

2021

The 1975 West Virginia Input-Output Study: Modeling A Regional Economy

Anthony Loviscek

Randy Holliday

Lucinda Robinson

Melissa Wolford

Follow this and additional works at: <https://researchrepository.wvu.edu/rri-web-book>

Recommended Citation

Loviscek, A., Holliday R., Robinson, L., & Wolford M. (1979). The 1975 West Virginia Input-Output Study: Modeling a Regional Economy. Reprint. Edited by Randall Jackson. WVU Research Repository, 2021. All Web Book material, including text and graphics, is available to users for personal use and may not be redistributed in whole or in part, in print, online, or on electronic media (e.g., CD). Permission for reprinting images and text from the Web Book of Regional Science must be obtained from the Regional Research Institute to which all users must comply.

This Book is brought to you for free and open access by the Regional Research Institute at The Research Repository @ WVU. It has been accepted for inclusion in Web Book of Regional Science by an authorized administrator of The Research Repository @ WVU. For more information, please contact researchrepository@mail.wvu.edu.

The Web Book of Regional Science

Sponsored by



The 1975 West Virginia Input-Output Study Modeling A Regional Economy

By

Anthony Loviscek

Randy Holliday

Lucinda Robinson

Melissa Wolford

©1979 by West Virginia University Foundation
Morgantown, West Virginia
ISBN Number 0-930284-01-1

Editor: Randall Jackson
Director, Regional Research Institute
West Virginia University

<This page blank>

The Web Book of Regional Science is offered as a service to the regional research community in an effort to make a wide range of reference and instructional materials freely available online. Approximately 30 books and monographs have been published as Web Books of Regional Science. These texts covering diverse subjects such as regional networks, land use, migration, and regional specialization, include descriptions of many of the basic concepts, analytical tools, and policy issues important to regional science. The Web Book was launched in 1999 by Scott Loveridge with Regional Research Institute directors serving as Web Book editors. Scott Loveridge performed that role through 2000 and Randall Jackson served as editor from 2001 through 2022.

All Web Book material, including text and graphics, is available to users for personal use and may not be redistributed in whole or in part, in print, online, or on electronic media (e.g., CD). Permission for reprinting images and text from the Web Book of Regional Science must be obtained from the Regional Research Institute to which all users must comply.

When citing this book, please include the following:

Loviscek, A., Holliday R., Robinson, L., & Wolford, M. (1979), *The 1975 West Virginia Input-Output Study: Modeling a Regional Economy*. Reprint. Edited by Randall Jackson. WVU Research Repository, 2021.

<This page blank>

ACKNOWLEDGEMENTS

This study would not have been possible without the assistance of many persons. It is impossible to acknowledge them all individually, but we would like to mention a few who helped us considerably. It is a great pleasure to acknowledge the cooperation of the businessmen across the state who took time from busy work schedules to provide the basic information needed for this study. We can't thank them publicly because the confidentiality of the data they provided dictates that they remain anonymous.

Special thanks are due John D. Hurd, Executive Vice-President of the West Virginia Chamber of Commerce; Edwin K. Wiles, President of the West Virginia Coal Association; and Robert R. Bowers, Executive Director of the West Virginia Petroleum Council. They supported our study enthusiastically, and spent a great deal of valuable time encouraging their members to participate in the study.

Many state officials also provided valuable assistance. We can mention only the few who helped us considerably. Former Governor Arch A. Moore, Jr. supported our efforts wholeheartedly, and encouraged West Virginia businesses and state officials to assist us. Former State Treasurer Ronald G. Pearson and former State Auditor John M. Gates also supported us and provided helpful information. The following state employees gave a great deal of assistance in the latter stages of the study by providing control totals and sources of secondary information: Gale Gray and Arnold Margolin of the West Virginia Tax Department; William Spencer of the Department of Agriculture; and Ed Howard of the Public Service Commission.

We also wish to thank several members of the Regional Research Institute staff for their enthusiastic assistance and support throughout the study. Jodi Evans and Alan Mierke, both presently Research Aides, and Patty Henry, a former Research Aide, did much of the keypunching. Neal Duffy, a Graduate Research Assistant, assisted with computer programming for the final tables which appear in the study. Carla Uphold and Jean Gallaher did all the typing efficiently and cheerfully.

We also owe a debt of gratitude to Dr. William H. Miernyk, Director of the Institute, who initiated the study. He provided advice and assistance as the study progressed. Most importantly, it was he who introduced us to input-output economics and instructed us on its techniques and uses.

Finally, we would like to thank Dr. Robert Munn, dean of the West Virginia University Library, who made publication of the study possible. We are deeply grateful to all those mentioned here, and to the many others we couldn't mention. The authors accept the responsibility, however, for any errors that remain.

<This page blank>

FORWARD

by

William H. Miernyk

This volume, in spite of its modest size, is the result of a major research effort. Three years of work went into the tables which account for most of its bulk. Although the project was under my general direction, the tables were constructed by the authors of this report, with very substantial assistance from the collaborators whose names appear on the title page. Many others contributed in a number of ways, but the authors and their collaborators deserve any encomiums which this volume might receive.

I am not attempting to dodge responsibility for any shortcomings in the 1975 West Virginia input-output study. Some of the basic decisions were made by me—including the decision to restrict this report to the essentials; to the tables and their documentation. But those who did the actual work deserve credit for putting together a transactions table under less than optimal conditions.

This is the second set of input-output tables for West Virginia. Both are survey-based. Data for the first tables were obtained from personal interviews with representatives of a sample of West Virginia establishments. The first tables were part of a larger, and relatively well-financed, study. The present study was conducted under tight budget constraints, and the data were obtained by a mail survey. It will come as no surprise that the mail survey was less productive than the 1965 interviews.

As the authors point out, however, enough useable returns were received to permit them to construct a “first round” transactions table. They had to rely far more heavily on secondary sources to fill gaps than was the case when the 1965 tables were constructed. As I have pointed out elsewhere (Miernyk, 1976), constructing a transactions table is a lot like putting, together a large and complex puzzle. In my judgment, the authors of this report did an outstanding job of finding the missing pieces of the puzzle.

One thing which the mail survey demonstrated clearly is that this is a feasible way to collect input-output data. Establishments don't maintain their records on an input-output basis. But if they are willing to do so, the purchasing, sales, and accounting departments of large establishments can make the necessary breakdowns. Some of the respondents to the mail survey were enthusiastic about the study, and they devoted the time and energy required to develop careful estimates of purchases and sales by origin and destination. In some cases there were a number of telephone contacts between respondents and staff members to clear up questions that were not answered completely by the instructions that accompanied the mail questionnaire.

It is more difficult for the manager of a small establishment to provide the detailed data that can be obtained from cooperating large business organizations. The respondent is the manager (often the owner-manager) who is always pressed for time. In many cases small establishments rely on outside accountants to handle much of their record keeping. The respondent has to turn to his accountant for help in completing the questionnaire, and this involves a charge for the extra service. This makes it difficult to elicit useable responses from filling stations, independent drug stores, restaurants, and a wide range of similar small establishments.

Fortunately, there appears to be relatively little variation among small establishments, in a given sector, in terms of the origin of purchases and destination of sales. Many serve essentially local markets, and most deal with a limited number of wholesalers. The basic problem is that of estimating the markup in these sectors, and that can be done on the basis of a limited number of responses. Finally, large establishments are able to provide some data on purchases from small establishments in the state, even if small establishments are not able to accurately trace the destination of their sales. I'm not suggesting that there is no problem in working out transactions between sectors containing a large number of small establishments and those dominated by a relatively small number of large producers. There are indeed problems, particularly in the reconciliation of the purchases and sales matrices, but they can be dealt with by the kind of patient, systematic work described in this report.

Although this study has demonstrated that regional input-output tables can be constructed by a carefully-conducted mail survey, an important question remains: How to increase the response rate? One possibility, I think, would be to conduct a survey at, say, five-year intervals under the aegis of state government. We feel that support from former Governor Arch Moore, who was then in office, and Mr. John Hurd, Executive

Secretary of the West Virginia Chamber of Commerce, did much to stimulate interest in and cooperation with the 1975 study. But I feel that if the study had been conducted by a state agency the returns might have been even better. Perhaps the most important way to encourage participation in studies of this kind, however, is to demonstrate their usefulness to establishments in the private sector since they must provide the bulk of data on inter-industry transactions.

The 1965 tables were used by at least two agencies of state government. They were also used by one of the state's larger trade associations, and several firms indicated that they found the tables useful. Other researchers in West Virginia made use of the 1965 model, and discussed their work with members of the Institute staff. We hope there were many other users that we don't know about. The input-output model is not a general purpose model, and it doesn't give push button answers to complex economic problems. But it is a versatile analytical tool. Used properly it can shed an amazing amount of light on the ways in which changes in one part of the economy affect other parts.

Ideally, in my view, state input-output tables should be constructed by the U. S. Department of Commerce. The Interindustry Economics Division of the Bureau of Economic Analysis has the responsibility for constructing and publishing national input output tables. If input-output data were collected for each state, 50 separate tables could be published for use at the state level. These could be aggregated to obtain internally-consistent national tables. The state tables could also be combined to form regional tables, provided the regions followed state boundaries. Use able and reliable interindustry-interregional models could be constructed from the basic state data.

Who needs more detailed regional input-output data than that now available? One of the major users of such detailed data would be government itself. Since the advent of environmental legislation, there has been a growing interest in impact studies. And as the omnibus Energy Act of 1978 begins to take effect, there will be a need for other kinds of impact studies. The best tool for analyzing the regional impacts of environmental and energy legislation is still the input-output model.

Although the most economical-and clearly the most efficient-way to construct state input-output tables would be to have a single federal agency do the job, one would have to be an incurable optimist to expect that this is going to happen in the near future. If state input-output tables serve a useful purpose, however, as I believe they do, there are unlimited opportunities to experiment with new methods of obtaining more and better data on interindustry transactions on a limited budget. I believe this report makes a contribution to that continuing effort.

<This page blank>

THE 1975 WEST VIRGINIA INPUT-OUTPUT STUDY

I

It has been ten years since the original 1965 West Virginia input-output tables were constructed.¹ The transactions table and the tables derived from it given here describe the structure of the West Virginia economy in 1975.

Input-output economics – a branch of econometrics – provides a simple, but highly-detailed empirical model which can be used for making economic impact studies and for forecasting. It can also be used to simulate the economic impacts of alternative economic policies, and thus can be a powerful tool of policy analysis. The I/O model is a flexible, analytical device. It can be used in the study of a variety of issues including those dealing with energy, the environment, technological change, and regional economic development.

The transactions table gives a complete, detailed description of the structure of the state economy. The table of direct coefficients shows technical relationships among the processing sectors, as well as their dependence on imports whether from other states or outside the U. S. This table also shows the relative importance of “primary” inputs which consist basically of payments to households and government. The final table – direct and indirect requirements (per dollar of delivery to final demand) – can be used for analytical purposes, such as making impact studies. The Type I and Type II income multipliers, discussed later in this report, were calculated from the data in Tables 2 and 3.

This study is less detailed than the 1965 study which included tables of capital and labor coefficients, as well as a detailed discussion of comparative static and dynamic models. Much of the 1965 study also consisted of applications of the two basic models to specific problems. This is a far less ambitious study designed only to update the basic tables. The 1975 sectoral classifications and definitions have been retained in the 1975 tables. The two sets of tables can thus be used for analyzing changes in the West Virginia economy over the past decade.

As in the 1965 study, this one is based on survey-generated data. Unlike the 1965 study, however, we were forced to rely on a mailed questionnaire. The mail questionnaire did not yield the quantity or quality of data collected by field interviewers in 1965, particularly for a number of service sectors. However, data obtained from the state’s dominant industries coal, chemicals, electric utilities, and primary metals – were sufficiently detailed and reliable to allow us to go ahead with the transactions table. A much larger effort was made this time than in 1965 to use secondary data to supplement the mail returns. The 1975 tables could not have been completed without the active support of the individuals and agencies mentioned in the acknowledgements section of this report.

¹The 1965 tables, with projected tables for 1975, are given in William H. Miernyk, et al., *Simulating Regional Economic Development* (Lexington, Mass.: D. C. Heath and Company, 1970).

II

The interindustry framework of the West Virginia economy in 1975 is given in the transactions table (Table 1). This table shows the flow of sales and purchases among sectors. Each row gives the distribution of output from the sector at the left to other sectors and to final users. The columns show the value of each industry's purchases of inputs—raw materials, semi-finished goods, and services—and its final payments. Each column shows at a glance how much the sector at the top depends on other West Virginia sectors for its inputs, and also how much it pays to households and the three levels of government. Finally, it shows the relative importance of imports, from whatever source.

All state economies are “open” compared with the national economy. The import row and the export column of Table 1 show this. Not only does West Virginia import much of what it needs to produce goods and services, but several sectors are major exporters to national and international markets. These internal and external linkages have a great deal to do with the size of the income multipliers to be discussed in a later section.

It is relatively easy to derive West Virginia's gross product from the transactions flow.² In each processing sector, total demand must equal total final payments, although the individual row and column sums of each need not balance.

Input-output accounting is similar to a system of double-entry bookkeeping. From the income side, gross product can be derived by summing the producers' purchases of primary inputs. Alternatively, from the product side, one can sum the sales of goods and services to final users to get the same result. Interindustry flows are not included in these calculations because double counting is avoided when estimating gross product. We double count deliberately, however, to obtain total gross outlays (or output) in the final row and final column of the transactions table.

An interesting characteristic of the transactions table is the wide variation in sales patterns among sectors. Such industries as glass (19), primary metal products (21) and transportation equipment (25), show more than nine-tenths of their sales going to final demand. Conversely, petroleum and natural gas (4), logging and sawmills (14), and all other services (41), exhibit a high degree of interdependence with other processing sectors. Each row can be viewed as a marketing profile of the sector at the left. Each column is a recipe of the combined establishments production requirements. In the language of economics, each column is an aggregate or sector production function.

It is important to remember that the input and output flows are expressed in producers' prices. Also, the demand characteristics and product-mixes they reveal are unique to 1975. The technical relationships among industries change slowly, however. In the national economy they may remain almost constant for as long as a three-year period.³ Regional economics are more volatile. A large new plant can significantly change the technical relationships and trade patterns for an entire sector. Or a major change in the price of one input – coal or oil, for example – can affect these relationships. In the “open” regional model, changes in trade relationships can influence the entire column of input (direct) coefficients. These caveats must be kept in mind by anyone using the 1975 tables to analyze the West Virginia economy in future years.

1. Sectoring the West Virginia Economy

The sectoring scheme for the 1975 West Virginia tables is identical with that of the 1965 tables. It is based on the Standard Industrial Classification.⁴ The identity of sectoral makeup permits sector-by-sector comparisons between the original 1965 coefficients, the projected 1975 coefficients, and those derived from this study.⁵ While the relative importance of the various sectors changed between 1965 and 1975, there were no basic structural changes which would have required re-definition.

²For a general discussion of the relationship between gross product and final demand, see U. S. Department of Commerce, **Survey of Current Business**, 57 (February 1974): 24-26.

³See Anne P. Carter, **Structural Change in the American Economy** (Cambridge, Mass.: Harvard University Press, 1970).

⁴Miernyk, **et al.**, *op. cit.*, pp. 2-3.

⁵Comparison with national sectors can be made by reference to the detailed industrial classification of the 1967 tables. See **Survey of Current Business** (February 1974): 34-37.

Changes in the values added and final demand portions of the table were unavoidable. Value added and final demand are more highly aggregated in the 1975 transactions table than they were in the 1965 table. There are no separate value added sectors for local, state, or federal governments; nor is there a gross savings row. The mail survey did not provide sufficient reliable data for the breakdowns given in the 1965 table. Rather than risk reporting dubious information, a “catch-all” category – all other final payments – was used. For similar reasons, exports and net inventory change were combined in the final demand segment.

