1.54	1.22	1.42	1.27	1.51	1.27	1.51	1.30	1.67
	New min extraction facil	1.36	1.52	1.47	1.65	1.46	1.68	1.50	1.74	2.10	2.70
	Maint/repair oil & gas wells	1.25	1.40	1.14	1.25	1.17	1.30	1.18	1.33	1.36	1.76

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
82-WV	Metal mining services	1.25	1.47	1.16	1.31	1.32	1.63	1.26	1.52	1.25	1.57
	Coal	1.29	1.44	1.27	1.40	1.30	1.46	1.30	1.46	1.40	1.76
	Oil and gas	1.18	1.21	1.46	1.58	1.18	1.21	1.17	1.20	2.99	3.75
	Natural gas liquids	1.25	1.31	1.82	2.06	1.26	1.32	1.23	1.29	2.95	3.70
	Nonmetallic ores	1.18	1.36	1.15	1.31	1.16	1.33	1.16	1.34	1.22	1.54
	New min extraction facil	1.28	1.45	1.40	1.62	1.36	1.60	1.38	1.65	1.52	1.91
	Maint/repair oil & gas wells	1.17	1.38	1.12	1.29	1.12	1.31	1.13	1.35	1.77	1.49
82-WY	Metallic ores	1.33	1.62	1.27	1.45	1.35	1.75	1.33	1.68	1.29	1.66
	Metal mining services	1.27	1.53	1.13	1.30	1.31	1.67	1.26	1.57	1.19	1.53
	Coal	1.31	1.48	1.24	1.38	1.28	1.47	1.28	1.48	1.33	1.71
	Oil and gas	1.28	1.34	1.69	1.90	1.27	1.33	1.25	1.31	2.42	3.08
	Natural gas liquids	1.23	1.30	1.74	1.96	1.22	1.28	1.20	1.26	2.57	3.27
	Nonmetallic ores	1.44	1.66	1.30	1.56	1.35	1.61	1.37	1.65	1.26	1.62
	New min extraction facil	1.18	1.35	1.20	1.39	1.21	1.45	1.23	1.51	1.29	1.65
	Maint/repair oil & gas wells	1.20	1.44	1.10	1.26	1.13	1.34	1.14	1.39	1.14	1.47
77-AK	Metallic ores	1.17	2.39	1.15	2.53	1.15	2.48	1.15	2.52	1.03	1.16
	Metal mining services	1.13	1.25	1.14	1.30	1.15	1.32	1.15	1.32	1.11	1.25
	Coal	1.12	1.14	1.11	1.14	1.12	1.15	1.13	1.16	1.56	1.74
	Oil and gas	1.07	1.07	1.26	1.29	1.06	1.06	1.05	1.06	4.07	4.52
	Nonmetallic ores	1.13	1.14	1.13	1.14	1.11	1.12	1.12	1.13	14.1	15.77
	Nonmet min srv (exc. fuels)	1.14	1.23	1.13	1.21	1.14	1.22	1.15	1.24	1.17	1.32
77-AZ	Metallic ores	1.32	1.45	1.30	1.43	1.32	1.47	1.32	1.47	1.42	1.71
	Metal mining services	1.19	1.39	1.22	1.40	1.22	1.49	1.22	1.49	1.21	1.45
	Coal	1.18	1.27	1.15	1.22	1.18	1.28	1.22	1.32	1.56	1.87
	Oil and gas	1.18	1.25	1.40	1.59	1.13	1.18	1.15	1.21	1.39	1.67
	Nonmetallic ores	1.19	1.32	1.16	1.27	1.16	1.28	1.18	1.31	1.32	1.59
	Nonmet min srv (exc. fuels)	1.20	1.42	1.16	1.32	1.19	1.40	1.22	1.45	1.22	1.47
77-GA	Metallic ores	1.33	1.52	1.28	1.48	1.36	1.59	1.40	1.62	1.46	1.90
	Metal mining services	1.11	1.33	1.10	1.32	1.11	1.39	1.11	1.41	1.12	1.46
	Nonmetallic ores	1.23	1.49	1.20	1.46	1.20	1.44	1.22	1.48	1.21	1.57
	Nonmet min srv (exc. fuels)	1.19	1.43	1.15	1.33	1.18	1.39	1.21	1.44	1.26	1.64
77-ID	Metallic ores	1.26	1.70	1.21	1.59	1.24	1.70	1.25	1.72	1.18	1.64
	Metal mining services	1.24	1.57	1.28	1.60	1.29	1.71	1.28	1.73	1.25	1.74
	Nonmetallic ores	1.24	1.37	1.22	1.35	1.22	1.36	1.24	1.39	1.67	2.31
	Nonmet min srv (exc. fuels)	1.22	1.49	1.18	1.39	1.21	1.47	1.24	1.53	1.32	1.83

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
77-KY	Metal mining services	1.31	6.57	1.30	6.31	1.31	7.71	1.31	7.97	1.02	1.44
	Metallic ores	1.31	1.56	1.24	1.46	1.29	1.55	1.30	1.57	1.65	2.33
	Coal	1.26	1.65	1.21	1.52	1.24	1.61	1.26	1.68	1.25	1.76
	Oil and gas	1.15	1.23	1.33	1.54	1.11	1.17	1.12	1.19	1.86	2.61
	Natural gas liquids	1.51	1.84	2.09	2.93	2.08	2.85	2.24	3.08	1.59	2.25
	Nonmetallic ores	1.24	1.86	1.17	1.71	1.17	1.70	1.19	1.76	1.10	1.56
77-LA	Oil and gas	1.24	1.32	1.42	1.60	1.18	1.25	1.20	1.27	5.21	7.68
	Natural gas liquids	1.57	1.81	2.23	2.88	2.24	2.84	2.42	3.06	3.29	4.88
	Nonmetallic ores	1.30	1.59	1.23	1.53	1.23	1.51	1.24	1.53	1.36	2.02
	Nonmet min srv (exc. fuels)	1.31	1.67	1.21	1.49	1.26	1.60	1.29	1.67	1.37	2.03
77-MT	Metallic ores	1.37	1.79	1.31	1.74	1.35	1.83	1.36	1.83	1.28	1.89
	Metal mining services	1.28	1.68	1.26	1.64	1.30	1.82	1.31	1.85	1.23	1.81
	Coal	1.23	1.34	1.16	1.26	1.21	1.33	1.24	1.37	2.13	3.11
	Oil and gas	1.17	1.22	1.37	1.50	1.12	1.16	1.14	1.18	3.89	5.55
	Natural gas liquids	1.55	1.72	2.07	2.51	2.19	2.62	2.44	2.90	3.55	5.19
	Nonmetallic ores	1.28	1.58	1.22	1.52	1.25	1.57	1.28	1.62	1.29	1.90
	Nonmet min srv (exc. fuels)	1.28	1.58	1.17	1.39	1.22	1.51	1.26	1.58	1.35	1.99
77-NM	Metallic ores	1.39	1.62	1.37	1.60	1.39	1.66	1.40	1.66	1.47	1.97
	Metal mining services	1.25	1.53	1.22	1.49	1.26	1.62	1.26	1.64	1.21	1.63
	Coal	1.23	1.37	1.17	1.28	1.21	1.35	1.25	1.40	1.53	2.06
	Oil and gas	1.27	1.33	1.42	1.52	1.20	1.25	1.23	1.28	5.64	7.47
	Natural gas liquids	1.56	1.69	2.11	2.42	2.23	2.53	2.48	2.80	7.48	10.05
	Nonmetallic ores	1.34	1.54	1.26	1.46	1.26	1.45	1.28	1.48	1.36	1.82
	Nonmet min srv (exc. fuels)	1.29	1.54	1.19	1.37	1.24	1.47	1.27	1.53	1.31	1.77
77-NV	Metallic ores	1.33	1.57	1.28	1.53	1.32	1.61	1.34	1.62	1.34	1.80
	Oil and gas	1.23	1.29	1.52	1.68	1.17	1.21	1.20	1.25	3.16	4.17
	Nonmetallic ores	1.25	1.48	1.21	1.43	1.21	1.44	1.23	1.48	1.29	1.73
	Nonmet min srv (exc. fuels)	1.24	1.63	1.19	1.49	1.23	1.62	1.26	1.71	1.19	1.59
77-OK	Metallic ores	1.31	1.42	1.25	1.33	1.28	1.39	1.29	1.40	1.97	2.41
	Metal mining services	1.30	1.55	1.28	1.50	1.32	1.62	1.32	1.63	1.26	1.54
	Coal	1.24	1.48	1.18	1.35	1.22	1.45	1.26	1.51	1.23	1.51
	Oil and gas	1.25	1.34	1.41	1.58	1.19	1.26	1.22	1.29	1.76	2.14
	Natural gas liquids	1.65	1.83	2.27	2.69	2.39	2.82	2.67	3.12	2.23	2.73
	Nonmetallic ores	1.30	1.52	1.22	1.41	1.24	1.45	1.26	1.49	1.26	1.54
	Nonmet min srv (exc. fuels)	1.31	1.52	1.20	1.34	1.25	1.44	1.28	1.49	1.36	1.66

Table D4—Multipliers for energy and minerals industry in selected states—con.

Year-region	Industry	Output		Personal income		Total income		Value added		Employment	
		Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III	Type I	Type III
77-PA	Metallic ores	1.34	1.55	1.34	1.58	1.47	1.79	1.51	1.79	1.27	1.51
	Metal mining services	1.27	1.50	1.26	1.45	1.27	1.55	1.27	1.55	1.23	1.46
	Coal	1.19	1.34	1.14	1.24	1.17	1.31	1.20	1.34	1.26	1.49
	Oil and gas	1.19	4.16	1.29	6.10	1.15	3.51	1.18	3.55	1.01	1.20
	Natural gas liquids	1.51	1.64	2.02	2.29	2.07	2.37	2.33	2.63	2.11	2.49
	Nonmetallic ores	1.20	1.49	1.14	1.35	1.13	1.38	1.15	1.40	1.12	1.32
	Nonmet min srv (exc. fuels)	1.23	1.42	1.14	1.26	1.17	1.33	1.19	1.37	1.25	1.48
77-SD	Metallic ores	1.19	1.71	1.15	1.58	1.15	1.65	1.16	1.65	1.14	1.70
	Coal	1.19	1.44	1.16	1.37	1.18	1.44	1.21	1.49	1.32	1.98
	Oil and gas	1.18	1.23	1.40	1.55	1.12	1.16	1.14	1.18	4.66	6.90
	Natural gas liquids	1.44	1.65	1.96	2.50	2.00	2.51	2.19	2.74	2.11	3.15
	Nonmetallic ores	1.19	1.50	1.16	1.45	1.16	1.45	1.18	1.49	1.23	1.84
77-TX	Metallic ores	1.40	1.75	1.39	1.77	1.43	1.85	1.45	1.87	1.40	1.95
	Metal mining services	1.28	1.82	1.25	1.77	1.29	1.97	1.30	2.02	1.14	1.59
	Coal	1.24	1.36	1.17	1.27	1.22	1.34	1.26	1.39	2.11	2.92
	Oil and gas	1.28	1.37	1.47	1.67	1.21	1.27	1.24	1.32	2.81	3.90
	Natural gas liquids	1.67	1.87	2.31	2.82	2.45	2.93	2.78	3.31	3.36	4.65
	Nonmetallic ores	1.31	1.63	1.23	1.52	1.24	1.52	1.26	1.57	1.26	1.75
	Nonmet min srv (exc. fuels)	1.32	1.65	1.20	1.44	1.26	1.56	1.31	1.64	1.33	1.85
77-UT	Metallic ores	1.35	1.65	1.31	1.60	1.33	1.66	1.34	1.66	1.26	1.59
	Metal mining services	1.28	1.55	1.27	1.51	1.30	1.63	1.30	1.65	1.21	1.53
	Coal	1.24	1.39	1.18	1.29	1.22	1.37	1.26	1.42	1.36	1.72
	Oil and gas	1.19	1.22	1.40	1.48	1.14	1.16	1.16	1.19	5.24	6.58
	Natural gas liquids	1.59	1.84	2.15	2.78	2.27	2.88	2.55	3.21	1.47	1.86
	Nonmetallic ores	1.26	1.41	1.20	1.34	1.21	1.35	1.23	1.38	1.34	1.70
	Nonmet min srv (exc. fuels)	1.29	1.49	1.18	1.32	1.23	1.41	1.26	1.47	1.29	1.64
77-WV	Metal mining services	1.30	1.58	1.29	1.56	1.30	1.66	1.30	1.67	1.28	1.70
	Coal	1.26	1.49	1.21	1.39	1.23	1.46	1.26	1.51	1.29	1.71
	Oil and gas	1.22	1.43	1.29	1.69	1.18	1.35	1.21	1.39	1.22	1.62
	Natural gas liquids	1.45	1.58	1.86	2.21	1.93	2.24	2.14	2.48	2.26	2.99
	Nonmetallic ores	1.19	1.61	1.14	1.51	1.14	1.50	1.15	1.55	1.09	1.45
	Nonmet min srv (exc. fuels)	1.22	1.41	1.14	1.28	1.16	1.34	1.19	1.38	1.28	1.70
77-WY	Metallic ores	1.35	1.58	1.33	1.58	1.36	1.66	1.37	1.67	1.35	1.78
	Metal mining services	1.27	1.54	1.24	1.50	1.29	1.66	1.29	1.68	1.22	1.61
	Coal	1.20	1.30	1.14	1.22	1.18	1.29	1.21	1.33	1.48	1.95
	Oil and gas	1.15	1.21	1.30	1.46	1.11	1.16	1.13	1.18	1.68	2.19
	Natural gas liquids	1.44	1.59	1.84	2.22	1.94	2.34	2.14	2.56	1.92	2.53
	Nonmetallic ores	1.25	1.40	1.18	1.32	1.20	1.35	1.22	1.37	1.32	1.74