2. The Sample Survey

A total of 11,613 business establishments employing four or more workers comprised the population for the 1975 input-output study. Selected firms operating these establishments were asked, by letter, to participate in the study. A total of 391 agreed to participate. They were then sent the input-output questionnaire with detailed instructions.⁶ Unfortunately, only 169 useable returns were received from cooperating respondents. And these constitute the rather thin sample on which interindustry transactions in the 1975 tables are based.⁷ The sectors covered by the respondents account for about 50 percent of West Virginia’s total output. Tests were conducted on the data obtained from the 1975 mail survey to determine whether the responding establishments are representative of the total population. We also compared the characteristics of the respondents and the non-respondents who had originally agreed to participate.

The following data were collected for both the respondents and non-respondents in selected sectors:

- (1) primary output, as defined for the West Virginia input-output sectors,
- (2) location of the establishment, and
- (3) the size of the establishment, in terms of employment.

Because of a lack of secondary data at the establishment level, only the non-respondents in the two coal mining and in 19 manufacturing sectors could be included in the tests. Thus the sample tests are not as comprehensive as those made in the 1965 study.⁸

A stratified random sample of 102 non-respondent establishments was drawn from the coal mining and manufacturing sectors for comparison with the 169 respondent establishments. Differences between the means of the two samples in each sector were analyzed using t and F statistics. A discriminant analysis was later used in an effort to identify some of the factors that might have accounted for an establishment’s decision to respond or not to respond to the mail survey. The results were disappointing because of data deficiencies.

The 169 respondents accounted for 35.9 percent of total employment in the sectors they represented. The largest employment coverage was in primary metals (sector 21) where sample establishments accounted for 96 percent of that sector’s total employment. At the other end, there was no response from bakeries (sector 11). The relative coverage of other sectors is given in Table 1. Respondents accounted for a smaller proportion (10.5 percent) of the total population of establishments. Primary metals again had the highest rate at 36.8 percent. Dairies had the lowest response rate, excluding bakeries which did not participate at all. The response rates for all sectors included in the test are given in [Table 2](#).

⁶As in the 1965 study, the final questionnaire and instructions were the result of a pilot study in which several local firms cooperated. The painstaking work of devising a questionnaire and instructions that would elicit as much detailed data as possible from each respondent was done by Dr. Frank Giarratani, now on the faculty of the University of Pittsburgh. The questionnaire and instructions are given in Appendix A.

⁷The original request for cooperation was accompanied by letters from former Governor Arch Moore, and from Mr. John Hurd, Executive Secretary of the West Virginia Chamber of Commerce. We feel that these letters contributed to the initial response from firms willing to cooperate. A telephone survey of a small sample of non-respondents after the cutoff date for returns indicated that most of them could have completed the questionnaires. They were either unable or unwilling to assign staff to this task, however. Only a few firms replied that their records were kept in such a way that they could not have completed the questionnaire.

⁸Cf. **Simulating Regional Economic Development**. pp. 10-15.

TABLE 1

| | Sector | Total | Employment Respondents | % of Total |
|-----|------------------------------------|----------------|-------------------------------|-------------------|
| 2. | Coal mining, underground | 51,856 | 4,510 | 8.2 |
| 3. | Coal mining, strip | | | |
| 9. | Food & kindred products, n.e.c. | 1,631 | 662 | 40.6 |
| 10. | Food & kindred products, dairies | 849 | 4 | 0.5 |
| 11. | Food & kindred products, bakeries | 1,898 | 0 | 0.0 |
| 12. | Food & kindred products, beverages | 1,152 | 120 | 10.4 |
| 13. | Apparel & accessories | 4,685 | 1,007 | 21.5 |
| 14. | Logging & sawmills | 3,466 | 191 | 5.5 |
| 15. | Furniture & other wood fabrication | 2,155 | 807 | 37.4 |
| 16. | Printing & publishing | 4,284 | 1,276 | 29.8 |
| 17. | Chemicals | 19,182 | 9,925 | 51.7 |
| 18. | Petroleum | 849 | 279 | 32.9 |
| 19. | Glass | 11,287 | 8,123 | 72.0 |
| 20. | Stone and clay products | 6,217 | 614 | 9.9 |
| 21. | Primary metal products | 23,705 | 22,794 | 96.2 |
| 22. | Fabricated metal products | 8,549 | 3,175 | 31.3 |
| 23. | Machinery, except electrical | 6,238 | 933 | 15.0 |
| 24. | Electrical machinery & apparatus | 5,211 | 1,124 | 21.6 |
| 25. | Transportation equipment | 2,924 | 1,032 | 35.3 |
| 26. | Instruments & related products | 853 | 425 | 49.8 |
| 27. | All other manufacturing | 9,514 | 2,790 | 29.3 |
| | TOTAL | 166,505 | 59,791 | 35.9 |

TABLE 2

| | Sector | Total | Employment Respondents | % of Total |
|-----|------------------------------------|--------------|-------------------------------|-------------------|
| 2. | Coal mining, underground | 515 | 15 | 2.9 |
| 3. | Coal mining, strip | | | |
| 9. | Food & kindred products n.e.c. | 34 | 5 | 14.7 |
| 10. | Food & kindred products, dairies | 13 | 1 | 8.0 |
| 11. | Food & kindred products, bakeries | 17 | 0 | 0.0 |
| 12. | Food & kindred products, beverages | 35 | 3 | 8.6 |
| 13. | Apparel & accessories | 46 | 4 | 8.7 |
| 14. | Logging & sawmills | 164 | 8 | 4.9 |
| 15. | Furniture & other wood fabrication | 82 | 11 | 13.4 |
| 16. | Printing & publishing | 105 | 17 | 16.2 |
| 17. | Chemicals | 54 | 16 | 29.6 |
| 18. | Petroleum | 16 | 5 | 31.3 |
| 19. | Glass | 40 | 15 | 37.5 |
| 20. | Stone and clay products | 88 | 11 | 12.5 |
| 21. | Primary metal products | 38 | 14 | 36.8 |
| 22. | Fabricated metal products | 85 | 13 | 15.3 |
| 23. | Machinery, except electrical | 131 | 7 | 5.3 |
| 24. | Electrical machinery & apparatus | 23 | 8 | 34.8 |
| 25. | Transportation equipment | 21 | 3 | 14.3 |
| 26. | Instruments & related products | 13 | 2 | 15.4 |
| 27. | All other manufacturing | 97 | 11 | 11.3 |
| | TOTAL | 1,617 | 169 | 10.5 |

Employment was the only variable available for non-respondents and respondents. Thus we tested differences between employment means in respondent and non-respondent establishments by employment. The results are given in Table 3. In terms of the t statistic, the differences are non-significant at the .01 level for all 19 sectors. Two of the food and kindred products sectors – dairies and bakeries (sectors 10 and 11) – were not included because of an insufficient number of degrees of freedom due to the small number of respondents. Differences in the F -statistics are not significant at the .01 level for all sectors except 23 (non-electrical machinery). Again, sectors 10 and 11 were excluded due to an insufficient number of degrees of freedom for testing purposes. In spite of the small number of useful responses, the mail survey provided an acceptable base of the sales and purchases data needed to construct a preliminary transactions table. The results of the t - and F -tests indicate that the responding establishments in the mail survey are representative of all establishments in the coal mining and in most of the manufacturing sectors.

TABLE 3

| | Sector | <i>t</i> -Statistics | <i>F</i> -Statistics |
|-----|------------------------------------|----------------------|----------------------|
| 2. | Coal mining, underground | .3092* | 3.46* |
| 3. | Coal mining, strip | .4688 ^o | 1.32 ^o |
| 9. | Food & kindred products n.e.c. | .9487* | 715.76* |
| 10. | Food & kindred products, dairies | — | — |
| 11. | Food & kindred products, bakeries | — | — |
| 12. | Food & kindred products, beverages | .7427* | 254.63* |
| 13. | Apparel & accessories | .8447* | 1.11* |
| 14. | Logging & sawmills | .6581* | 4.06* |
| 15. | Furniture & other wood fabrication | .0565* | 4.93* |
| 16. | Printing & publishing | .0383* | 1.07* |
| 17. | Chemicals | 1.3365* | 3.01* |
| 18. | Petroleum | .5704* | 33.89* |
| 19. | Glass | 1.8887* | 3.52* |
| 20. | Stone and clay products | .5635* | 2.27* |
| 21. | Primary metal products | .1532* | 1.42* |
| 22. | Fabricated metal products | .7470* | 2.24* |
| 23. | Machinery, except electrical | .8934* | 217.85* |
| 24. | Electrical machinery & apparatus | .4509* | 1.15* |
| 25. | Transportation equipment | .3418* | 1.75 |
| 26. | Instruments & related products | .0270* | 5.18* |
| 27. | All other manufacturing | 1.1365* | 1.20* |

*Significant at the .01 level

III

The discriminant analysis made as part of this study was not successful, but the approach will be described briefly since under other conditions it could be helpful.⁹ It provides discriminant function coefficients for each factor used in the analysis. Each coefficient represents the relative contribution of that factor to the discriminant function. A combination of factors may then be related to the respondents and non-respondents for future surveys thus reducing the non-response rate and the cost of the survey.

Three factors were used for the discriminant analysis:

- (1) sector classification,
- (2) location of the establishment, and
- (3) employment in the establishment.

Once again, the lack of secondary data for non-respondents limited the factors that could be included in the analysis.

The 21 coal mining and/manufacturing sectors were aggregated into eight sectors as shown in Table 4. Counties were used as the location factor, and were classified as urban or rural. An urban county was defined as one with a population greater than 100 persons per square mile. The average number of employees in each establishment in 1975 was used as the employment factor.

TABLE 4

| Discriminant Analysis Sector Classification | West Virginia I/O Sector Classification |
|------------------------------------------------|--------------------------------------------|
| S ₁ | 2,3 |
| S ₂ | 9, 10, 11, 12 |
| S ₃ | 14, 15 |
| S ₄ | 17 |
| S ₅ | 19, 20 |
| S ₆ | 21, 22 |
| S ₇ | 23, 24 |
| S ₈ | 13, 16, 18, 25, 26, 27 |

Various combinations of factors were tested. The most satisfactory results were obtained when all of the factors were included. This analysis yields several measures of the success with which the discriminating variables can actually separate the respondent and non-respondent groups when combined in the discriminant function. The first of these is Wilk's lambda. This statistic is an inverse measure of the discriminating power remaining in the original variables that has not been removed by the discriminant function. The larger the lambda, the less useful the information remaining. Lambda can be transformed into a chi-squared statistic for an easy test of significance.

In the present analysis, Wilk's lambda was .9805 after the discriminant function was derived. This corresponds to a chi-square of 5.205 with a probability of .93. A lambda of this size or smaller has a .93 probability of occurring due to sampling chance. Clearly, there is an insignificant amount of information remaining in the discriminate variables, far too little to produce a high degree of separation between the respondent and non-respondent groups.

The second measure used to judge the usefulness of the discriminant function was its associated canonical correlation. This is a measure of the association between the discriminant function and the grouping variable. The larger the correlation, the better the function's ability to discriminate between the groups. Our analysis produced a canonical correlation of only .14. This low coefficient indicates the weak association between the discriminant function and the grouping variable. The discriminant function is not able to accurately distinguish between respondents and nonrespondents.

⁹For a concise discussion of the elements of discriminant analysis see J. Johnston, **Econometric Methods**, 2nd Edition (New York: McGraw-Hill, 1972): 334-340. A more detailed presentation is given in Peter A. Lachenbruch, **Discriminant Analysis** (New York: Hafner Press, 1975).

It is important also to look at the predictive value of the discriminant function when it is used for classification purposes. Fifty-one percent of the non-respondents were correctly classified by this function, while 59.2 percent of the respondents were correctly classified. The results are not much different from those one would obtain from flipping a coin. The predictive level is too low to warrant the use of this technique when not more data than we had are available.

The inability of the discriminant function to separate the respondent and canonical correlation suggests the need for further examination of the discriminant function coefficients. The coefficients represent the relative contribution of each factor to the function; the larger the coefficient the greater that factor's importance. The following coefficients were derived (in decreasing order of importance):

| | |
|----------------|----------|
| S ₈ | 2.41720 |
| S ₅ | 2.04543 |
| S ₃ | 1.99721 |
| S ₆ | 1.86757 |
| S ₄ | 1.48709 |
| S ₇ | 1.28483 |
| S ₁ | 1.15964 |
| S ₂ | 0.84718 |
| Employment | 0.14777 |
| Location | -0.13046 |

The next step was to limit the analysis to the most important factors (those whose coefficients were greater than 1). Several combinations of the factors produced chi-square statistics, canonical correlations, and predictive values that were less significant than the original results. Discriminant analysis proved to be a poor tool for selecting respondents in future surveys, assuming use of the same sets of data. The failure of discriminant analysis in this case is no doubt due to data deficiencies. Response or non-response must depend upon additional factors that could not be included in this analysis because of the lack of information for non-respondents.

IV

It is unrealistic to assume that even the best organized firms can provide more than reasonable estimates of interindustry flows. Few firms maintain detailed records of the origins of purchases and the destination of sales. They could, but there is no legal or other compelling reason for them to do so. Data collected in input-output surveys thus reflects to some extent the judgments of staff members of responding establishments. At various stages in the building of a transactions table the input-output analyst must also resort to judgment. Total objectivity is unattainable.¹⁰

One of the more important steps involved in putting together a transactions table is the reconciliation of purchases and sales data. The general procedure is to construct one table based on sales data and another based on purchases. Sampling variation alone will guarantee that the two will not be the same. Thus it is necessary to reconcile all differences so that each cell contains the best possible estimate of purchases and sales. This process inevitably involves judgment, but judgment does not preclude following an orderly procedure. Indeed, as Jensen and McGuarr have pointed out, an orderly procedure is essential.¹¹ In their view the input-output analyst must (1) use only methods that imply confidence in the estimates, (2) use techniques compatible with the theoretical underpinnings of the input-output model, and (3) exercise judgment in an unequivocal and logical manner.

Reconciliation of the 1965 purchase and sales tables was based in large measure on “reliability quotients” calculated for each pair of cells.¹² These quotients could not be replicated in the present study, however, since they were based in part on interviewers’ judgments of the relative reliability of purchase and sales data collected in each interview. Thus a different procedure had to be followed in the present study. The method we used was developed by Jensen and McGuarr in the construction of an Australian input-output table.¹³ It utilizes reliability weights assigned to each pair of estimates in the same cell of the two tables.

Reliability weights embody the level of confidence a researcher establishes for each of the estimates. If the analyst feels that both estimates are equally reliable for example, each entry is assigned a weight of .50. In other cases weights of .75 and .25 might be used; or if one estimate is thought to be highly dependable, .90 and .10 might be employed. The weights must sum to one, of course. After this step, weighted averages of the flows are derived from the following: $w^{ij} = cw^{ij}P^{ij} + rw^{ij}s^{ij}$ where cw^{ij} and rw^{ij} are the column and row weights respectively. The column weights represent purchases; the row weights sales.

The step described in the last paragraph produced a single interindustry flow matrix from the independently-derived purchase and sales matrices. This approach works well if the paired estimates in the original purchase and sales tables are not too far apart, and if the column sums and row sums in the original tables differ by no more than, say 15 percent. Larger differences would require almost completely subjective reconciliation, or the equally dubious approach of simply “splitting the difference.” The 1975 West Virginia tables were within these limits.

The initial transactions generated by using Jensen-McGuarr reliability quotients are not those given in [Table I](#). As in the 1965 study, an additional step remained. This was to check the original estimates of interindustry flows with industry experts. Because of the interdependence of the cells of an input-output table, changes in a few cells will affect many others. Thus if industry experts are skeptical about many entries the entire table might have to be reconstructed. In the 1975 table, however, only a few major adjustments had to be made in the utilities sectors. Other changes suggested by reviewers were minor in nature.

¹⁰On this point see William H. Miemyk, “Comments on Recent Developments in Regional Input-Output Analysis,” **International Regional Science Review**, Vol. 1, No. 2 (Fall 1976): 47-55.

¹¹R. C. Jensen and D. McGuarr, “Reconciliation of Purchases and Sales Estimates in an Input-Output Table,” **Urban Studies**, 13 (February 1976): 61-62.