Appendix E. Gross State Product Data

The gross state product (GSP) data in the following tables show value added for the energy and minerals sectors at the two-digit SIC code level, for each state, by RPA region. Data are reported in nominal and 1982 constant dollars for 1990, 1985, 1982, and 1977 (deflated using BEA sector-specific price deflators).

Table E1—1990 minerals industry contribution to gross state product by state and RPA region

Region	State	Total GSP	Total minerals	Total GSP (%)	GSP by minerals sector							
					Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1990\$												
U.S.		5518483	103055	1.87	6183	0.11	12737	0.23	64098	1.16	7201	0.13
North		2588698	12224	0.47	999	0.04	6142	0.24	2656	0.10	2429	0.09
	CT	94342	71	0.08	13	0.01	7	0	4	0	47	0.05
	DE	19640	7	0.04	4	0.02	0	0	2	0.01	1	0
	DC	36654	9	0.02	1	0	0	0	8	0.02	1	0
	IL	270279	1583	0.59	1	0	1012	0.37	282	0.10	288	0.11
	IN	111174	721	0.65	0	0	502	0.45	45	0.04	174	0.16
	IA	54812	93	0.17	0	0	4	0	2	0	88	0.16
	ME	23039	7	0.03	1	0	0	0	2	0	4	0.02
	MD	109244	133	0.12	0	0	54	0.05	1	0	78	0.07
	MA	154191	73	0.05	0	0	0	0	1	0	72	0.05
	MI	187160	1237	0.66	247	0.13	0	0	763	0.41	227	0.12
	MN	99746	675	0.68	576	0.58	0	0	7	0	92	0.09
	MO	103184	363	0.35	112	0.11	59	0.06	13	0.01	180	0.17
	NH	23620	28	0.12	0	0	0	0	0	0	28	0.12
	NJ	207581	118	0.06	1	0	0	0	7	0	109	0.05
	NY	466796	495	0.11	35	0	0	0	183	0.04	277	0.06
	OH	223060	1379	0.62	0	0	604	0.27	515	0.23	260	0.12
	PA	244596	1800	0.74	0	0	1139	0.47	356	0.15	305	0.12
	RI	20665	8	0.04	0	0	0	0	0	0	8	0.04
	VT	11219	27	0.24	0	0	0	0	0	0	27	0.24
	WV	28185	3263	11.58	3	0.01	2761	9.80	459	1.63	40	0.14
	WI	99511	134	0.13	5	0	0	0	6	0	123	0.12
South		1567905	58271	3.72	224	0.01	4197	0.27	37987	2.42	3020	0.19
	AL	70588	1525	2.16	3	0	609	0.86	795	1.13	118	0.17
	AR	38382	435	1.13	14	0.04	4	0.01	347	0.90	70	0.18
	FL	244570	771	0.32	49	0.02	0	0	152	0.06	571	0.23
	GA	137041	715	0.52	1	0	0	0	5	0	709	0.52
	KY	67037	2609	3.89	1	0	2362	3.52	105	0.16	141	0.21
	LA	91795	14446	15.74	15	0.02	12	0.01	1427	1.55	149	0.16
	MS	39463	1009	2.56	0	0	0	0	984	2.49	25	0.06
	NC	140627	412	0.29	2	0	0	0	4	0	406	0.29
	OK	56958	4671	8.20	2	0	40	0.07	4579	8.04	50	0.09
	SC	63698	145	0.23	29	0.05	0	0	3	0	113	0.18
	TN	95249	354	0.37	50	0.05	95	0.10	45	0.05	164	0.17
	TX	382158	30159	7.89	57	0.01	273	0.07	29510	7.72	319	0.08
	VA	140339	1020	0.73	1	0	802	0.57	31	0.02	185	0.13

Table E1—1990 minerals industry contribution to gross state product by state and RPA region—con.