¹²Simulating Regional Economic Development, p. 18.

¹³Jensen and McGuarr, **op. cit.**

V

Most of the time and effort involved in the construction of a survey-based input-output system is devoted to the estimation of interindustry flows. But this effort would be wasted if accurate control totals were not available. These are needed to “blow up” the sample transactions, as well as to estimate final demand and total gross output by sector. The primary source of control totals for the 1975 West Virginia transactions table was the Research and Statistics Division of the West Virginia State Tax Department. West Virginia collects a Business and Occupations Tax from every establishment in the state based on sales volume. Since these are recorded by Standard Industrial Classification, they could be aggregated to the West Virginia input-output sectors. Special runs were made by the Tax Department to generate a first round set of control totals.

The Business and Occupations Tax approximates a transactions tax, with the rate varying by industry. The published rate is not always the rate used, however, since there are circumstances under which the actual payment—and hence the recorded collections can be negotiated. There were a number of cases, therefore, where the State Tax Department controls were supplemented or replaced by estimates from other sources.¹⁴ The last step, as in the case of the interindustry flow estimates, was to check with industry experts and, where necessary, to make final adjustments.

The 1975 table follows the convention of recording all transactions in producers’ prices. The objective is to achieve as much sectoral homogeneity as possible. This required a number of difficult adjustments and imputations. Transportation costs, for example, had to be shifted from such sectors as coal and primary metals to one of the three transportation sectors. Also, the trade and service sectors were adjusted to record margins rather than gross flows.

Failure to margin sectors whose function is to provide time and place utility would grossly overstate the total output of those sectors. A retail establishment, for example, might have annual sales running into the millions. But this establishment’s contribution to state output is limited to its aggregate markup. An interesting case is provided by sector 47 – gas companies and systems. In addition to producing and selling natural gas, both within and outside West Virginia, this sector provides off-season storage of natural gas destined for transshipment. Gas is piped into the state for storage in worked-out coal mines during the summer months. In the winter this gas is pumped to final consumers. The total value represented by the gas held in storage would be a very large number. But the amount entered in the transactions table represents the smaller storage and transshipment charges only.

¹⁴The complete list of sources used to adjust interindustry flows and control totals is given in the last section of the bibliography.

VI

The input-output system can be used for a variety of purposes. One of the more important is to show the total direct and indirect effects after equilibrium is reached following a change in one or more components of final demand. The results of the 1965 study which were used most often and most widely are the income and employment multipliers.¹⁵

We were not able to update the employment multipliers within the budget constraints of this study. New employment multipliers would have required new tables of labor coefficients, or sectoral employment-production functions. We were able, however, to calculate new income multipliers which we hope will be as useful as those derived from the 1965 study. We also calculated output multipliers, something which was not done in 1965.

The income and output multipliers are given in Table 5. The Type I multipliers measure the direct and indirect changes in income due to an increase of one dollar's worth of sales to final demand by each of the processing sectors. The Type II multipliers estimate the direct, indirect, and *induced* income effects of an additional dollar's worth of sales by each sector to final consumers.¹⁶ Output multipliers provide an estimate of the direct and indirect requirements in output for all sectors due to a one dollar increase in the final demand of one processing sector.

Ordinarily, Type II multipliers are calculated using two sets of matrices—one with households as part of the value – added portion of the table, and the second with households included as a processing sector. There is a short-cut method for computing Type II multipliers which gives the same results, provided the consumption function is linear and homogeneous.¹⁷ This assumption is realized when households are treated as another productive activity. The shortcut method was used to calculate the multipliers in Table 5. The multipliers were also calculated by the conventional method of treating households as a processing sector. They are the same as those in Table 5.

TABLE 5
OUTPUT AND INCOME MULTIPLIERS,
WEST VIRGINIA, 1975

| | Output | Type I | Type II |
|---------------------------------|--------|--------|---------|
| 1. Agriculture | 1.44 | 1.65 | 2.07 |
| 2. Coal mines (underground) | 1.16 | 1.14 | 1.43 |
| 3. Coal mines (strip and auger) | 1.86 | 2.16 | 2.71 |
| 4. Petroleum and natural gas | 1.40 | 1.38 | 1.73 |
| 5. All other mining | 1.30 | 1.38 | 1.73 |
| 6. Building contractors | 1.72 | 1.73 | 2.17 |
| 7. Non-building contractors | 1.51 | 1.42 | 1.78 |
| 8. Special contractors | 1.34 | 1.19 | 1.50 |
| 9. Food products (n.e.c.) | 1.50 | 2.21 | 2.78 |
| 10. Food products (dairies) | 1.52 | 1.52 | 1.19 |
| 11. Food products (bakeries) | 1.24 | 1.42 | 1.79 |

¹⁵Simulating **Regional Economic Development**, pp. 193-198.

¹⁶Illustrative calculations of both types are given in William H. Miernyk, **The Elements of Input-Output Analysis** (New York: Random House, 1965): 47.

¹⁷The method and its justification are described in I. E. Bradely and J. P. Gander, "Input-Output Multipliers: Some Theoretical Comments," **Journal of Regional Science**, 9 (1969): 309-317.

| | Output | Type I | Type II |
|------------------------------------|--------|--------|---------|
| 12. Food products (beverages) | 1.19 | 1.28 | 1.61 |
| 13. Apparel and accessories | 1.13 | 1.09 | 1.37 |
| 14. Logging and sawmills | 1.46 | 1.38 | 1.73 |
| 15. Furniture and wood fabrication | 1.30 | 1.69 | 2.11 |
| 16. Printing and publishing | 1.52 | 1.59 | 1.99 |
| 17. Chemicals | 1.31 | 1.40 | 1.75 |
| 18. Petroleum products | 1.50 | 2.08 | 2.60 |
| 19. Glass | 1.25 | 1.18 | 1.48 |
| 20. Stone and clay products | 1.37 | 1.36 | 1.70 |
| 21. Primary metals | 1.10 | 1.11 | 1.40 |
| 22. Fabricated metals | 1.21 | 1.24 | 1.55 |
| 23. Machinery (except electric) | 1.17 | 1.11 | 1.39 |
| 24. Electric machinery | 1.32 | 1.42 | 1.78 |
| 25. Transportation equipment | 1.18 | 1.19 | 1.50 |
| 26. Instrument and products | 1.04 | 1.11 | 1.39 |
| 27. All other manufacturing | 1.19 | 1.35 | 1.69 |
| 28. Restaurants and bars | 1.34 | 1.37 | 1.72 |
| 29. Wholesale trade | 1.18 | 1.09 | 1.36 |
| 30. Retail food stores | 1.31 | 1.31 | 1.64 |
| 31. Auto service stations | 1.18 | 1.16 | 1.45 |
| 32. All other retail | 1.28 | 1.17 | 1.46 |
| 33. Banking | 1.17 | 1.19 | 1.49 |
| 34. Other finance | 1.27 | 1.42 | 1.78 |
| 35. Insurance agents | 1.52 | 1.31 | 1.64 |
| 36. Real estate | 1.45 | 1.67 | 2.10 |
| 37. All other FIRE | 1.57 | 2.77 | 3.47 |
| 38. Hotels and lodgings | 1.52 | 1.43 | 1.79 |
| 39. Medical and legal services | 1.19 | 1.15 | 1.44 |
| 40. Educational services | 1.22 | 1.17 | 1.47 |
| 41. All other services | 1.23 | 1.20 | 1.51 |
| 42. Railroads | 1.11 | 1.11 | 1.39 |
| 43. Trucking and warehousing | 1.17 | 1.23 | 1.55 |
| 44. All other transportation | 1.25 | 1.29 | 1.62 |
| 45. Communications | 1.14 | 1.10 | 1.38 |
| 46. Electrical systems | 1.43 | 1.60 | 2.01 |

| | Output | Type I | Type II |
|---------------------------------|--------|--------|---------|
| 47. Gas systems | 1.18 | 1.39 | 1.75 |
| 48. Water and sanitary services | 1.43 | 1.55 | 1.94 |

Income and output multipliers are useful analytical tools, but they must be used cautiously – particularly in a development context. Income multipliers are simply ratios. A large multiplier shows that the indirect (or indirect plus induced) effect is large relative to the direct effect. But the direct effect in a given sector might be small because that sector purchases most of its inputs out of state. Such an activity would not be a particularly good development target. The basic usefulness of output multipliers is as indicators of the structural interdependence among sectors. When income or output multipliers are used in any context, they should be related to the size and the structure of the sector or sectors being analyzed. ¹⁸

¹⁸For a graphical interpretation of the components of income and employment multipliers see **Simulating Regional Economic Development**, pp. 196-197. For a discussion on output multipliers see Harry W. Richardson, **Input-Output and Regional Economics** (New York: John Wiley & Sons, 1972): 32-42.

TABLE I
INTERINDUSTRY FLOWS OF GOODS AND SERVICES, WEST VIRGINIA, 1975
(THOUSANDS OF DOLLARS)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------------------------------------|------------------|-------------------|----------------------|---------------------|--------------------|------------------|----------------------|---------------------|
| | AGRICUL- TURE | COAL MIN UNDER | COAL MIN STRIP&AU | PETROL & NAT GAS | ALL OTHR MINING | GEN CONT BLDG | GEN CONT NON-BLDG | SP TRADE CONTR'S |
| 1. AGRICULTURE | 17881 | 0 | 0 | 0 | 416 | 0 | 0 | 0 |
| 2. COAL MINING (UNDERGROUND) | 516 | 21601 | 88275 | 0 | 0 | 303 | 0 | 218 |
| 3. COAL MINING (STRIP + AUGER) | 0 | 65032 | 115522 | 0 | 10 | 4 | 0 | 7 |
| 4. PETROLEUM + NATURAL GAS | 0 | 1430 | 0 | 5282 | 0 | 2 | 0 | 0 |
| 5. ALL OTHER MINING | 3125 | 743 | 61 | 62 | 4240 | 2339 | 6602 | 1364 |
| 6. GENERAL CONTRACTORS (BUILDING) | 635 | 114 | 0 | 0 | 0 | 8088 | 67 | 0 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0 | 3805 | 0 | 11 | 0 | 5687 | 14340 | 727 |
| 8. SPECIAL TRADES CONTRACTORS | 1146 | 6580 | 215 | 346 | 4842 | 54699 | 12268 | 7335 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 1391 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. APPAREL + ACCESSORIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14. LOGGING + SAWMILLS | 780 | 28610 | 491 | 0 | 654 | 948 | 643 | 4508 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 344 | 600 | 17 | 15 | 141 | 1136 | 359 | 2 |
| 16. PRINTING + PUBLISHING | 10 | 2174 | 17 | 356 | 374 | 440 | 279 | 86 |
| 17. CHEMICALS | 672 | 0 | 0 | 0 | 1140 | 0 | 331 | 450 |
| 18. PETROLEUM | 0 | 4291 | 74 | 10 | 562 | 462 | 47979 | 1172 |
| 19. GLASS | 0 | 0 | 0 | 0 | 0 | 0 | 335 | 495 |
| 20. STONE + CLAY PRODUCTS | 1954 | 14562 | 2523 | 0 | 86 | 25433 | 19255 | 2337 |
| 21. PRIMARY METAL PRODUCTS | 50 | 2002 | 0 | 0 | 0 | 4090 | 4762 | 3765 |
| 22. FABRICATED METAL PRODUCTS | 469 | 21401 | 30 | 686 | 956 | 5887 | 1075 | 15672 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0 | 1888 | 237 | 0 | 426 | 193 | 7494 | 608 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0 | 0 | 1189 | 0 | 0 | 259 | 51 | 231 |
| 25. TRANSPORTATION EQUIPMENT | 10 | 57 | 122 | 0 | 33 | 17 | 3 | 2 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0 | 314 | 0 | 914 | 0 | 0 | 0 | 0 |
| 27. ALL OTHER MANUFACTURING | 158 | 457 | 153 | 55 | 447 | 3931 | 747 | 6431 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0 | 0 | 149 | 0 | 0 | 259 | 71 | 163 |
| 29. WHOLESALE TRADE | 8947 | 10214 | 9225 | 3069 | 3218 | 2210 | 2519 | 3314 |
| 30. RETAIL FOOD STORES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 1942 | 0 | 351 | 906 | 98 | 0 | 179 | 2115 |
| 32. ALL OTHER RETAIL | 357 | 10271 | 811 | 1229 | 229 | 156 | 647 | 147 |
| 33. BANKING | 3851 | 0 | 5718 | 448 | 526 | 804 | 1631 | 3248 |
| 34. OTHER FINANCE | 847 | 0 | 1698 | 354 | 49 | 154 | 0 | 179 |
| 35. INSURANCE AGENTS + BROKERS | 1539 | 25492 | 4476 | 8885 | 1466 | 1264 | 10473 | 4642 |
| 36. REAL ESTATE | 1548 | 0 | 0 | 380 | 27 | 951 | 763 | 2408 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0 | 8812 | 0 | 70 | 91 | 56 | 0 | 640 |
| 38. HOTELS + OTHER LODGING PLACES | 0 | 0 | 0 | 0 | 2 | 266 | 139 | 216 |
| 39. MEDICAL + LEGAL SERVICES | 105 | 2746 | 1790 | 1751 | 173 | 735 | 887 | 260 |
| 40. EDUCATIONAL SERVICES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41. ALL OTHER SERVICES | 1865 | 11930 | 11358 | 3115 | 1168 | 926 | 199 | 2653 |
| 42. RAILROADS | 4645 | 1945 | 2326 | 527 | 366 | 100 | 1147 | 0 |
| 43. TRUCKING + WAREHOUSING | 2623 | 11129 | 3660 | 252 | 1792 | 127 | 9761 | 2268 |
| 44. ALL OTHER TRANSPORTATION | 634 | 10528 | 4 | 5 | 5 | 68 | 1023 | 526 |
| 45. COMMUNICATIONS | 319 | 4549 | 1422 | 371 | 114 | 691 | 1283 | 284 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 781 | 41743 | 732 | 485 | 318 | 308 | 315 | 424 |
| 47. GAS COMPANIES AND SYSTEMS | 184 | 57 | 39 | 132 | 0 | 506 | 3031 | 1372 |
| 48. WATER + SANITARY SERVICES | 6 | 85 | 52 | 66 | 3 | 5929 | 31 | 142 |
| 49. HOUSEHOLDS | 38408 | 972974 | 94942 | 30279 | 29651 | 94285 | 138420 | 147271 |
| 50. ALL OTHER FINAL PAYMENTS | 51863 | 981614 | 53304 | 9788 | 38126 | 13572 | 36538 | 22001 |
| 51. IMPORTS | 24118 | 591332 | 37898 | 22595 | 10075 | 7208 | 74224 | 23788 |
| 52. TOTAL FINAL PAYMENTS | 114389 | 2545920 | 186144 | 62662 | 77852 | 115065 | 249182 | 193060 |
| 53. TOTAL GROSS OUTLAY | 173740 | 2861100 | 438900 | 92459 | 101839 | 244509 | 399897 | 263493 |