		GSP by minerals sector										
Region	State	Total GSP	Total minerals	Total GSP (%)	Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1990\$—con.												
Rocky		384560	16193	4.21	4362	1.13	2308	0.60	8543	2.22	984	0.26
Mtn.	AZ	67743	1043	1.54	891	1.32	111	0.16	10	0.01	31	0.05
	CO	72633	1639	2.26	281	0.39	192	0.26	1123	1.55	44	0.06
	ID	18156	217	1.20	151	0.83	0	0	1	0	66	0.36
	KS	51692	1059	2.05	0	0	32	0.06	979	1.89	48	0.09
	MT	13414	913	6.81	245	1.83	278	2.07	344	2.56	46	0.34
	NE	33637	69	0.21	1	0	0	0	24	0.07	45	0.13
	NV	31692	2023	6.38	1941	6.12	0	0	20	0.06	62	0.20
	NM	27109	2886	10.65	262	0.97	313	1.15	2166	7.99	145	0.53
	ND	11985	958	7.99	0	0	103	0.86	837	6.98	18	0.15
	SD	12925	196	1.52	130	1.01	0	0	25	0.19	41	0.32
	UT	30897	1436	4.65	376	1.22	282	0.91	736	2.38	43	0.14
	WY	12677	3754	29.61	84	0.66	997	7.86	2278	17.97	395	3.12
Pacific		977320	16367	1.67	598	0.06	90	0	14912	1.53	768	0.08
Coast	AK	27321	10210	37.37	126	0.46	24	0.09	10055	36.80	5	0.02
	CA	752761	5753	0.76	344	0.05	2	0	4817	0.64	590	0.08
	HI	29106	13	0.04	0	0	0	0	2	0	11	0.04
	OR	56254	77	0.14	5	0	11	0.02	3	0	58	0.10
	WA	111878	314	0.28	123	0.11	53	0.05	35	0.03	104	0.09
1982\$												
U.S.		4163877	78225	1.88	5582	0.13	13070	0.31	53609	1.29	5971	0.14
North		1957868	11067	0.57	902	0.05	6299	0.32	1853	0.09	2013	0.10
	CT	71381	61	0.09	12	0.02	7	0	3	0	39	0.05
	DE	14612	5	0.03	3	0.02	0	0	1	0	1	0
	DC	27195	7	0.03	1	0	0	0	5	0.02	1	0
	IL	204490	1474	0.72	1	0	1038	0.51	197	0.10	239	0.12
	IN	84637	691	0.82	0	0	514	0.61	32	0.04	144	0.17
	IA	41392	78	0.19	0	0	3	0	2	0	73	0.18
	ME	17422	6	0.03	1	0	0	0	2	0.01	3	0.02
	MD	81928	121	0.15	0	0	55	0.07	1	0	65	0.08
	MA	116442	60	0.05	0	0	0	0	1	0	60	0.05
	MI	143485	943	0.66	223	0.16	0	0	532	0.37	188	0.13
	MN	75388	601	0.80	520	0.69	0	0	5	0	76	0.10
	MO	78509	319	0.41	101	0.13	60	0.08	9	0.01	149	0.19
	NH	17894	23	0.13	0	0	0	0	0	0	23	0.13
	NJ	155527	96	0.06	1	0	0	0	5	0	90	0.06
	NY	352391	389	0.11	32	0	0	0	128	0.04	229	0.06
	OH	169264	1194	0.71	0	0	619	0.37	359	0.21	216	0.13
	PA	184353	1670	0.91	0	0	1169	0.63	248	0.13	253	0.14
	RI	15581	7	0.04	0	0	0	0	0	0	7	0.04
	VT	8570	22	0.26	0	0	0	0	0	0	22	0.26
	WV	21953	3189	14.53	3	0.01	2834	12.91	319	1.45	33	0.15
	WI	75454	111	0.15	4	0	0	0	4	0	102	0.14

Table E1—1990 minerals industry contribution to gross state product by state and RPA region—con.

		GSP by minerals sector										
Region	State	Total GSP	Total minerals	Total GSP (%)	Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1982\$—con.												
South		1178677	42426	3.60	204	0.02	4308	0.37	35412	3.00	2506	0.21
	AL	53646	1279	2.38	3	0	624	1.16	554	1.03	98	0.18
	AR	29173	317	1.09	13	0.04	4	0.01	242	0.83	58	0.20
	FL	184307	623	0.34	44	0.02	0	0	106	0.06	473	0.26
	GA	104033	592	0.57	1	0	0	0	3	0	588	0.57
	KY	51163	2615	5.11	1	0	2424	4.74	73	0.14	118	0.23
	LA	67361	10091	14.98	14	0.02	13	0.02	9941	14.76	124	0.18
	MS	29851	706	2.37	0	0	0	0	686	2.30	21	0.07
	NC	104935	342	0.33	2	0	0	0	3	0	337	0.32
	OK	42869	3274	7.64	2	0	41	0.10	3190	7.44	42	0.10
	SC	48446	122	0.25	26	0.05	0	0	2	0	94	0.19
	TN	72113	310	0.43	46	0.06	98	0.14	31	0.04	135	0.19
	TX	285736	21155	7.40	51	0.02	280	0.10	20559	7.20	265	0.09
VA	105044	1000	0.95	1	0	824	0.78	22	0.02	153	0.15	
Rocky Mtn.		291540	13075	4.48	3937	1.35	2370	0.81	5955	2.04	815	0.28
	AZ	51606	951	1.84	805	1.56	114	0.22	7	0.01	26	0.05
	CO	54909	1269	2.31	254	0.46	197	0.36	783	1.43	36	0.07
	ID	13717	191	1.39	136	0.99	0	0	1	0	55	0.40
	KS	39110	755	1.93	0	0	33	0.08	682	1.74	40	0.10
	MT	10202	785	7.69	221	2.17	285	2.79	240	2.35	38	0.37
	NE	25396	55	0.22	1	0	0	0	17	0.07	37	0.15
	NV	24218	1818	7.51	1752	7.23	0	0	14	0.06	51	0.21
	NM	20414	2187	10.71	236	1.16	322	1.58	1509	7.39	120	0.59
	ND	8972	704	7.85	0	0	106	1.18	583	6.50	15	0.17
	SD	9702	169	1.74	117	1.21	0	0	18	0.19	34	0.35
	UT	23453	1177	5.02	339	1.45	290	1.24	513	2.19	36	0.15
	WY	9841	3014	30.63	76	0.77	1023	10.40	1588	16.14	327	3.32
Pacific Coast		735792	11657	1.58	539	0.07	93	0.01	10389	1.41	637	0.09
	AK	20290	7148	35.23	114	0.56	25	0.12	7005	34.52	4	0.02
	CA	566701	4158	0.73	310	0.05	2	0	3355	0.59	490	0.09
	HI	21874	10	0.05	0	0	0	0	2	0	9	0.04
	OR	42485	66	0.16	4	0	12	0.03	2	0	48	0.11
	WA	84442	275	0.33	111	0.13	54	0.06	25	0.03	86	0.10

Table E2—1985 minerals industry contribution to gross state product by state and RPA region

Region	State	Total GSP	Total minerals	Total GSP (%)	GSP by minerals sector							
					Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1985\$												
U.S.		3589593	138951	3.87	2424	0.07	16391	0.46	114050	3.18	6083	0.17
North		1678170	14170	0.84	597	0.04	7613	0.45	4287	0.26	1671	0.10
	CT	57572	46	0.08	0	0	0	0	19	0.03	27	0.05
	DE	9620	−3	−0.03	0	0	0	0	−3	−0.03	0	0
	DC	24833	6	0.02	1	0	0	0	5	0.02	0	0
	IL	178802	2115	1.18	0	0	1301	0.73	607	0.34	206	0.12
	IN	73397	699	0.95	0	0	506	0.69	72	0.10	121	0.16
	IA	38812	96	0.25	0	0	9	0.02	1	0	87	0.22
	ME	14312	6	0.04	1	0	0	0	0	0	5	0.03
	MD	62419	110	0.18	0	0	57	0.09	1	0	51	0.08
	MA	95897	57	0.06	0	0	0	0	−9	−0	66	0.07
	MI	130935	1240	0.95	94	0.07	0	0	1051	0.80	94	0.07
	MN	65631	543	0.83	375	0.57	0	0	82	0.12	86	0.13
	MO	71097	335	0.47	101	0.14	42	0.06	64	0.09	128	0.18
	NH	15466	21	0.14	0	0	0	0	2	0.01	19	0.12
	NJ	128832	89	0.07	3	0	0	0	8	0	79	0.06
	NY	292379	507	0.17	19	0	0	0	285	0.10	203	0.07
	OH	153704	1901	1.24	0	0	722	0.47	1026	0.67	153	0.10
	PA	156042	2291	1.47	1	0	1644	1.05	436	0.28	210	0.13
	RI	12339	6	0.05	0	0	0	0	1	0	5	0.04
	VT	7098	21	0.30	0	0	0	0	0	0	21	0.30
	WV	22265	4001	17.97	0	0	3332	14.97	636	2.86	33	0.15
	WI	66718	83	0.12	2	0	0	0	3	0	77	0.12
South		1062241	88312	8.31	90	0	5562	0.52	79994	7.53	2666	0.25
	AL	47604	1863	3.91	5	0.01	964	2.03	812	1.71	82	0.17
	AR	27294	814	2.98	1	0	−1	−0	803	2.94	11	0.04
	FL	143153	1909	1.33	21	0.01	1	0	1259	0.88	628	0.44
	GA	84794	521	0.61	1	0	−1	−0	27	0.03	494	0.58
	KY	47113	3644	7.73	0	0	3208	6.81	328	0.70	108	0.23
	LA	79072	21794	27.56	5	0	5	0	21607	27.33	177	0.22
	MS	28731	1263	4.40	0	0	0	0	1235	4.30	28	0.10
	NC	83488	266	0.32	0	0	0	0	2	0	265	0.32
	OK	47554	7648	16.08	2	0	68	0.14	7517	15.81	61	0.13
	SC	38051	94	0.25	0	0	0	0	1	0	93	0.24
	TN	61555	364	0.59	22	0.04	149	0.24	50	0.08	143	0.23
	TX	290089	46859	16.15	27	0	42	0.01	46339	15.97	451	0.16
	VA	83743	1273	1.52	6	0	1127	1.35	14	0.02	125	0.15

Table E2—1985 minerals industry contribution to gross state product by state and RPA region —con.

		GSP by minerals sector										
Region	State	Total GSP	Total minerals	Total GSP (%)	Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1985\$—con.												
Rocky		267772	18417	6.88	1617	0.60	3163	1.18	12622	4.71	1014	0.38
Mtn.	AZ	44019	647	1.47	443	1.01	97	0.22	71	0.16	35	0.08
	CO	50869	2181	4.29	222	0.44	226	0.44	1681	3.30	52	0.10
	ID	11493	229	1.99	125	1.09	0	0	8	0.07	96	0.84
	KS	37315	1621	4.34	0	0	27	0.07	1538	4.12	56	0.15
	MT	10516	1218	11.58	68	0.65	492	4.68	596	5.67	62	0.59
	NE	23171	104	0.45	0	0	0	0	70	0.30	34	0.15
	NV	15873	474	2.99	340	2.14	0	0	52	0.33	82	0.52
	NM	22124	5003	22.61	160	0.72	407	1.84	4338	19.61	98	0.44
	ND	10088	1282	12.71	0	0	185	1.83	1082	10.73	15	0.15
	SD	8282	108	1.30	68	0.82	0	0	21	0.25	19	0.23
	UT	21434	876	4.09	102	0.48	276	1.29	445	2.08	53	0.25
	WY	12588	4674	37.13	89	0.71	1453	11.54	2720	21.61	412	3.27
Pacific		581410	18052	3.10	120	0.02	53	0	17147	2.95	732	0.13
Coast	AK	20534	8896	43.32	7	0.03	20	0.10	8856	43.13	13	0.06
	CA	449279	8949	1.99	86	0.02	−8	−0	8271	1.84	601	0.13
	HI	15394	1	0	0	0	0	0	−1	−0	2	0.01
	OR	34120	59	0.17	2	0	−3	−0	13	0.04	47	0.14
	WA	62083	147	0.24	25	0.04	44	0.07	8	0.01	69	0.11
1982\$												
U.S.		3966280	114176	2.88	1751	0.04	13880	0.35	92444	2.33	6098	0.15
North		1863066	12029	0.65	432	0.02	6445	0.35	3475	0.19	1673	0.09
	CT	64160	42	0.07	0	0	0	0	15	0.02	27	0.04
	DE	10756	−2	−0.02	0	0	0	0	−3	−0.03	0	0
	DC	29307	5	0.02	0	0	0	0	4	0.01	0	0
	IL	197379	1801	0.91	0	0	1102	0.56	492	0.25	207	0.10
	IN	80359	608	0.76	0	0	428	0.53	59	0.07	121	0.15
	IA	41680	95	0.23	0	0	7	0.02	1	0	87	0.21
	ME	16008	5	0.03	1	0	0	0	0	0	5	0.03
	MD	70855	101	0.14	0	0	48	0.07	1	0	51	0.07
	MA	105883	59	0.06	0	0	0	0	−7	−0	66	0.06
	MI	143285	1015	0.71	68	0.05	0	0	852	0.59	95	0.07
	MN	71289	423	0.59	271	0.38	0	0	66	0.09	86	0.12
	MO	79461	289	0.36	73	0.09	36	0.05	52	0.07	128	0.16
	NH	16698	21	0.13	0	0	0	0	2	0.01	19	0.11
	NJ	144978	87	0.06	2	0	0	0	6	0	79	0.05
	NY	332461	448	0.13	14	0	0	0	231	0.07	203	0.06
	OH	167648	1596	0.95	0	0	611	0.36	832	0.50	153	0.09
	PA	172876	1957	1.13	1	0	1392	0.81	354	0.20	210	0.12
	RI	13816	6	0.04	0	0	0	0	0	0	5	0.04
	VT	7901	21	0.27	0	0	0	0	0	0	21	0.27
	WV	23970	3370	14.06	0	0	2821	11.77	515	2.15	33	0.14
	WI	72296	82	0.11	2	0	0	0	3	0	77	0.11

Table E2—1985 minerals industry contribution to gross state product by state and RPA region —con.