TABLE I (CONTINUED)
 INTERINDUSTRY FLOWS OF GOODS AND SERVICES, WEST VIRGINIA, 1975
 (THOUSANDS OF DOLLARS)

| | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-----------------------------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|-----------------------|
| | FOOD&KIN MEAT&NEC | FOOD&KIN DAIRIES | FOOD&KIN BAKERIES | FOOD&KIN BEV'AGES | APPAREL& ACCESS'S | LOGGING& SAWMILLS | FURNIT& WOOD FAB | PRINTING & PUBLISH |
| 1. AGRICULTURE | 16415 | 14023 | 615 | 0 | 0 | 5390 | 7 | 0 |
| 2. COAL MINING (UNDERGROUND) | 0 | 7 | 0 | 181 | 48 | 106 | 519 | 121 |
| 3. COAL MINING (STRIP + AUGER) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. PETROLEUM + NATURAL GAS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. ALL OTHER MINING | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0 | 0 | 35 | 0 | 3 | 0 | 105 | 0 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0 | 19 | 0 | 0 | 0 | 54 | 0 | 0 |
| 8. SPECIAL TRADES CONTRACTORS | 149 | 395 | 12 | 2 | 1555 | 669 | 0 | 0 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 7211 | 871 | 85 | 0 | 0 | 0 | 0 | 0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0 | 864 | 577 | 0 | 0 | 0 | 0 | 0 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0 | 0 | 89 | 0 | 0 | 0 | 0 | 0 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0 | 0 | 0 | 452 | 0 | 0 | 0 | 0 |
| 13. APPAREL + ACCESSORIES | 0 | 0 | 0 | 70 | 0 | 0 | 0 | 0 |
| 14. LOGGING + SAWMILLS | 0 | 0 | 0 | 0 | 0 | 17942 | 9194 | 0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0 | 0 | 8 | 1 | 0 | 0 | 434 | 20 |
| 16. PRINTING + PUBLISHING | 170 | 146 | 174 | 704 | 323 | 2 | 86 | 34178 |
| 17. CHEMICALS | 0 | 0 | 0 | 141 | 5 | 0 | 403 | 144 |
| 18. PETROLEUM | 0 | 0 | 0 | 0 | 0 | 161 | 2 | 0 |
| 19. GLASS | 38 | 0 | 0 | 573 | 0 | 0 | 96 | 0 |
| 20. STONE + CLAY PRODUCTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21. PRIMARY METAL PRODUCTS | 0 | 0 | 0 | 457 | 0 | 0 | 0 | 0 |
| 22. FABRICATED METAL PRODUCTS | 0 | 0 | 0 | 0 | 0 | 471 | 772 | 0 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0 | 11 | 0 | 0 | 2 | 16 | 45 | 0 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 9 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| 25. TRANSPORTATION EQUIPMENT | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 263 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27. ALL OTHER MANUFACTURING | 58 | 122 | 327 | 472 | 435 | 309 | 51 | 0 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0 | 161 | 0 | 172 | 0 | 0 | 0 | 300 |
| 29. WHOLESALE TRADE | 3126 | 965 | 2096 | 751 | 237 | 378 | 214 | 637 |
| 30. RETAIL FOOD STORES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5638 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 308 | 82 | 477 | 425 | 21 | 452 | 68 | 444 |
| 32. ALL OTHER RETAIL | 486 | 111 | 766 | 63 | 0 | 0 | 0 | 3266 |
| 33. BANKING | 719 | 33 | 533 | 26 | 62 | 340 | 128 | 290 |
| 34. OTHER FINANCE | 1261 | 0 | 247 | 0 | 0 | 87 | 0 | 28 |
| 35. INSURANCE AGENTS + BROKERS | 255 | 365 | 1533 | 817 | 743 | 2214 | 312 | 2001 |
| 36. REAL ESTATE | 0 | 110 | 0 | 0 | 0 | 1271 | 4 | 2783 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0 | 14 | 2 | 0 | 0 | 1092 | 0 | 359 |
| 38. HOTELS + OTHER LODGING PLACES | 0 | 0 | 0 | 103 | 3 | 51 | 9 | 20 |
| 39. MEDICAL + LEGAL SERVICES | 767 | 49 | 36 | 151 | 2 | 361 | 129 | 377 |
| 40. EDUCATIONAL SERVICES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 110 |
| 41. ALL OTHER SERVICES | 0 | 2153 | 3124 | 439 | 459 | 1207 | 1148 | 3773 |
| 42. RAILROADS | 6 | 0 | 0 | 0 | 2 | 119 | 0 | 0 |
| 43. TRUCKING+ WAREHOUSING | 799 | 328 | 131 | 673 | 721 | 184 | 898 | |
| 44. ALL OTHER TRANSPORTATION | 558 | 63 | 223 | 551 | 120 | 331 | 138 | 574 |
| 45. COMMUNICATIONS | 177 | 116 | 482 | 743 | 1843 | 874 | 312 | 1409 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 1068 | 359 | 1968 | 139 | 641 | 1042 | 363 | 507 |
| 47. GAS COMPANIES AND SYSTEMS | 295 | 92 | 1919 | 156 | 278 | 273 | 502 | 632 |
| 48. WATER + SANITARY SERVICES | 158 | 95 | 87 | 428 | 63 | 50 | 194 | 126 |
| 49. HOUSEHOLDS | 10471 | 16197 | 15014 | 12116 | 37363 | 44309 | 10929 | 42319 |
| 50. ALL OTHER FINAL PAYMENTS | 46273 | 17757 | 40980 | 20165 | 13264 | 14128 | 27287 | 23076 |
| 51. IMPORTS | 4940 | 2878 | 8650 | 15787 | 16135 | 15188 | 16999 | 36457 |
| 52. TOTAL FINAL PAYMENTS | 61684 | 36832 | 64644 | 48068 | 66762 | 73625 | 55215 | 101852 |
| 53. TOTAL GROSS OUTLAY | 96000 | 58400 | 80200 | 56700 | 74300 | 109640 | 70650 | 160500 |

TABLE I (CONTINUED)
INTERINDUSTRY FLOWS OF GOODS AND SERVICES, WEST VIRGINIA, 1975
(THOUSANDS OF DOLLARS)

| | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------------------------------------------|-----------|----------|--------|----------------|-------------------|--------------------|----------------------|--------------------|
| | CHEMICALS | PETRO'UM | GLASS | STONE& CLAY | PRIMARY METALS | FABRIC'D METALS | MACHIN'Y EXC ELEC | ELEC MACH INERY |
| 1. AGRICULTURE | 0 | 0 | 0 | 137 | 0 | 0 | 0 | 0 |
| 2. COAL MINING UNDERGROUND | 34610 | 3639 | 120 | 2165 | 37922 | 200 | 18 | 0 |
| 3. COAL MINING (STRIP + AUGER) | 297 | 0 | 0 | 0 | 76 | 0 | 0 | 0 |
| 4. PETROLEUM + NATURAL GAS | 13037 | 9056 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. ALL OTHER MINING | 1971 | 10672 | 5119 | 10384 | 6774 | 67 | 0 | 0 |
| 6. GENERAL CONTRACTORS (BUILDING) | 502 | 0 | 41 | 0 | 669 | 48 | 18 | 2 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 1004 | 11 | 0 | 0 | 167 | 2835 | 0 | 8 |
| 8. SPECIAL TRADES CONTRACTORS | 15901 | 0 | 0 | 206 | 867 | 96 | 44 | 0 |
| 9. FOOD + KINDRED PRODUC-MEATS + N.E.C. | 353 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. APPAREL + ACCESSORIES | 37 | 0 | 0 | 87 | 0 | 0 | 0 | 0 |
| 14. LOGGING + SAWMILLS | 0 | 57 | 6 | 0 | 0 | 0 | 0 | 0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0 | 1 | 155 | 0 | 0 | 3 | 7 | 221 |
| 16. PRINTING + PUBLISHING | 1487 | 80 | 933 | 1065 | 152 | 413 | 661 | 253 |
| 17. CHEMICALS | 225444 | 5646 | 443 | 895 | 6576 | 501 | 0 | 4298 |
| 18. PETROLEUM | 3849 | 3532 | 6 | 10197 | 137 | 0 | 0 | 0 |
| 19. GLASS | 1487 | 0 | 8589 | 0 | 0 | 0 | 0 | 0 |
| 20. STONE + CLAY PRODUCTS | 1636 | 3497 | 1247 | 5404 | 0 | 0 | 0 | 0 |
| 21. PRIMARY METAL PRODUCTS | 167 | 0 | 756 | 0 | 3836 | 33219 | 8925 | 33124 |
| 22. FABRICATED METAL PRODUCTS | 4742 | 871 | 113 | 4227 | 1431 | 236 | 3954 | 23 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 167 | 0 | 98 | 23 | 1933 | 436 | 0 | 916 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 1432 | 0 | 0 | 162 | 487 | 9 | 2119 | 471 |
| 25. TRANSPORTATION EQUIPMENT | 0 | 0 | 0 | 124 | 137 | 25 | 0 | 0 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 5932 | 0 | 0 | 25 | 0 | 0 | 0 | 559 |
| 27. ALL OTHER MANUFACTURING | 16477 | 58 | 12619 | 1666 | 6394 | 1422 | 0 | 154 |
| 28. EATING + DRINKING ESTABLISHMENTS | 464 | 35 | 0 | 0 | 45 | 93 | 29 | 66 |
| 29. WHOLESALE TRADE | 11921 | 2740 | 4964 | 4051 | 6820 | 3924 | 1524 | 996 |
| 30. RETAIL FOOD STORES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0 | 22 | 0 | 1510 | 0 | 0 | 92 | 45 |
| 32. ALL OTHER RETAIL | 3886 | 279 | 750 | 2990 | 4536 | 927 | 332 | 976 |
| 33. BANKING | 929 | 402 | 1427 | 879 | 1689 | 139 | 743 | 240 |
| 34. OTHER FINANCE | 0 | 405 | 0 | 0 | 30 | 236 | 0 | 0 |
| 35. INSURANCE AGENTS + BROKERS | 6713 | 110 | 6176 | 1997 | 2237 | 501 | 2013 | 1794 |
| 36. REAL ESTATE | 0 | 0 | 0 | 0 | 0 | 1322 | 0 | 451 |
| 37. ALL OTHER FIN, INSUR,& + REAL ESTATE | 4779 | 17 | 0 | 0 | 1461 | 824 | 0 | 8 |
| 38. HOTELS + OTHER LODGING PLACES | 650 | 36 | 60 | 0 | 91 | 38 | 46 | 150 |
| 39. MEDICAL + LEGAL SERVICES | 3273 | 258 | 196 | 1425 | 2283 | 126 | 120 | 682 |
| 40. EDUCATIONAL SERVICES | 0 | 0 | 0 | 0 | 274 | 0 | 0 | 191 |
| 41. ALL OTHER SERVICES | 6490 | 476 | 4036 | 4338 | 30 | 1419 | 626 | 1886 |
| 42. RAILROADS | 14618 | 102 | 82 | 964 | 6454 | 77 | 1018 | 193 |
| 43. TRUCKING + WAREHOUSING | 13985 | 5481 | 1370 | 8658 | 12909 | 908 | 0 | 531 |
| 44. ALL OTHER TRANSPORTATION | 7309 | 1940 | 63 | 556 | 943 | 229 | 1243 | 858 |
| 45. COMMUNICATIONS | 8145 | 4176 | 994 | 1065 | 5374 | 827 | 743 | 1277 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 14896 | 1051 | 3682 | 2799 | 10047 | 3187 | 974 | 5105 |
| 47. GAS COMPANIES AND SYSTEMS | 24121 | 2787 | 10191 | 6695 | 5267 | 3443 | 754 | 2771 |
| 48. WATER + SANITARY SERVICES | 3682 | 49 | 123 | 144 | 15 | 400 | 29 | 808 |
| 49. HOUSEHOLDS | 388121 | 21104 | 126918 | 80163 | 439471 | 89948 | 83831 | 47490 |
| 50. ALL OTHER FINAL PAYMENTS | 673786 | 49518 | 68524 | 62062 | 804664 | 141524 | 47635 | 83032 |
| 51. IMPORTS | 341477 | 18876 | 56785 | 41622 | 150184 | 33681 | 28388 | 25553 |
| 52. TOTAL FINAL PAYMENTS | 1403384 | 89498 | 252227 | 183847 | 1394319 | 265153 | 159854 | 156075 |
| 53. TOTAL GROSS OUTLAY | 1859800 | 147000 | 316600 | 258700 | 1522400 | 323300 | 185900 | 215150 |

TABLE I (CONTINUED)
INTERINDUSTRY FLOWS OF GOODS AND SERVICES, WEST VIRGINIA, 1975
(THOUSANDS OF DOLLARS)

| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|-----------------------------------------|--------------------|-----------------------|-------------------|---------------------|------------------|--------------------|--------------------|--------------------|
| | TRANSPOT EQUIPM | INSTRU'S & PRODUCT | ALL OTHR MANUF | EATING& DR'NG ES | WHOLSAL TRADE | RETAIL FOOD STR | RETAIL GAS STAT | ALL OTHR RETAIL |
| 1. AGRICULTURE | 0 | 0 | 1066 | 1177 | 34 | 24 | 0 | 0 |
| 2. COAL MINING (UNDERGROUND) | 0 | 0 | 261 | 23 | 565 | 0 | 66 | 3738 |
| 3. COAL MINING (STRIP+AUGER) | 0 | 0 | 2305 | 51 | 0 | 0 | 15 | 1101 |
| 4. PETROLEUM + NATURAL GAS | 0 | 0 | 61 | 0 | 0 | 0 | 0 | 96 |
| 5. ALL OTHER MINING | 420 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| 6. GENERAL CONTRACTORS (BUILDING) | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 651 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0 | 0 | 524 | 0 | 0 | 0 | 0 | 160 |
| 8. SPECIAL TRADES CONTRACTORS | 0 | 0 | 5776 | 21 | 678 | 816 | 0 | 5635 |
| 9. FOOD + KINDRED PROD-MEATS + N.E.C. | 0 | 0 | 2517 | 10135 | 34 | 0 | 0 | 0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0 | 0 | 0 | 7075 | 0 | 17 | 0 | 546 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0 | 0 | 0 | 8020 | 0 | 0 | 0 | 538 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0 | 0 | 0 | 5010 | 0 | 0 | 0 | 506 |
| 13. APPAREL+ACCESSORIES | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 |
| 14. LOGGING+SAWMILLS | 13 | 22 | 7 | 0 | 0 | 0 | 0 | 0 |
| 15. FURNITURE+OTHER WOOD FABRICATION | 15 | 1 | 12 | 129 | 83 | 101 | 15 | 1045 |
| 16. PRINTING + PUBLISHING | 78 | 53 | 546 | 225 | 393 | 12659 | 504 | 24142 |
| 17. CHEMICALS | 5 | 0 | 1369 | 0 | 830 | 0 | 0 | 0 |
| 18. PETROLEUM | 0 | 0 | 179 | 0 | 0 | 63 | 3599 | 0 |
| 19. GLASS | 0 | 0 | 184 | 211 | 93 | 0 | 0 | 7733 |
| 20. STONE + CLAY PRODUCTS | 0 | 0 | 81 | 0 | 0 | 0 | 0 | 56 |
| 21. PRIMARY METAL PRODUCTS | 15426 | 0 | 14 | 0 | 0 | 0 | 0 | 0 |
| 22. FABRICATED METAL PRODUCTS | 93 | 0 | 7415 | 0 | 34 | 0 | 0 | 32 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0 | 0 | 2276 | 0 | 0 | 0 | 0 | 0 |
| 24. ELECTRICAL MACHINERY + APPARTUS | 1991 | 0 | 519 | 9 | 231 | 0 | 0 | 0 |
| 25. TRANSPORTATION EQUIPMENT | 15 | 0 | 98 | 0 | 98 | 0 | 9 | 40 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0 | 80 | 0 | 18 | 0 | 0 | 0 | 80 |
| 27. ALL OTHER MANUFACTURING | 0 | 247 | 1564 | 0 | 476 | 1730 | 24 | 900 |
| 28. EATING + DRINKING ESTABLISHMENTS | 11 | 0 | 4 | 1877 | 963 | 14 | 13 | 506 |
| 29. WHOLESALE TRADE | 313 | 0 | 421 | 12657 | 7619 | 2438 | 1813 | 1985 |
| 30. RETAIL FOOD STORES | 0 | 0 | 0 | 935 | 78 | 31 | 0 | 0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 38 | 6 | 142 | 21 | 4311 | 767 | 271 | 3143 |
| 32. ALL OTHER RETAIL | 145 | 0 | 61 | 242 | 933 | 119 | 249 | 6511 |
| 33. BANKING | 217 | 284 | 588 | 676 | 1848 | 711 | 598 | 8232 |
| 34. OTHER FINANCE | 0 | 0 | 7 | 157 | 3273 | 353 | 12 | 2886 |
| 35. INSURANCE AGENTS + BROKERS | 447 | 130 | 475 | 1652 | 5721 | 6139 | 1558 | 8521 |
| 36. REAL ESTATE | 0 | 0 | 330 | 145 | 14 | 21956 | 921 | 12662 |
| 37. ALL OTHER FIN, INSUR,+ REAL ESTATE | 0 | 0 | 14 | 0 | 1086 | 0 | 31 | 1045 |
| 38. HOTELS + OTHER LODGING PLACES | 1 | 2 | 17 | 0 | 516 | 0 | 0 | 1318 |
| 39. MEDICAL + LEGAL SERVICES | 128 | 0 | 202 | 30 | 899 | 332 | 89 | 4502 |
| 40. EDUCATIONAL SERVICES | 0 | 0 | 0 | 14 | 181 | 0 | 0 | 410 |
| 41. ALL OTHER SERVICES | 870 | 312 | 1409 | 1057 | 3441 | 7673 | 2256 | 34979 |
| 42. RAILROADS | 2368 | 8 | 970 | 0 | 2561 | 7 | 249 | 2444 |
| 43. TRUCKING + WAREHOUSING | 93 | 324 | 1069 | 265 | 7471 | 2326 | 3785 | 13353 |
| 44. ALL OTHER TRANSPORTATION | 5 | 277 | 433 | 4984 | 220 | 194 | 1969 | |
| 45. COMMUNICATIONS | 1138 | 100 | 692 | 939 | 3652 | 5161 | 2143 | 3746 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 1348 | 128 | 1465 | 2441 | 8410 | 9499 | 1480 | 7806 |
| 47. GAS COMPANIES AND SYSTEMS | 931 | 172 | 879 | 4829 | 8253 | 6643 | 1308 | 7589 |
| 48. WATER + SANITARY SERVICES | 299 | 111 | 93 | 350 | 206 | 840 | 367 | 1615 |
| 49. HOUSEHOLDS | 46310 | 7126 | 43273 | 62213 | 302097 | 101360 | 52783 | 437855 |
| 50. ALL OTHER FINAL PAYMENTS | 75306 | 42739 | 139567 | 73113 | 23610 | 79467 | 27478 | 103275 |
| 51. IMPORTS | 19456 | 14969 | 27435 | 39162 | 95881 | 88921 | 49199 | 90581 |
| 52. TOTAL FINAL PAYMENTS | 141072 | 64834 | 210275 | 174488 | 421588 | 269748 | 129460 | 631711 |
| 53. TOTAL GROSS OUTLAY | 167500 | 67100 | 246350 | 235000 | 491575 | 350400 | 151040 | 803950 |