		GSP by minerals sector										
Region	State	Total GSP	Total minerals	Total GSP (%)	Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1982\$—con.												
South		1162926	72286	6.22	65	0	4710	0.41	64839	5.58	2670	0.23
	AL	52712	1560	2.96	4	0	816	1.55	659	1.25	82	0.16
	AR	29792	662	2.22	1	0	−1	−0	651	2.19	11	0.04
	FL	161750	1666	1.03	15	0	1	0	1020	0.63	629	0.39
	GA	95287	517	0.54	1	0	−1	−0	22	0.02	495	0.52
	KY	51507	3091	6.00	0	0	2717	5.28	266	0.52	108	0.21
	LA	81962	17699	21.59	4	0	4	0	17514	21.37	177	0.22
	MS	31125	1029	3.31	0	0	0	0	1001	3.22	28	0.09
	NC	94622	267	0.28	0	0	0	0	1	0	265	0.28
	OK	50171	6213	12.38	1	0	58	0.12	6093	12.14	61	0.12
	SC	42195	94	0.22	0	0	0	0	0	0	94	0.22
	TN	67967	326	0.48	16	0.02	126	0.19	41	0.06	143	0.21
	TX	307828	38066	12.37	19	0	35	0.01	37560	12.20	452	0.15
	VA	96008	1096	1.14	4	0	955	0.99	11	0.01	125	0.13
Rocky Mtn.		293535	15097	5.14	1167	0.40	2681	0.91	10231	3.49	1021	0.35
	AZ	49312	496	1.01	320	0.65	83	0.17	58	0.12	35	0.07
	CO	56445	1767	3.13	161	0.29	192	0.34	1362	2.41	52	0.09
	ID	12547	193	1.54	90	0.72	0	0	7	0.06	97	0.77
	KS	40716	1325	3.25	0	0	23	0.06	1247	3.06	56	0.14
	MT	11460	1011	8.82	49	0.43	417	3.64	483	4.21	62	0.54
	NE	25341	91	0.36	0	0	0	0	57	0.22	34	0.13
	NV	17995	370	2.06	245	1.36	0	0	42	0.23	83	0.46
	NM	23516	4075	17.33	115	0.49	345	1.47	3516	14.95	99	0.42
	ND	10762	1049	9.75	0	0	157	1.46	877	8.15	16	0.15
	SD	9070	85	0.94	49	0.54	0	0	17	0.19	19	0.21
	UT	23525	722	3.07	74	0.31	234	0.99	360	1.53	54	0.23
	WY	12846	3913	30.46	64	0.50	1230	9.57	2205	17.16	414	3.22
Pacific Coast		646753	14764	2.28	87	0.01	44	0	13899	2.15	734	0.11
	AK	20511	7213	35.17	5	0.02	17	0.08	7178	35.00	13	0.06
	CA	500538	7361	1.47	62	0.01	−7	−0	6704	1.34	602	0.12
	HI	17642	1	0	0	0	0	0	−1	−0	2	0.01
	OR	38205	57	0.15	2	0	−3	−0	11	0.03	47	0.12
	WA	69857	132	0.19	18	0.03	37	0.05	7	0.01	70	0.10

Table E3—1982 minerals industry contribution to gross state product by state and RPA region

Region	State	Total GSP	Total minerals	Total GSP (%)	GSP by minerals sector							
					Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1982\$												
U.S.		3104180	132118	4.26	2322	0.07	15105	0.49	110228	3.55	4463	0.14
North		1449986	13241	0.91	560	0.04	7398	0.51	4125	0.28	1158	0.08
	CT	46872	37	0.08	3	0	0	0	17	0.04	17	0.04
	DE	8297	−1	−0.01	0	0	0	0	−2	−0.02	1	0.01
	DC	21393	2	0	0	0	0	0	1	0	0	0
	IL	159460	1803	1.13	0	0	1094	0.69	556	0.35	153	0.10
	IN	64455	554	0.86	0	0	401	0.62	71	0.11	82	0.13
	IA	37805	63	0.17	0	0	5	0.01	0	0	58	0.15
	ME	12052	5	0	1	0	0	0	0	0	4	0.03
	MD	52225	94	0.18	0	0	61	0.12	2	0	32	0.06
	MA	76870	34	0.04	0	0	0	0	−3	−0	37	0.05
	MI	108267	1201	1.11	75	0.07	0	0	1056	0.98	71	0.07
	MN	56013	588	1.05	354	0.63	0	0	180	0.32	54	0.10
	MO	61358	373	0.61	98	0.16	30	0.05	161	0.26	84	0.14
	NH	11530	11	0.10	0	0	0	0	1	0	11	0.10
	NJ	106422	64	0.06	4	0	0	0	6	0	54	0.05
	NY	254991	369	0.14	15	0	1	0	212	0.08	140	0.05
	OH	133893	1780	1.33	0	0	650	0.49	1014	0.76	115	0.09
	PA	140728	2127	1.51	4	0	1681	1.19	302	0.21	140	0.10
	RI	10611	8	0.08	0	0	0	0	4	0.04	4	0.04
	VT	5864	22	0.38	0	0	0	0	0	0	22	0.38
	WV	21503	4045	18.81	0	0	3475	16.16	545	2.53	25	0.12
	WI	59377	62	0.10	6	0.01	0	0	2	0	54	0.09
South		920524	84486	9.18	90	0	5198	0.56	77245	8.39	1954	0.21
	AL	40602	1562	3.85	4	0	805	1.98	697	1.72	57	0.14
	AR	23712	750	3.16	0	0	−3	−0.01	744	3.14	9	0.04
	FL	117197	1736	1.48	9	0	0	0	1264	1.08	463	0.40
	GA	66793	334	0.50	2	0	−6	−0	21	0.03	317	0.47
	KY	42380	3422	8.07	0	0	3064	7.23	275	0.65	83	0.20
	LA	77986	21161	27.13	3	0	0	0	21008	26.94	149	0.19
	MS	25501	1341	5.26	0	0	0	0	1318	5.17	23	0.09
	NC	69182	178	0.26	0	0	0	0	2	0	176	0.25
	OK	48560	9391	19.34	4	0	80	0.16	9261	19.07	46	0.09
	SC	32030	67	0.21	0	0	0	0	0	0	67	0.21
	TN	51879	350	0.67	19	0.04	148	0.29	95	0.18	88	0.17
	TX	254457	43009	16.90	44	0.02	22	0	42548	16.72	395	0.16
	VA	70245	1185	1.69	5	0	1088	1.55	12	0.02	81	0.12

Table E3—1982 minerals industry contribution to gross state product by state and RPA region—con.