TABLE I (CONTINUED)
INTERINDUSTRY FLOWS OF GOODS AND SERVICES, WEST VIRGINIA, 1975
(THOUSANDS OF DOLLARS)

| | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|-----------------------------------------|---------|------------------|--------------------|----------|------------------|---------------------|--------------------|----------------------|
| | BANKING | OTHER FINANCE | INSURANC AGENTS | REAL EST | ALL OTHR FIRE | HOTELS & LODGING | MEDICAL & LEGAL | EDUCAT'L SERVICES |
| 1. AGRICULTURE | 0 | 0 | 0 | 0 | 0 | 611 | 139 | 0 |
| 2. COAL MINING (UNDERGROUND) | 0 | 0 | 0 | 0 | 0 | 398 | 856 | 1717 |
| 3. COAL MINING (STRIP & AUGER) | 0 | 0 | 0 | 0 | 0 | 1425 | 0 | 1127 |
| 4. PETROLEUM + NATURAL GAS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. ALL OTHER MINING | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 6. GENERAL CONTRACTORS (BUILDING) | 126 | 4 | 0 | 7962 | 0 | 121 | 0 | 16098 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0 | 4 | 0 | 252 | 0 | 380 | 0 | 18388 |
| 8. SPECIAL TRADES CONTRACTORS | 1117 | 4 | 40 | 3952 | 0 | 2717 | 2502 | 2495 |
| 9. FOOD + KINDRED PROD-MEATS + N.E.C. | 0 | 0 | 0 | 0 | 0 | 7 | 2166 | 367 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0 | 0 | 0 | 0 | 0 | 4 | 655 | 538 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0 | 0 | 0 | 0 | 0 | 2 | 638 | 512 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0 | 0 | 0 | 0 | 0 | 3 | 408 | 675 |
| 13. APPAREL + ACCESSORIES | 0 | 0 | 0 | 0 | 0 | 31 | 2362 | 0 |
| 14. LOGGING + SAWMILLS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 6 | 0 | 0 | 3 | 0 | 2 | 50 | 17 |
| 16. PRINTING + PUBLISHING | 1386 | 2128 | 742 | 4147 | 418 | 221 | 414 | 1632 |
| 17. CHEMICALS | 16 | 0 | 0 | 0 | 0 | 0 | 2054 | 0 |
| 18. PETROLEUM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| 19. GLASS | 0 | 0 | 0 | 0 | 0 | 0 | 1192 | 0 |
| 20. STONE + CLAY PRODUCTS | 0 | 0 | 0 | 105 | 0 | 0 | 0 | 555 |
| 21. PRIMARY METAL PRODUCTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22. FABRICATED METAL PRODUCTS | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 34 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 |
| 25. TRANSPORTATION EQUIPMENT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0 | 0 | 71 | 0 | 0 | 0 | 699 | 0 |
| 27. ALL OTHER MANUFACTURING | 96 | 0 | 71 | 0 | 0 | 25 | 845 | 34 |
| 28. EATING + DRINKING ESTABLISHMENTS | 34 | 118 | 841 | 282 | 23 | 1 | 16 | 1401 |
| 29. WHOLESALE TRADE | 126 | 110 | 102 | 4736 | 0 | 2643 | 6326 | 8382 |
| 30. RETAIL FOOD STORES | 0 | 0 | 0 | 0 | 0 | 0 | 1371 | 0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 29 | 0 | 277 | 122 | 0 | 550 | 884 | 170 |
| 32. ALL OTHER RETAIL | 528 | 318 | 420 | 1113 | 780 | 639 | 4288 | 9459 |
| 33. BANKING | 22 | 11129 | 1315 | 1503 | 159 | 2430 | 1685 | 957 |
| 34. OTHER FINANCE | 236 | 485 | 170 | 363 | 0 | 47 | 2144 | 0 |
| 35. INSURANCE AGENTS + BROKERS | 2412 | 798 | 1543 | 443 | 447 | 2018 | 6712 | 5366 |
| 36. REAL ESTATE | 1189 | 1493 | 698 | 11655 | 218 | 567 | 0 | 401 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 1989 | 0 | 29706 | 644 | 66 | 0 | 139 | 0 |
| 38. HOTELS + OTHER LODGING PLACES | 41 | 11 | 232 | 280 | 30 | 4 | 201 | 427 |
| 39. MEDICAL + LEGAL SERVICES | 1384 | 4423 | 492 | 556 | 44078 | 354 | 18173 | 2708 |
| 40. EDUCATIONAL SERVICES | 75 | 349 | 0 | 0 | 0 | 14 | 173 | 19362 |
| 41. ALL OTHER SERVICES | 8316 | 10786 | 5566 | 15485 | 1994 | 5118 | 16605 | 23976 |
| 42. RAILROADS | 0 | 0 | 0 | 0 | 0 | 0 | 403 | 0 |
| 43. TRUCKING + WAREHOUSING | 105 | 0 | 0 | 0 | 0 | 114 | 526 | 2366 |
| 44. ALL OTHER TRANSPORTATION | 8231 | 833 | 165 | 471 | 82 | 27 | 520 | 726 |
| 45. COMMUNICATIONS | 2166 | 2496 | 2170 | 4177 | 892 | 2518 | 4131 | 6887 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 377 | 161 | 420 | 651 | 303 | 3578 | 1892 | 5955 |
| 47. GAS COMPANIES AND SYSTEMS | 717 | 202 | 1874 | 2151 | 793 | 1421 | 4484 | 8049 |
| 48. WATER + SANITARY SERVICES | 223 | 41 | 76 | 226 | 6 | 543 | 800 | 1452 |
| 49. HOUSEHOLDS | 69372 | 37265 | 61619 | 45756 | 14948 | 30026 | 263225 | 409304 |
| 50. ALL OTHER FINAL PAYMENTS | 22201 | 40042 | 301459 | 16012 | 20776 | 5300 | 111101 | 93172 |
| 51. IMPORTS | 107462 | 51786 | 37380 | 62593 | 18977 | 6810 | 99069 | 209740 |
| 52. TOTAL FINAL PAYMENTS | 199035 | 129093 | 400458 | 124361 | 54701 | 42136 | 473395 | 712216 |
| 53. TOTAL GROSS OUTLAY | 230000 | 165000 | 447462 | 185655 | 105000 | 70700 | 559875 | 854480 |

TABLE I (CONTINUED)
 INTERINDUSTRY FLOWS OF GOODS AND SERVICES, WEST VIRGINIA, 1975
 (THOUSANDS OF DOLLARS)

| | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
|-----------------------------------------|----------------------|----------|---------------------|----------------------|--------------------|---------------------|--------------------|---------------------|
| | ALL OTHR SERVICES | RAILR'DS | TRUCK & WAREHOUS | ALL OTHR TRANSPOT | COMMU- NICATT'S | ELEC CO. &SYSTMS | GAS CO. &SYSTMS | WATER & SANITARY |
| 1. AGRICULTURE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. COAL MINING (UNDERGROUND) | 0 | 34 | 0 | 0 | 0 | 128749 | 797 | 44 |
| 3. COAL MINING (STRIP + AUGER) | 0 | 0 | 0 | 0 | 0 | 35072 | 0 | 0 |
| 4. PETROLEUM + NATURAL GAS | 61 | 0 | 2219 | 4393 | 0 | 0 | 19340 | 0 |
| 5. ALL OTHER MINING | 0 | 2443 | 0 | 0 | 0 | 0 | 0 | 1540 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0 | 1404 | 113 | 0 | 0 | 14 | 11 | 17 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 69 | 0 | 2756 | 0 | 1258 | 0 | 6 | 4122 |
| 8. SPECIAL TRADES CONTRACTORS | 2338 | 3051 | 584 | 485 | 0 | 0 | 11 | 0 |
| 9. FOOD + KINDRED PROD-MEATS + N.E.C. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. APPAREL + ACCESSORIES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 14. LOGGING + SAWMILLS | 0 | 247 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 130 | 0 | 15 | 133 | 7 | 58 | 17 | 2 |
| 16. PRINTING + PUBLISHING | 14626 | 43 | 2980 | 39 | 697 | 1830 | 258 | 57 |
| 17. CHEMICALS | 3346 | 0 | 23 | 15 | 0 | 0 | 0 | 1086 |
| 18. PETROLEUM | 1284 | 3821 | 352 | 933 | 455 | 1626 | 0 | 36 |
| 19. GLASS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. STONE + CLAY PRODUCTS | 0 | 321 | 27 | 0 | 5634 | 1641 | 276 | 282 |
| 21. PRIMARY METAL PRODUCTS | 161 | 2430 | 0 | 8741 | 285 | 0 | 0 | 26 |
| 22. FABRICATED METAL PRODUCTS | 3600 | 365 | 0 | 3094 | 9 | 101 | 101 | 506 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 723 | 704 | 0 | 550 | 0 | 0 | 0 | 3 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 4824 | 26 | 0 | 0 | 901 | 167 | 0 | 346 |
| 25. TRANSPORTATION EQUIPMENT | 169 | 3499 | 250 | 19 | 0 | 72 | 4 | 0 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 76 | 4 | 0 | 0 | 17 | 0 | 0 | 2 |
| 27. ALL OTHER MANUFACTURING | 0 | 39 | 164 | 2753 | 51 | 21 | 76 | 2 |
| 28. EATING + DRINKING ESTABLISHMENTS | 161 | 0 | 141 | 27 | 147 | 581 | 498 | 16 |
| 29. WHOLESALE TRADE | 14326 | 386 | 22561 | 726 | 394 | 2839 | 314 | 982 |
| 30. RETAIL FOOD STORES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 2362 | 0 | 1572 | 235 | 147 | 7 | 190 | 120 |
| 32. ALL OTHER RETAIL | 13864 | 1021 | 2505 | 0 | 78 | 123 | 143 | 1931 |
| 33. BANKING | 4031 | 0 | 1702 | 1044 | 746 | 210 | 285 | 44 |
| 34. OTHER FINANCE | 38 | 0 | 164 | 0 | 0 | 0 | 0 | 0 |
| 35. INSURANCE AGENTS + BROKERS | 5270 | 9276 | 8011 | 0 | 317 | 820 | 71 | 308 |
| 36. REAL ESTATE | 3993 | 0 | 392 | 0 | 243 | 551 | 1109 | 0 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 684 | 0 | 3 | 0 | 372 | 203 | 265 | 71 |
| 38. HOTELS + OTHER LODGING PLACES | 684 | 56 | 223 | 52 | 91 | 406 | 251 | 0 |
| 39. MEDICAL + LEGAL SERVICES | 1684 | 843 | 35 | 0 | 0 | 1234 | 67 | 13 |
| 40. EDUCATIONAL SERVICES | 14056 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41. ALL OTHER SERVICES | 21935 | 1708 | 0 | 1522 | 5730 | 2244 | 359 | 64 |
| 42. RAILROADS | 292 | 739 | 415 | 0 | 2113 | 9347 | 226 | 314 |
| 43. TRUCKING + WAREHOUSING | 3862 | 2573 | 31 | 276 | 1951 | 17067 | 332 | 200 |
| 44. ALL OTHER TRANSPORTATION | 3000 | 234 | 1058 | 549 | 1473 | 7037 | 1835 | 27 |
| 45. COMMUNICATIONS | 6270 | 1717 | 1752 | 693 | 268 | 3144 | 896 | 640 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 2508 | 1486 | 1505 | 325 | 1803 | 25267 | 220 | 2495 |
| 47. GAS COMPANIES AND SYSTEMS | 7863 | 439 | 1439 | 315 | 1436 | 791 | 1323 | 162 |
| 48. WATER + SANITARY SERVICES | 2054 | 108 | 262 | 11 | 4 | 72 | 179 | 805 |
| 49. HOUSEHOLDS | 319208 | 130460 | 112536 | 34019 | 109320 | 158520 | 32009 | 13247 |
| 50. ALL OTHER FINAL PAYMENTS | 229812 | 160443 | 113109 | 49552 | 41760 | 115109 | 136421 | 12296 |
| 51. IMPORTS | 79979 | 104789 | 93249 | 21851 | 68638 | 211350 | 26721 | 9740 |
| 52. TOTAL FINAL PAYMENTS | 628999 | 395692 | 338894 | 105422 | 219718 | 484979 | 195151 | 352283 |
| 53. TOTAL GROSS OUTLAY | 769400 | 434723 | 392168 | 132367 | 246362 | 726292 | 224625 | 51568 |