		GSP by minerals sector										
Region	State	Total GSP	Total minerals	Total GSP (%)	Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1982\$—con.												
Rocky		238377	18363	7.70	1571	0.66	2525	1.06	13391	5.62	876	0.37
Mtn.	AZ	33548	610	1.82	417	1.24	89	0.27	80	0.24	24	0.07
	CO	45314	2092	4.62	262	0.58	211	0.47	1576	3.48	43	0.09
	ID	10376	168	1.62	84	0.81	0	0	18	0.17	67	0.65
	KS	33549	1452	4.33	0	0	22	0.07	1389	4.14	40	0.12
	MT	11061	1227	11.09	85	0.77	362	3.27	744	6.73	36	0.33
	NE	21373	81	0.38	0	0	0	0	61	0.29	20	0.09
	NV	13833	351	2.54	207	1.50	0	0	58	0.42	87	0.63
	NM	19835	4699	23.69	167	0.84	287	1.45	4139	20.87	106	0.53
	ND	10369	1567	15.11	0	0	114	1.10	1442	13.91	10	0.10
	SD	7873	78	0.99	43	0.55	−2	−0.03	22	0.28	15	0.19
	UT	18018	1058	5.87	170	0.94	350	1.94	491	2.73	47	0.26
	WY	13228	4980	37.65	136	1.03	1092	8.26	3371	25.48	381	2.88
Pacific		495293	16028	3.24	101	0.02	−16	−0	15467	3.12	475	0.10
Coast	AK	18619	7796	41.87	3	0.02	13	0.07	7774	41.75	5	0.03
	CA	374086	8042	2.15	63	0.02	−54	−0.01	7666	2.05	368	0.10
	HI	14412	2	0.01	0	0	0	0	−1	−0	3	0.02
	OR	31141	59	0.19	5	0.02	−4	−0.01	19	0.06	39	0.13
	WA	57035	129	0.23	30	0.05	29	0.05	9	0.02	60	0.11

Table E4—1977 minerals industry contribution to gross state product by state and RPA region

Region	State	Total GSP	Total minerals	Total GSP (%)	GSP by minerals sector							
					Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1977\$												
U.S.		2914780	145453	4.99	2258	0.08	12248	0.42	124677	4.28	6270	0.22
North		1455363	14155	0.97	807	0.06	6690	0.46	4643	0.32	2017	0.14
	CT	43438	43	0.10	0	0	16	0.04	-2	-0	29	0.07
	DE	8281	112	1.35	0	0	0	0	109	1.32	3	0.04
	DC	22003	2	0	0	0	0	0	2	0	0	0
	IL	166105	2079	1.25	1	0	810	0.49	883	0.53	385	0.23
	IN	69480	457	0.66	0	0	240	0.35	84	0.12	133	0.19
	IA	37746	99	0.26	0	0	5	0.01	4	0.01	90	0.24
	ME	11118	3	0.03	1	0	0	0	0	0	3	0.03
	MD	49839	63	0.13	0	0	35	0.07	3	0	25	0.05
	MA	71369	36	0.05	0	0	0	0	1	0	35	0.05
	MI	131499	1676	1.27	160	0.12	1	0	1352	1.03	163	0.12
	MN	51235	506	0.99	435	0.85	0	0	1	0	70	0.14
	MO	60085	372	0.62	149	0.25	49	0.08	18	0.03	156	0.26
	NH	9108	16	0.18	0	0	0	0	0	0	16	0.18
	NJ	96256	94	0.10	2	0	2	0	5	0	85	0.09
	NY	247908	648	0.26	29	0.01	0	0	421	0.17	198	0.08
	OH	141390	1951	1.38	9	0	709	0.50	984	0.70	249	0.18
	PA	143921	2466	1.71	17	0.01	1910	1.33	356	0.25	183	0.13
	RI	10476	7	0.07	0	0	0	0	3	0.03	5	0.05
	VT	5007	31	0.62	0	0	0	0	0	0	31	0.62
	WV	21317	3375	15.83	0	0	2913	13.67	410	1.92	52	0.24
	WI	57782	119	0.21	4	0	0	0	9	0.02	106	0.18
South		816235	100090	12.26	84	0.01	4362	0.53	93191	11.42	2456	0.30
	AL	37840	1251	3.31	2	0	488	1.29	668	1.77	94	0.25
	AR	21636	886	4.10	23	0.11	14	0.06	768	3.55	81	0.37
	FL	93456	1271	1.36	26	0.03	3	0	719	0.77	524	0.56
	GA	57825	360	0.62	2	0	6	0.01	11	0.02	342	0.59
	KY	41148	3017	7.33	0	0	2585	6.28	310	0.75	122	0.30
	LA	73866	27108	36.70	0	0	0	0	26836	36.33	271	0.37
	MS	23887	1265	5.30	0	0	0	0	1221	5.11	44	0.18
	NC	63622	170	0.27	0	0	0	0	2	0	168	0.26
	OK	40377	9891	24.50	0	0	54	0.13	9766	24.19	71	0.18
	SC	28268	78	0.28	0	0	0	0	2	0	77	0.27
	TN	47538	399	0.84	19	0.04	226	0.48	16	0.03	138	0.29
	TX	224483	53285	23.74	10	0	5	0	52858	23.55	412	0.18
	VA	62289	1109	1.78	2	0	981	1.57	14	0.02	112	0.18

Table E4—1977 minerals industry contribution to gross state product by state and RPA region—con.

Region	State	Total GSP	Total minerals	Total GSP (%)	GSP by minerals sector							
					Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
\$1977\$—con.												
Rocky Mtn.		204869	19190	9.37	1297	0.63	1179	0.58	15660	7.64	1053	0.51
	AZ	27750	772	2.78	503	1.81	54	0.19	181	0.65	33	0.12
	CO	36925	2556	6.92	137	0.37	152	0.41	2227	6.03	41	0.11
	ID	9867	165	1.67	54	0.55	0	0	42	0.43	69	0.70
	KS	31473	2506	7.96	0	0	22	0.07	2430	7.72	54	0.17
	MT	9692	1047	10.80	37	0.38	185	1.91	767	7.91	58	0.60
	NE	19474	127	0.65	0	0	0	0	88	0.45	39	0.20
	NV	10665	225	2.11	55	0.52	0	0	56	0.53	113	1.06
	NM	17889	5237	29.27	198	1.11	73	0.41	4803	26.85	163	0.91
	ND	8116	668	8.23	0	0	59	0.73	598	7.37	11	0.14
	SD	7435	113	1.52	23	0.31	0	0	53	0.71	37	0.50
UT	15186	1121	7.38	168	1.11	189	1.24	711	4.68	53	0.35	
WY	10397	4653	44.75	122	1.17	445	4.28	3704	35.63	382	3.67	
Pacific Coast		438309	12018	2.74	71	0.02	17	0	11182	2.55	747	0.17
	AK	12841	2682	20.89	3	0.02	8	0.06	2663	20.74	8	0.06
	CA	329952	9164	2.78	57	0.02	2	0	8534	2.59	571	0.17
	HI	13168	−1	−0	0	0	0	0	−1	−0	0	0
	OR	31331	109	0.35	2	0	1	0	4	0.01	101	0.32
	WA	51017	64	0.13	9	0.02	6	0.01	−18	−0.04	67	0.13
1982\$												
U.S.		1957608	50152	2.56	1898	0.10	9572	0.49	34930	1.78	3752	0.19
North		999939	8413	0.84	679	0.07	5227	0.52	1301	0.13	1208	0.12
	CT	29822	29	0.10	0	0	12	0.04	−1	−0	17	0.06
	DE	5623	32	0.57	0	0	0	0	31	0.55	2	0.04
	DC	14818	1	0	0	0	0	0	1	0	0	0
	IL	114966	1112	0.97	1	0	633	0.55	247	0.21	231	0.20
	IN	48176	291	0.60	0	0	187	0.39	23	0.05	80	0.17
	IA	26598	59	0.22	0	0	4	0.02	1	0	54	0.20
	ME	7648	2	0.03	0	0	0	0	0	0	2	0.03
	MD	34144	43	0.13	0	0	27	0.08	1	0	15	0.04
	MA	49004	21	0.04	0	0	0	0	0	0	21	0.04
	MI	88577	611	0.69	135	0.15	1	0	379	0.43	97	0.11
	MN	35862	408	1.14	366	1.02	0	0	0	0	42	0.12
	MO	41476	262	0.63	126	0.30	38	0.09	5	0.01	94	0.23
	NH	6285	10	0.16	0	0	0	0	0	0	9	0.14
	NJ	66396	55	0.08	2	0	1	0	1	0	51	0.08
	NY	169215	261	0.15	24	0.01	0	0	118	0.07	119	0.07
	OH	97331	986	1.01	8	0	554	0.57	276	0.28	149	0.15
	PA	98690	1716	1.74	14	0.01	1493	1.51	100	0.10	109	0.11
	RI	7112	4	0.06	0	0	0	0	1	0.01	3	0.04
	VT	3440	19	0.55	0	0	0	0	0	0	19	0.55
	WV	14633	2422	16.55	0	0	2277	15.56	115	0.79	31	0.21
WI	40123	69	0.17	3	0	0	0	3	0	63	0.16	

Table E4—1977 minerals industry contribution to gross state product by state and RPA region—con.

		GSP by minerals sector										
Region	State	Total GSP	Total minerals	Total GSP (%)	Metals		Coal		Oil & gas		Nonmetals	
					GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)	GSP (×10 ⁶ \$)	Total (%)
1982\$—con.												
South		525044	31056	5.91	70	0.01	3410	0.65	26108	4.97	1467	0.28
	AL	25978	626	2.41	1	0	382	1.47	187	0.72	56	0.22
	AR	14795	294	1.99	19	0.13	11	0.07	215	1.45	48	0.32
	FL	64140	538	0.84	22	0.03	2	0	201	0.31	313	0.49
	GA	40504	214	0.53	1	0	5	0.01	3	0	204	0.50
	KY	28584	2180	7.63	0	0	2020	7.07	87	0.30	73	0.26
	LA	39478	7681	19.46	0	0	0	0	7519	19.05	162	0.41
	MS	16027	368	2.30	0	0	0	0	342	2.13	26	0.16
	NC	44148	101	0.23	0	0	0	0	1	0	100	0.23
	OK	23647	2821	11.93	0	0	42	0.18	2736	11.57	43	0.18
	SC	19878	46	0.23	0	0	0	0	0	0	46	0.23
	TN	33249	280	0.84	16	0.05	177	0.53	4	0.01	83	0.25
	TX	131835	15068	11.43	9	0	4	0	14809	11.23	246	0.19
VA	42781	839	1.96	2	0	767	1.79	4	0	67	0.16	
Rocky Mtn.		134735	7028	5.22	1091	0.81	921	0.68	4390	3.26	631	0.47
	AZ	18918	536	2.83	423	2.24	42	0.22	51	0.27	20	0.11
	CO	24535	882	3.59	115	0.47	119	0.49	624	2.54	24	0.10
	ID	6929	98	1.41	46	0.66	0	0	12	0.17	41	0.59
	KS	20593	730	3.54	0	0	17	0.08	681	3.31	32	0.16
	MT	6383	425	6.66	31	0.49	144	2.26	215	3.37	35	0.55
	NE	13760	48	0.35	0	0	0	0	25	0.18	23	0.17
	NV	7142	130	1.82	47	0.66	0	0	16	0.22	68	0.95
	NM	10196	1666	16.34	166	1.63	57	0.56	1346	13.20	98	0.96
	ND	5418	220	4.06	0	0	46	0.85	168	3.10	7	0.13
	SD	5200	56	1.08	19	0.37	0	0	15	0.29	22	0.42
	UT	10116	520	5.14	141	1.39	148	1.46	199	1.97	32	0.32
	WY	5545	1717	30.96	103	1.86	348	6.28	1038	18.72	229	4.13
Pacific Coast		297891	3652	1.23	60	0.02	14	0	3133	1.05	447	0.15
	AK	7597	759	9.99	2	0.03	6	0.08	746	9.82	5	0.07
	CA	224134	2782	1.24	48	0.02	2	0	2391	1.07	342	0.15
	HI	8946	0	0	0	0	0	0	0	0	0	0
	OR	21885	64	0.29	2	0	1	0	1	0	60	0.27
	WA	35329	47	0.13	8	0.02	5	0.01	-5	-0.01	40	0.11