TABLE I (CONTINUED)
 INTERINDUSTRY FLOWS OF GOODS AND SERVICES, WEST VIRGINIA, 1975
 (THOUSANDS OF DOLLARS)

| | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
|-----------------------------------------|-----------------|----------------|----------------|------------------|-----------------------|-----------------------|---------------------|
| | HOUSE- HOLDS | LOCAL GOVT. | STATE GOVT. | FEDERAL GOVT. | EXPORTS & INVENT'Y | TOTAL FI- NAL DEMD | TOTAL GR. OUTPUT |
| 1. AGRICULTURE | 61955 | 64 | 1457 | 6423 | 45900 | 115799 | 173740 |
| 2. COAL MINING (UNDERGROUND) | 3812 | 136 | 457 | 509 | 2528355 | 2533269 | 2861100 |
| 3. COAL MINING (STRIP + AUGER) | 1064 | 146 | 0 | 0 | 215638 | 216848 | 438900 |
| 4. PETROLEUM + NATURAL GAS | 0 | 0 | 0 | 0 | 37477 | 37477 | 92459 |
| 5. ALL OTHER MINING | 25037 | 252 | 4903 | 0 | 13694 | 43886 | 101839 |
| 6. GENERAL CONTRACTORS (BUILDING) | 80769 | 14481 | 38332 | 60699 | 13363 | 207644 | 244509 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 61994 | 17721 | 138218 | 113276 | 12089 | 343298 | 399897 |
| 8. SPECIAL TRADES CONTRACTORS | 81354 | 11303 | 19672 | 3684 | 7913 | 123926 | 263493 |
| 9. FOOD + KINDRED PROD-MEATS + N.E.C. | 46792 | 161 | 0 | 460 | 23445 | 70858 | 96000 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 36313 | 94 | 1736 | 0 | 9977 | 48120 | 58400 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 54260 | 69 | 0 | 0 | 16030 | 70359 | 80200 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 34666 | 5 | 0 | 0 | 14973 | 49644 | 56700 |
| 13. APPAREL + ACCESSORIES | 28042 | 15 | 0 | 0 | 43633 | 71690 | 74300 |
| 14. LOGGING + SAWMILLS | 17377 | 254 | 73 | 485 | 27321 | 45510 | 109640 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 12058 | 968 | 423 | 0 | 51878 | 65327 | 70650 |
| 16. PRINTING + PUBLISHING | 22342 | 2741 | 7471 | 1454 | 11684 | 45692 | 160500 |
| 17. CHEMICALS | 132192 | 128 | 948 | 27871 | 1442815 | 1603954 | 1859800 |
| 18. PETROLEUM | 34369 | 1193 | 16213 | 388 | 10027 | 62190 | 147000 |
| 19. GLASS | 54615 | 94 | 248 | 0 | 240611 | 295568 | 316600 |
| 20. STONE + CLAY PRODUCTS | 11526 | 11553 | 15108 | 7133 | 126459 | 171779 | 258700 |
| 21. PRIMARY METAL PRODUCTS | 1217 | 156 | 0 | 0 | 1398782 | 1400155 | 1522400 |
| 22. FABRICATED METAL PRODUCTS | 28283 | 133 | 0 | 3587 | 212876 | 244879 | 323300 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 4256 | 20 | 0 | 0 | 162864 | 167140 | 185900 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 28371 | 3 | 0 | 3635 | 167688 | 199697 | 215150 |
| 25. TRANSPORTATION EQUIPMENT | 0 | 22 | 3371 | 68563 | 90715 | 162671 | 167500 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 6029 | 0 | 0 | 24 | 51984 | 58037 | 67100 |
| 27. ALL OTHER MANUFACTURING | 31386 | 0 | 0 | 0 | 152883 | 184269 | 246350 |
| 28. EATING + DRINKING ESTABLISHMENTS | 195556 | 82 | 292 | 50 | 29320 | 225300 | 235000 |
| 29. WHOLESALE TRADE | 158021 | 2318 | 4568 | 848 | 145540 | 311295 | 491575 |
| 30. RETAIL FOOD STORES | 328807 | 188 | 0 | 0 | 13349 | 342344 | 350400 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 114132 | 1081 | 496 | 73 | 10336 | 126118 | 151040 |
| 32. ALL OTHER RETAIL | 554746 | 1837 | 4203 | 242 | 164211 | 725239 | 803950 |
| 33. BANKING | 93639 | 1262 | 4816 | 32161 | 32875 | 164753 | 230000 |
| 34. OTHER FINANCE | 123750 | 499 | 2700 | 6156 | 15972 | 149077 | 165000 |
| 35. INSURANCE AGENTS + BROKERS | 232910 | 1481 | 890 | 0 | 55684 | 290965 | 447462 |
| 36. REAL ESTATE | 93870 | 40 | 4086 | 751 | 16340 | 115087 | 185655 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 9437 | 12864 | 16381 | 0 | 11761 | 50443 | 105000 |
| 38. HOTELS + OTHER LODGING PLACES | 24913 | 383 | 438 | 121 | 38104 | 63959 | 70700 |
| 39. MEDICAL + LEGAL SERVICES | 166495 | 25760 | 82821 | 114021 | 69844 | 458941 | 559875 |
| 40. EDUCATIONAL SERVICES | 57839 | 325784 | 374224 | 48472 | 12946 | 819265 | 854480 |
| 41. ALL OTHER SERVICES | 481321 | 5760 | 6990 | 2726 | 34356 | 531153 | 769400 |
| 42. RAILROADS | 14256 | 3003 | 4897 | 17848 | 337555 | 377559 | 434723 |
| 43. TRUCKING + WAREHOUSING | 61619 | 20 | 4159 | 4823 | 183646 | 254267 | 392168 |
| 44. ALL OTHER TRANSPORTATION | 14590 | 7264 | 2635 | 3848 | 41075 | 69412 | 132367 |
| 45. COMMUNICATIONS | 72097 | 4551 | 6525 | 1797 | 65390 | 150360 | 246362 |
| 46. ELECTRIC COMPANIES & SYSTEMS | 50595 | 1898 | 2024 | 741 | 496553 | 551811 | 726292 |
| 47. GAS COMPANIES AND SYSTEMS | 52575 | 2005 | 992 | 145 | 39328 | 95045 | 224625 |
| 48. WATER + SANITARY SERVICES | 24758 | 1407 | 613 | 48 | 1207 | 28033 | 51568 |
| 49. HOUSEHOLDS | 82188 | 104421 | 486449 | 1203696 | 1083438 | 2960192 | 8866065 |
| 50. ALL OTHER FINAL PAYMENTS | 2177135 | 20364 | 26881 | 506336 | 21384 | 2752100 | 8565717 |
| 51. IMPORTS | 2780737 | 13019 | 172651 | 180494 | 25187 | 3172088 | 5992710 |
| 52. TOTAL FINAL PAYMENTS | 5040060 | 137804 | 685981 | 1890526 | 1130009 | 8884380 | 23424492 |
| 53. TOTAL GROSS OUTLAY | 8866065 | 599003 | 1459361 | 2423588 | 10076475 | 23424492 | 41644261 |

TABLE II
DIRECT REQUIREMENTS PER DOLLAR OF OUTPUT, WEST VIRGINIA, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------------------------------------|------------------|-------------------|----------------------|---------------------|--------------------|------------------|----------------------|---------------------|
| | AGRICUL- TURE | COAL MIN UNDER | COAL MIN STRIP&AU | PETROL & NAT GAS | ALL OTHR MINING | GEN CONT BLDG | GEN CONT NON-BLDG | SP TRADE CONTR'S |
| 1. AGRICULTURE | 0.10292 | 0.0 | 0.0 | 0.0 | 0.00409 | 0.0 | 0.0 | 0.0 |
| 2. COAL MINING (UNDERGROUND) | 0.00297 | 0.00755 | 0.20133 | 0.0 | 0.0 | 0.00124 | 0.0 | 0.00083 |
| 3. COAL MINING (STRIP + AUGER) | 0.0 | 0.02273 | 0.26321 | 0.0 | 0.00010 | 0.00002 | 0.0 | 0.00003 |
| 4. PETROLEUM + NATURAL GAS | 0.0 | 0.00050 | 0.0 | 0.05713 | 0.0 | 0.00001 | 0.0 | 0.0 |
| 5. ALL OTHER MINING | 0.01799 | 0.00026 | 0.00014 | 0.00068 | 0.04164 | 0.00957 | 0.01651 | 0.00518 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00366 | 0.00004 | 0.0 | 0.0 | 0.0 | 0.03308 | 0.00017 | 0.0 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.0 | 0.00133 | 0.0 | 0.00012 | 0.0 | 0.02326 | 0.03586 | 0.00276 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00660 | 0.00230 | 0.00049 | 0.00375 | 0.04755 | 0.22371 | 0.03068 | 0.02784 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.00801 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10. FOOD & KINDRED PRODUCTS (DAIRIES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13. APPAREL + ACCESSORIES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14. LOGGING + SAWMILLS | 0.00449 | 0.01000 | 0.00112 | 0.0 | 0.00643 | 0.00388 | 0.00161 | 0.01711 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00198 | 0.00021 | 0.00004 | 0.00017 | 0.00139 | 0.00465 | 0.00090 | 0.00001 |
| 16. PRINTING + PUBLISHING | 0.00006 | 0.00076 | 0.00004 | 0.00386 | 0.00368 | 0.00180 | 0.00070 | 0.00033 |
| 17. CHEMICALS | 0.00387 | 0.0 | 0.0 | 0.0 | 0.01120 | 0.0 | 0.00083 | 0.00171 |
| 18. PETROLEUM | 0.0 | 0.00150 | 0.00017 | 0.00011 | 0.00552 | 0.00189 | 0.11998 | 0.00445 |
| 19. GLASS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00084 | 0.00188 |
| 20. STONE + CLAY PRODUCTS | 0.01125 | 0.00509 | 0.00575 | 0.0 | 0.00085 | 0.10402 | 0.04815 | 0.00887 |
| 21. PRIMARY METAL PRODUCTS | 0.00029 | 0.00070 | 0.0 | 0.0 | 0.0 | 0.01673 | 0.01191 | 0.01429 |
| 22. FABRICATED METAL PRODUCTS | 0.00270 | 0.00748 | 0.00007 | 0.00743 | 0.00939 | 0.02408 | 0.00269 | 0.05948 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.0 | 0.00066 | 0.00054 | 0.0 | 0.00419 | 0.00079 | 0.01874 | 0.00231 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.0 | 0.0 | 0.00271 | 0.0 | 0.0 | 0.00106 | 0.00013 | 0.00088 |
| 25. TRANSPORTATION EQUIPMENT | 0.00006 | 0.00002 | 0.00028 | 0.0 | 0.00033 | 0.00007 | 0.00001 | 0.00001 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.0 | 0.00011 | 0.0 | 0.00989 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27. ALL OTHER MANUFACTURING | 0.00091 | 0.00016 | 0.00035 | 0.00060 | 0.00439 | 0.01608 | 0.00187 | 0.02441 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.0 | 0.0 | 0.00034 | 0.0 | 0.0 | 0.00106 | 0.00018 | 0.00062 |
| 29. WHOLESALE TRADE | 0.05150 | 0.00357 | 0.02102 | 0.03320 | 0.03160 | 0.00904 | 0.00630 | 0.01258 |
| 30. RETAIL FOOD STORES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.01118 | 0.0 | 0.00080 | 0.00980 | 0.00097 | 0.0 | 0.00045 | 0.00803 |
| 32. ALL OTHER RETAIL | 0.00206 | 0.00359 | 0.00185 | 0.01330 | 0.00225 | 0.00064 | 0.00162 | 0.00056 |
| 33. BANKING | 0.02217 | 0.0 | 0.01303 | 0.00485 | 0.00517 | 0.00329 | 0.00408 | 0.01233 |
| 34. OTHER FINANCE | 0.00488 | 0.0 | 0.00387 | 0.00383 | 0.00049 | 0.00063 | 0.0 | 0.00068 |
| 35. INSURANCE AGENTS + BROKERS | 0.00886 | 0.00891 | 0.01020 | 0.09610 | 0.01440 | 0.00517 | 0.02619 | 0.01762 |
| 36. REAL ESTATE | 0.00891 | 0.0 | 0.0 | 0.00412 | 0.00027 | 0.00389 | 0.00191 | 0.00914 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.0 | 0.00308 | 0.0 | 0.00076 | 0.00090 | 0.00023 | 0.0 | 0.00243 |
| 38. HOTELS + OTHER LODGING PLACES | 0.0 | 0.0 | 0.0 | 0.0 | 0.00002 | 0.00109 | 0.00035 | 0.00082 |
| 39. MEDICAL + LEGAL SERVICES | 0.00061 | 0.00096 | 0.00408 | 0.01894 | 0.00170 | 0.00301 | 0.00222 | 0.00099 |
| 40. EDUCATIONAL SERVICES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 41. ALL OTHER SERVICES | 0.01074 | 0.00417 | 0.02588 | 0.03370 | 0.01147 | 0.00379 | 0.00050 | 0.01007 |
| 42. RAILROADS | 0.02674 | 0.00068 | 0.00530 | 0.00571 | 0.00360 | 0.00041 | 0.00287 | 0.0 |
| 43. TRUCKING + WAREHOUSING | 0.01510 | 0.00389 | 0.00834 | 0.00273 | 0.01760 | 0.00052 | 0.02441 | 0.00861 |
| 44. ALL OTHER TRANSPORTATION | 0.00365 | 0.00368 | 0.00001 | 0.00006 | 0.00005 | 0.00028 | 0.00256 | 0.00200 |
| 45. COMMUNICATIONS | 0.00184 | 0.00159 | 0.00324 | 0.00402 | 0.00112 | 0.00283 | 0.00321 | 0.00108 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00450 | 0.01459 | 0.00167 | 0.00525 | 0.00313 | 0.00126 | 0.00079 | 0.00161 |
| 47. GAS COMPANIES AND SYSTEMS | 0.00106 | 0.00002 | 0.00009 | 0.00143 | 0.0 | 0.00207 | 0.00758 | 0.00521 |
| 48. WATER + SANITARY SERVICES | 0.00004 | 0.00003 | 0.00012 | 0.00072 | 0.00003 | 0.02425 | 0.00008 | 0.00054 |
| 49. HOUSEHOLDS | 0.22107 | 0.34007 | 0.21632 | 0.32749 | 0.29116 | 0.38561 | 0.34614 | 0.55892 |
| 50. ALL OTHER FINAL PAYMENTS | 0.29851 | 0.34309 | 0.12145 | 0.10587 | 0.37438 | 0.05551 | 0.09137 | 0.08350 |
| 51. IMPORTS | 0.13882 | 0.20668 | 0.08635 | 0.24438 | 0.09894 | 0.02948 | 0.18561 | 0.09028 |
| 52. TOTAL | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |

TABLE II (CONTINUED)
 DIRECT REQUIREMENTS PER DOLLAR OF OUTPUT, WEST VIRGINIA, 1975

| | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-----------------------------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| | FOOD&KIN MEAT&NEC | FOOD&KIN DAIRIES | FOOD&KIN BAKERIES | FOOD&KIN BEV'AGES | APPAREL& ACCESS'S | LOGGING& SAWMILLS | FURNIT& WOOD FAB | PRINTING &PUBLISH |
| 1. AGRICULTURE | 0.17099 | 0.24013 | 0.00767 | 0.0 | 0.0 | 0.04917 | 0.00010 | 0.0 |
| 2. COAL MINING (UNDERGROUND) | 0.0 | 0.00012 | 0.0 | 0.00320 | 0.00065 | 0.00097 | 0.00735 | 0.00076 |
| 3. COAL MINING (STRIP + AUGER) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4. PETROLEUM + NATURAL GAS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5. ALL OTHER MINING | 0.00005 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.0 | 0.0 | 0.00044 | 0.0 | 0.00005 | 0.0 | 0.00149 | 0.0 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.0 | 0.00033 | 0.0 | 0.0 | 0.0 | 0.00050 | 0.0 | 0.0 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00156 | 0.00677 | 0.00015 | 0.00004 | 0.02093 | 0.00611 | 0.0 | 0.0 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.07512 | 0.01493 | 0.00106 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.0 | 0.01481 | 0.00720 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.0 | 0.0 | 0.00112 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.0 | 0.0 | 0.0 | 0.00798 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13. APPAREL + ACCESSORIES | 0.0 | 0.0 | 0.0 | 0.00124 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14. LOGGING + SAWMILLS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.16365 | 0.13014 | 0.0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.0 | 0.0 | 0.00010 | 0.00003 | 0.0 | 0.0 | 0.00615 | 0.0 |
| 16. PRINTING + PUBLISHING | 0.00178 | 0.00251 | 0.00217 | 0.01243 | 0.00435 | 0.00002 | 0.00122 | 0.21295 |
| 17. CHEMICALS | 0.0 | 0.0 | 0.0 | 0.00250 | 0.00008 | 0.0 | 0.00571 | 0.00090 |
| 18. PETROLEUM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00147 | 0.00003 | 0.0 |
| 19. GLASS | 0.00040 | 0.0 | 0.0 | 0.01011 | 0.0 | 0.0 | 0.00136 | 0.0 |
| 20. STONE + CLAY PRODUCTS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 21. PRIMARY METAL PRODUCTS | 0.0 | 0.0 | 0.0 | 0.00807 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22. FABRICATED METAL PRODUCTS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00430 | 0.01094 | 0.0 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.0 | 0.00020 | 0.0 | 0.0 | 0.00004 | 0.00015 | 0.00065 | 0.0 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.00010 | 0.0 | 0.0 | 0.0 | 0.00008 | 0.0 | 0.0 | 0.0 |
| 25. TRANSPORTATION EQUIPMENT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00015 | 0.0 | 0.0 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00275 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27. ALL OTHER MANUFACTURING | 0.00061 | 0.00210 | 0.00408 | 0.00833 | 0.00586 | 0.00282 | 0.00073 | 0.0 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.0 | 0.00276 | 0.0 | 0.00305 | 0.0 | 0.0 | 0.0 | 0.00187 |
| 29. WHOLESALE TRADE | 0.03257 | 0.01653 | 0.02614 | 0.01326 | 0.00320 | 0.00345 | 0.00304 | 0.00397 |
| 30. RETAIL FOOD STORES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.03513 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00321 | 0.00142 | 0.00595 | 0.00750 | 0.00029 | 0.00413 | 0.00097 | 0.00277 |
| 32. ALL OTHER RETAIL | 0.00507 | 0.00191 | 0.00956 | 0.00112 | 0.0 | 0.0 | 0.0 | 0.02035 |
| 33. BANKING | 0.00750 | 0.00057 | 0.00665 | 0.00047 | 0.00084 | 0.00311 | 0.00182 | 0.00181 |
| 34. OTHER FINANCE | 0.01314 | 0.0 | 0.00309 | 0.0 | 0.0 | 0.00080 | 0.0 | 0.00018 |
| 35. INSURANCE AGENTS + BROKERS | 0.00266 | 0.00626 | 0.01912 | 0.01442 | 0.01001 | 0.02020 | 0.00442 | 0.01247 |
| 36. REAL ESTATE | 0.0 | 0.00190 | 0.0 | 0.0 | 0.0 | 0.01160 | 0.00007 | 0.01734 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.0 | 0.00025 | 0.00003 | 0.0 | 0.0 | 0.00996 | 0.0 | 0.00224 |
| 38. HOTELS + OTHER LODGING PLACES | 0.0 | 0.0 | 0.0 | 0.00182 | 0.00005 | 0.00047 | 0.00014 | 0.00013 |
| 39. MEDICAL + LEGAL SERVICES | 0.00800 | 0.00085 | 0.00045 | 0.00268 | 0.00004 | 0.00330 | 0.00184 | 0.00235 |
| 40. EDUCATIONAL SERVICES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00069 |
| 41. ALL OTHER SERVICES | 0.0 | 0.03688 | 0.03896 | 0.00775 | 0.00618 | 0.01101 | 0.01626 | 0.02351 |
| 42. RAILROADS | 0.00007 | 0.0 | 0.0 | 0.0 | 0.00004 | 0.00109 | 0.0 | 0.0 |
| 43. TRUCKING + WAREHOUSING | 0.00833 | 0.00562 | 0.00164 | 0.01062 | 0.00906 | 0.00658 | 0.00261 | 0.00560 |
| 44. ALL OTHER TRANSPORTATION | 0.00582 | 0.00108 | 0.00279 | 0.00972 | 0.00162 | 0.00302 | 0.00196 | 0.00358 |
| 45. COMMUNICATIONS | 0.00185 | 0.00199 | 0.00601 | 0.01311 | 0.02481 | 0.00798 | 0.00443 | 0.00878 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.01113 | 0.00615 | 0.02454 | 0.00246 | 0.00864 | 0.00951 | 0.00515 | 0.00316 |
| 47. GAS COMPANIES AND SYSTEMS | 0.00308 | 0.00159 | 0.02394 | 0.00276 | 0.00375 | 0.00249 | 0.00711 | 0.00394 |
| 48. WATER + SANITARY SERVICES | 0.00165 | 0.00164 | 0.00109 | 0.00755 | 0.00086 | 0.00046 | 0.00275 | 0.00079 |
| 49. HOUSEHOLDS | 0.10908 | 0.27735 | 0.18721 | 0.21369 | 0.50288 | 0.40414 | 0.15470 | 0.26367 |
| 50. ALL OTHER FINAL PAYMENTS | 0.48202 | 0.30406 | 0.51098 | 0.35565 | 0.17852 | 0.12886 | 0.38624 | 0.14378 |
| 51. IMPORTS | 0.05146 | 0.04929 | 0.10786 | 0.27844 | 0.21717 | 0.13853 | 0.24062 | 0.22715 |
| 52. TOTAL | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |

TABLE II (CONTINUED)
DIRECT REQUIREMENTS PER DOLLAR OF OUTPUT, WEST VIRGINIA, 1975

| | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-----------------------------------------|-----------|----------|---------|----------------|-------------------|--------------------|----------------------|--------------------|
| | CHEMICALS | PETRO'UM | GLASS | STONE& CLAY | PRIMARY METALS | FABRIC'D METALS | MACHIN'Y EXC ELEC | ELEC MACH INERY |
| 1. AGRICULTURE | 0.0 | 0.0 | 0.0 | 0.00053 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2. COAL MINING (UNDERGROUND) | 0.01861 | 0.02476 | 0.00038 | 0.00837 | 0.02491 | 0.00062 | 0.00010 | 0.0 |
| 3. COAL MINING (STRIP + AUGER) | 0.00016 | 0.0 | 0.0 | 0.0 | 0.00005 | 0.0 | 0.0 | 0.0 |
| 4. PETROLEUM + NATURAL GAS | 0.00701 | 0.06161 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5. ALL OTHER MINING | 0.00106 | 0.07260 | 0.01617 | 0.04014 | 0.00445 | 0.00021 | 0.0 | 0.0 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00027 | 0.0 | 0.00013 | 0.0 | 0.00044 | 0.00015 | 0.00010 | 0.00001 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.00054 | 0.00008 | 0.0 | 0.0 | 0.00011 | 0.00877 | 0.0 | 0.00004 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00855 | 0.0 | 0.0 | 0.00080 | 0.00057 | 0.00030 | 0.00024 | 0.0 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.00019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13. APPAREL + ACCESSORIES | 0.00002 | 0.0 | 0.0 | 0.00034 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14. LOGGING + SAWMILLS | 0.0 | 0.00039 | 0.00002 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.0 | 0.00001 | 0.00049 | 0.0 | 0.0 | 0.00001 | 0.00004 | 0.00103 |
| 16. PRINTING + PUBLISHING | 0.00080 | 0.00055 | 0.00295 | 0.00412 | 0.00010 | 0.00128 | 0.00356 | 0.00118 |
| 17. CHEMICALS | 0.12122 | 0.03841 | 0.00140 | 0.00346 | 0.00432 | 0.00155 | 0.0 | 0.01998 |
| 18. PETROLEUM | 0.00207 | 0.02403 | 0.00002 | 0.03942 | 0.00009 | 0.0 | 0.0 | 0.0 |
| 19. GLASS | 0.00080 | 0.0 | 0.02713 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20. STONE + CLAY PRODUCTS | 0.00088 | 0.02379 | 0.00394 | 0.02089 | 0.0 | 0.0 | 0.0 | 0.0 |
| 21. PRIMARY METAL PRODUCTS | 0.00009 | 0.0 | 0.00239 | 0.0 | 0.00252 | 0.10275 | 0.04801 | 0.15396 |
| 22. FABRICATED METAL PRODUCTS | 0.00255 | 0.00593 | 0.00036 | 0.01634 | 0.00094 | 0.00073 | 0.02127 | 0.00011 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.00009 | 0.0 | 0.00031 | 0.00009 | 0.00127 | 0.00135 | 0.0 | 0.00426 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.00077 | 0.0 | 0.0 | 0.00063 | 0.00032 | 0.00003 | 0.01140 | 0.00219 |
| 25. TRANSPORTATION EQUIPMENT | 0.0 | 0.0 | 0.0 | 0.00048 | 0.00009 | 0.00008 | 0.0 | 0.0 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00319 | 0.0 | 0.0 | 0.00010 | 0.0 | 0.0 | 0.0 | 0.00260 |
| 27. ALL OTHER MANUFACTURING | 0.00886 | 0.00040 | 0.03986 | 0.00644 | 0.00420 | 0.00440 | 0.0 | 0.00072 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00025 | 0.00024 | 0.0 | 0.0 | 0.00003 | 0.00029 | 0.00016 | 0.00031 |
| 29. WHOLESALE TRADE | 0.00641 | 0.01864 | 0.01568 | 0.01566 | 0.00448 | 0.01214 | 0.00820 | 0.00463 |
| 30. RETAIL FOOD STORES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.0 | 0.00015 | 0.0 | 0.00584 | 0.0 | 0.0 | 0.00050 | 0.00021 |
| 32. ALL OTHER RETAIL | 0.00209 | 0.00190 | 0.00237 | 0.01156 | 0.00298 | 0.00287 | 0.00179 | 0.00454 |
| 33. BANKING | 0.00050 | 0.00274 | 0.00451 | 0.00340 | 0.00111 | 0.00043 | 0.00400 | 0.00112 |
| 34. OTHER FINANCE | 0.0 | 0.00276 | 0.0 | 0.0 | 0.00002 | 0.00073 | 0.0 | 0.0 |
| 35. INSURANCE AGENTS + BROKERS | 0.00361 | 0.00075 | 0.01951 | 0.00772 | 0.00147 | 0.00155 | 0.01083 | 0.00834 |
| 36. REAL ESTATE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00409 | 0.0 | 0.00210 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.00257 | 0.00012 | 0.0 | 0.0 | 0.00096 | 0.00255 | 0.0 | 0.00004 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00035 | 0.00025 | 0.00019 | 0.0 | 0.00006 | 0.00012 | 0.00025 | 0.00070 |
| 39. MEDICAL + LEGAL SERVICES | 0.00176 | 0.00176 | 0.00062 | 0.00551 | 0.00150 | 0.00039 | 0.00065 | 0.00317 |
| 40. EDUCATIONAL SERVICES | 0.0 | 0.0 | 0.0 | 0.0 | 0.00018 | 0.0 | 0.0 | 0.00089 |
| 41. ALL OTHER SERVICES | 0.00349 | 0.00324 | 0.01275 | 0.01677 | 0.00002 | 0.00439 | 0.00337 | 0.00877 |
| 42. RAILROADS | 0.00786 | 0.00070 | 0.00026 | 0.00373 | 0.00424 | 0.00024 | 0.00548 | 0.00090 |
| 43. TRUCKING + WAREHOUSING | 0.00752 | 0.03729 | 0.00433 | 0.03347 | 0.00848 | 0.00281 | 0.0 | 0.00247 |
| 44. ALL OTHER TRANSPORTATION | 0.00393 | 0.01320 | 0.00020 | 0.00215 | 0.00062 | 0.00071 | 0.00669 | 0.00399 |
| 45. COMMUNICATIONS | 0.00438 | 0.02841 | 0.00314 | 0.00412 | 0.00353 | 0.00256 | 0.00400 | 0.00594 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00801 | 0.00715 | 0.01163 | 0.01082 | 0.00660 | 0.00986 | 0.00524 | 0.02373 |
| 47. GAS COMPANIES AND SYSTEMS | 0.01297 | 0.01896 | 0.03219 | 0.02588 | 0.00346 | 0.01065 | 0.00406 | 0.01288 |
| 48. WATER + SANITARY SERVICES | 0.00198 | 0.00034 | 0.00039 | 0.00056 | 0.00001 | 0.00124 | 0.00016 | 0.00376 |
| 49. HOUSEHOLDS | 0.20869 | 0.14357 | 0.40088 | 0.30987 | 0.28867 | 0.27822 | 0.45095 | 0.22073 |
| 50. ALL OTHER FINAL PAYMENTS | 0.36229 | 0.33686 | 0.21644 | 0.23990 | 0.52855 | 0.43775 | 0.25624 | 0.38593 |
| 51. IMPORTS | 0.18361 | 0.12841 | 0.17936 | 0.16089 | 0.09865 | 0.10418 | 0.15271 | 0.11877 |
| 52. TOTAL | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |

TABLE II (CONTINUED)
 DIRECT REQUIREMENTS PER DOLLAR OF OUTPUT, WEST VIRGINIA, 1975

| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|-----------------------------------------|--------------------|----------------------|-------------------|---------------------|------------------|--------------------|--------------------|--------------------|
| | TRANSPOT EQUIPM | INSTRU'S &PRODUCT | ALL OTHR MANUF | EATING& DR'NG ES | WHOLSAL TRADE | RETAIL FOOD STR | RETAIL GAS STAT | ALL OTHR RETAIL |
| 1. AGRICULTURE | 0.0 | 0.0 | 0.00433 | 0.00501 | 0.00007 | 0.00007 | 0.0 | 0.0 |
| 2. COAL MINING (UNDERGROUND) | 0.0 | 0.0 | 0.00106 | 0.00010 | 0.00115 | 0.0 | 0.00044 | 0.00465 |
| 3. COAL MINING (STRIP + AUGER) | 0.0 | 0.0 | 0.00936 | 0.00022 | 0.0 | 0.0 | 0.00010 | 0.00137 |
| 4. PETROLEUM + NATURAL GAS | 0.0 | 0.0 | 0.00025 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00012 |
| 5. ALL OTHER MINING | 0.00251 | 0.0 | 0.00003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00081 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.0 | 0.0 | 0.00213 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00020 |
| 8. SPECIAL TRADES CONTRACTORS | 0.0 | 0.0 | 0.02345 | 0.00009 | 0.00138 | 0.00233 | 0.0 | 0.00701 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.0 | 0.0 | 0.01022 | 0.04313 | 0.00007 | 0.0 | 0.0 | 0.0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.0 | 0.0 | 0.0 | 0.03011 | 0.0 | 0.00005 | 0.0 | 0.00068 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.0 | 0.0 | 0.0 | 0.03413 | 0.0 | 0.0 | 0.0 | 0.00067 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.0 | 0.0 | 0.0 | 0.02132 | 0.0 | 0.0 | 0.0 | 0.00063 |
| 13. APPAREL + ACCESSORIES | 0.0 | 0.0 | 0.0 | 0.00007 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14. LOGGING + SAWMILLS | 0.00008 | 0.00033 | 0.00003 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00009 | 0.00002 | 0.00005 | 0.00055 | 0.00017 | 0.00029 | 0.00010 | 0.00130 |
| 16. PRINTING + PUBLISHING | 0.00047 | 0.00080 | 0.00222 | 0.00096 | 0.00080 | 0.03613 | 0.00334 | 0.03003 |
| 17. CHEMICALS | 0.00003 | 0.0 | 0.00556 | 0.0 | 0.00169 | 0.0 | 0.0 | 0.0 |
| 18. PETROLEUM | 0.0 | 0.0 | 0.00073 | 0.0 | 0.0 | 0.00018 | 0.02383 | 0.0 |
| 19. GLASS | 0.0 | 0.0 | 0.00075 | 0.00090 | 0.00019 | 0.0 | 0.0 | 0.00962 |
| 20. STONE + CLAY PRODUCTS | 0.0 | 0.0 | 0.00033 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00007 |
| 21. PRIMARY METAL PRODUCTS | 0.09210 | 0.0 | 0.00006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22. FABRICATED METAL PRODUCTS | 0.00056 | 0.0 | 0.03010 | 0.0 | 0.00007 | 0.0 | 0.0 | 0.00004 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.0 | 0.0 | 0.00924 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.01189 | 0.0 | 0.00211 | 0.00004 | 0.00047 | 0.0 | 0.0 | 0.0 |
| 25. TRANSPORTATION EQUIPMENT | 0.00009 | 0.0 | 0.00040 | 0.0 | 0.00020 | 0.0 | 0.00006 | 0.00005 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.0 | 0.00120 | 0.0 | 0.00008 | 0.0 | 0.0 | 0.0 | 0.00010 |
| 27. ALL OTHER MANUFACTURING | 0.0 | 0.00369 | 0.00635 | 0.0 | 0.00097 | 0.00494 | 0.00016 | 0.00112 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00007 | 0.0 | 0.00002 | 0.00799 | 0.00196 | 0.00004 | 0.00009 | 0.00063 |
| 29. WHOLESALE TRADE | 0.00187 | 0.0 | 0.00171 | 0.05386 | 0.01550 | 0.00696 | 0.01201 | 0.00247 |
| 30. RETAIL FOOD STORES | 0.0 | 0.0 | 0.0 | 0.00398 | 0.00016 | 0.00009 | 0.0 | 0.0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00023 | 0.00010 | 0.00058 | 0.00009 | 0.00877 | 0.00219 | 0.00180 | 0.00391 |
| 32. ALL OTHER RETAIL | 0.00087 | 0.0 | 0.00025 | 0.00103 | 0.00190 | 0.00034 | 0.00165 | 0.00810 |
| 33. BANKING | 0.00130 | 0.00424 | 0.00239 | 0.00288 | 0.00376 | 0.00203 | 0.00396 | 0.01024 |
| 34. OTHER FINANCE | 0.0 | 0.0 | 0.00003 | 0.00067 | 0.00666 | 0.00101 | 0.00008 | 0.00359 |
| 35. INSURANCE AGENTS + BROKERS | 0.00267 | 0.00195 | 0.00193 | 0.00703 | 0.01164 | 0.01752 | 0.01032 | 0.01060 |
| 36. REAL ESTATE | 0.0 | 0.0 | 0.00134 | 0.00062 | 0.00003 | 0.06266 | 0.00610 | 0.01575 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.0 | 0.0 | 0.00006 | 0.0 | 0.00221 | 0.0 | 0.00021 | 0.00130 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00001 | 0.00003 | 0.00007 | 0.0 | 0.00105 | 0.0 | 0.0 | 0.00164 |
| 39. MEDICAL + LEGAL SERVICES | 0.00077 | 0.0 | 0.00082 | 0.00013 | 0.00183 | 0.00095 | 0.00059 | 0.00560 |
| 40. EDUCATIONAL SERVICES | 0.0 | 0.0 | 0.0 | 0.00006 | 0.00037 | 0.0 | 0.0 | 0.00051 |
| 41. ALL OTHER SERVICES | 0.00520 | 0.00466 | 0.00572 | 0.00450 | 0.00700 | 0.02190 | 0.01494 | 0.04351 |
| 42. RAILROADS | 0.01414 | 0.00012 | 0.00394 | 0.0 | 0.00521 | 0.00002 | 0.00165 | 0.00304 |
| 43. TRUCKING + WAREHOUSING | 0.00056 | 0.00484 | 0.00434 | 0.00113 | 0.01520 | 0.00664 | 0.02506 | 0.01661 |
| 44. ALL OTHER TRANSPORTATION | 0.00003 | 0.00413 | 0.00176 | 0.00038 | 0.01014 | 0.00063 | 0.00129 | 0.00245 |
| 45. COMMUNICATIONS | 0.00680 | 0.00150 | 0.00281 | 0.00400 | 0.00743 | 0.01473 | 0.01419 | 0.00466 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00805 | 0.00192 | 0.00595 | 0.01039 | 0.01711 | 0.02711 | 0.00980 | 0.00971 |
| 47. GAS COMPANIES AND SYSTEMS | 0.00556 | 0.00257 | 0.00357 | 0.02055 | 0.01679 | 0.01896 | 0.00866 | 0.00944 |
| 48. WATER + SANITARY SERVICES | 0.00179 | 0.00166 | 0.00038 | 0.00149 | 0.00042 | 0.00240 | 0.00243 | 0.00201 |
| 49. HOUSEHOLDS | 0.27648 | 0.10620 | 0.17566 | 0.26474 | 0.61455 | 0.28927 | 0.34947 | 0.54463 |
| 50. ALL OTHER FINAL PAYMENTS | 0.44959 | 0.63695 | 0.56654 | 0.31112 | 0.04803 | 0.22679 | 0.18193 | 0.12846 |
| 51. IMPORTS | 0.11616 | 0.22309 | 0.11137 | 0.16665 | 0.19505 | 0.25377 | 0.32574 | 0.11267 |
| 52. TOTAL | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |

TABLE II (CONTINUED)
DIRECT REQUIREMENTS PER DOLLAR OF OUTPUT, WEST VIRGINIA, 1975

| | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|-----------------------------------------|---------|------------------|--------------------|----------|------------------|--------------------|-------------------|----------------------|
| | BANKING | OTHER FINANCE | INSURANC AGENTS | REAL EST | ALL OTHR FIRE | HOTELS& LODGING | MEDICAL& LEGAL | EDUCAT'L SERVICES |
| 1. AGRICULTURE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00865 | 0.00025 | 0.0 |
| 2. COAL MINING (UNDERGROUND) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00564 | 0.00153 | 0.00201 |
| 3. COAL MINING (STRIP + AUGER) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.02016 | 0.0 | 0.00132 |
| 4. PETROLEUM + NATURAL GAS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5. ALL OTHER MINING | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00001 | 0.0 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00055 | 0.00003 | 0.0 | 0.04289 | 0.0 | 0.00172 | 0.0 | 0.01884 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.0 | 0.00003 | 0.0 | 0.00136 | 0.0 | 0.00538 | 0.0 | 0.02152 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00486 | 0.00003 | 0.00009 | 0.02129 | 0.0 | 0.03844 | 0.00447 | 0.00292 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00010 | 0.00387 | 0.00043 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00006 | 0.00117 | 0.00063 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00004 | 0.00114 | 0.00060 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00005 | 0.00073 | 0.00079 |
| 13. APPAREL + ACCESSORIES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00045 | 0.00422 | 0.0 |
| 14. LOGGING + SAWMILLS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00003 | 0.0 | 0.0 | 0.00002 | 0.0 | 0.00004 | 0.00009 | 0.00002 |
| 16. PRINTING + PUBLISHING | 0.00603 | 0.01290 | 0.00166 | 0.02234 | 0.00399 | 0.00313 | 0.00074 | 0.00191 |
| 17. CHEMICALS | 0.00007 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00367 | 0.0 |
| 18. PETROLEUM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00002 |
| 19. GLASS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00213 | 0.0 |
| 20. STONE + CLAY PRODUCTS | 0.0 | 0.0 | 0.0 | 0.00057 | 0.0 | 0.0 | 0.0 | 0.00065 |
| 21. PRIMARY METAL PRODUCTS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22. FABRICATED METAL PRODUCTS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00010 | 0.0 | 0.00004 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.0 | 0.00001 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00008 | 0.0 | 0.0 |
| 25. TRANSPORTATION EQUIPMENT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.0 | 0.0 | 0.00016 | 0.0 | 0.0 | 0.0 | 0.00125 | 0.0 |
| 27. ALL OTHER MANUFACTURING | 0.00042 | 0.0 | 0.00016 | 0.0 | 0.0 | 0.00036 | 0.00151 | 0.00004 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00015 | 0.00072 | 0.00188 | 0.00152 | 0.00022 | 0.00002 | 0.00003 | 0.00164 |
| 29. WHOLESALE TRADE | 0.00055 | 0.00067 | 0.00023 | 0.02551 | 0.0 | 0.03739 | 0.01130 | 0.00981 |
| 30. RETAIL FOOD STORES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00245 | 0.0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00013 | 0.0 | 0.00062 | 0.00066 | 0.0 | 0.00779 | 0.00158 | 0.00020 |
| 32. ALL OTHER RETAIL | 0.00230 | 0.00193 | 0.00094 | 0.00600 | 0.00743 | 0.00905 | 0.00766 | 0.01107 |
| 33. BANKING | 0.00010 | 0.06745 | 0.00294 | 0.00810 | 0.00152 | 0.03438 | 0.00301 | 0.00112 |
| 34. OTHER FINANCE | 0.00103 | 0.00294 | 0.00038 | 0.00196 | 0.0 | 0.00067 | 0.00383 | 0.0 |
| 35. INSURANCE AGENTS + BROKERS | 0.01049 | 0.00484 | 0.00345 | 0.00239 | 0.00426 | 0.02855 | 0.01199 | 0.00628 |
| 36. REAL ESTATE | 0.00517 | 0.00905 | 0.00156 | 0.06278 | 0.00208 | 0.00802 | 0.0 | 0.00047 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.00865 | 0.0 | 0.06639 | 0.00347 | 0.00063 | 0.0 | 0.00025 | 0.0 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00018 | 0.00007 | 0.00052 | 0.00151 | 0.00029 | 0.00006 | 0.00036 | 0.00050 |
| 39. MEDICAL + LEGAL SERVICES | 0.00602 | 0.02681 | 0.00110 | 0.00300 | 0.41980 | 0.00501 | 0.03246 | 0.00317 |
| 40. EDUCATIONAL SERVICES | 0.00033 | 0.00212 | 0.0 | 0.0 | 0.0 | 0.00020 | 0.00031 | 0.02266 |
| 41. ALL OTHER SERVICES | 0.03616 | 0.06537 | 0.01244 | 0.08341 | 0.01900 | 0.07240 | 0.02966 | 0.02806 |
| 42. RAILROADS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00072 | 0.0 |
| 43. TRUCKING + WAREHOUSING | 0.00046 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00162 | 0.00094 | 0.00277 |
| 44. ALL OTHER TRANSPORTATION | 0.03579 | 0.00505 | 0.00037 | 0.00254 | 0.00079 | 0.00039 | 0.00093 | 0.00085 |
| 45. COMMUNICATIONS | 0.00942 | 0.01513 | 0.00485 | 0.02250 | 0.00850 | 0.03562 | 0.00738 | 0.00806 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00164 | 0.00098 | 0.00094 | 0.00351 | 0.00289 | 0.05062 | 0.00338 | 0.00697 |
| 47. GAS COMPANIES AND SYSTEMS | 0.00312 | 0.00123 | 0.00419 | 0.01159 | 0.00756 | 0.02011 | 0.00801 | 0.00942 |
| 48. WATER + SANITARY SERVICES | 0.00097 | 0.00025 | 0.00017 | 0.00122 | 0.00006 | 0.00769 | 0.00143 | 0.00170 |
| 49. HOUSEHOLDS | 0.30162 | 0.22585 | 0.13771 | 0.24646 | 0.14237 | 0.42471 | 0.47015 | 0.47901 |
| 50. ALL OTHER FINAL PAYMENTS | 0.09653 | 0.24268 | 0.67371 | 0.08625 | 0.19787 | 0.07497 | 0.19844 | 0.10904 |
| 51. IMPORTS | 0.46723 | 0.31386 | 0.08354 | 0.33715 | 0.18074 | 0.09633 | 0.17695 | 0.24546 |
| 52. TOTAL | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |

TABLE II (CONTINUED)
DIRECT REQUIREMENTS PER DOLLAR OF OUTPUT, WEST VIRGINIA, 1975

| | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
|-----------------------------------------|----------------------|----------|--------------------|----------------------|--------------------|---------------------|--------------------|---------------------|
| | ALL OTHR SERVICES | RAILR'DS | TRUCK & WAREHOU | ALL OTHR TRANSPOT | COMMU- NICATI'S | ELEC CO. &SYSTMS | GAS CO. &SYSTMS | WATER & SANITARY |
| 1. AGRICULTURE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2. COAL MINING (UNDERGROUND) | 0.0 | 0.00008 | 0.0 | 0.0 | 0.0 | 0.17727 | 0.00355 | 0.00087 |
| 3. COAL MINING (STRIP + AUGER) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.04829 | 0.0 | 0.0 |
| 4. PETROLEUM + NATURAL GAS | 0.00008 | 0.0 | 0.00566 | 0.03319 | 0.0 | 0.0 | 0.08610 | 0.0 |
| 5. ALL OTHER MINING | 0.0 | 0.00562 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.02987 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.0 | 0.00323 | 0.00029 | 0.0 | 0.0 | 0.00002 | 0.00005 | 0.00034 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.00009 | 0.0 | 0.00703 | 0.0 | 0.00511 | 0.0 | 0.00003 | 0.07995 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00304 | 0.00702 | 0.00149 | 0.00367 | 0.0 | 0.0 | 0.00005 | 0.0 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.00005 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13. APPAREL + ACCESSORIES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00007 |
| 14. LOGGING + SAWMILLS | 0.0 | 0.00057 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00017 | 0.0 | 0.00004 | 0.00101 | 0.00003 | 0.00008 | 0.00008 | 0.00004 |
| 16. PRINTING + PUBLISHING | 0.01901 | 0.00010 | 0.00760 | 0.00030 | 0.00283 | 0.00252 | 0.00115 | 0.00112 |
| 17. CHEMICALS | 0.00435 | 0.0 | 0.00006 | 0.00012 | 0.0 | 0.0 | 0.0 | 0.02107 |
| 18. PETROLEUM | 0.00167 | 0.00879 | 0.00090 | 0.00705 | 0.00185 | 0.00224 | 0.0 | 0.00070 |
| 19. GLASS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20. STONE + CLAY PRODUCTS | 0.0 | 0.00074 | 0.00007 | 0.0 | 0.02287 | 0.00226 | 0.00123 | 0.00547 |
| 21. PRIMARY METAL PRODUCTS | 0.00021 | 0.00559 | 0.0 | 0.06604 | 0.00116 | 0.0 | 0.0 | 0.00051 |
| 22. FABRICATED METAL PRODUCTS | 0.00468 | 0.00084 | 0.0 | 0.02338 | 0.00004 | 0.00014 | 0.00045 | 0.00983 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.00094 | 0.00162 | 0.0 | 0.00416 | 0.0 | 0.0 | 0.0 | 0.00007 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.00627 | 0.00006 | 0.0 | 0.0 | 0.00366 | 0.00023 | 0.0 | 0.00672 |
| 25. TRANSPORTATION EQUIPMENT | 0.00022 | 0.00805 | 0.00064 | 0.00015 | 0.0 | 0.00010 | 0.00002 | 0.0 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00010 | 0.00001 | 0.0 | 0.0 | 0.00007 | 0.0 | 0.0 | 0.00004 |
| 27. ALL OTHER MANUFACTURING | 0.0 | 0.00009 | 0.00042 | 0.02080 | 0.00021 | 0.00003 | 0.00034 | 0.00004 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00021 | 0.0 | 0.00036 | 0.00021 | 0.00060 | 0.00080 | 0.00222 | 0.00032 |
| 29. WHOLESALE TRADE | 0.01862 | 0.00089 | 0.05753 | 0.00549 | 0.00160 | 0.00391 | 0.00140 | 0.01906 |
| 30. RETAIL FOOD STORES | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00307 | 0.0 | 0.00401 | 0.00178 | 0.00060 | 0.00001 | 0.00085 | 0.00234 |
| 32. ALL OTHER RETAIL | 0.01802 | 0.00235 | 0.00639 | 0.0 | 0.00032 | 0.00017 | 0.00064 | 0.03746 |
| 33. BANKING | 0.00524 | 0.0 | 0.00434 | 0.00789 | 0.00303 | 0.00029 | 0.00127 | 0.00086 |
| 34. OTHER FINANCE | 0.00005 | 0.0 | 0.00042 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35. INSURANCE AGENTS + BROKERS | 0.00685 | 0.02134 | 0.02043 | 0.0 | 0.00129 | 0.00113 | 0.00032 | 0.00598 |
| 36. REAL ESTATE | 0.00519 | 0.0 | 0.00100 | 0.0 | 0.00099 | 0.00076 | 0.00494 | 0.0 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.00089 | 0.0 | 0.00001 | 0.0 | 0.00151 | 0.00028 | 0.00118 | 0.00139 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00089 | 0.00013 | 0.00057 | 0.00040 | 0.00037 | 0.00056 | 0.00112 | 0.0 |
| 39. MEDICAL + LEGAL SERVICES | 0.00219 | 0.00194 | 0.00009 | 0.0 | 0.0 | 0.00170 | 0.00030 | 0.00027 |
| 40. EDUCATIONAL SERVICES | 0.01827 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 41. ALL OTHER SERVICES | 0.02851 | 0.00393 | 0.0 | 0.01150 | 0.02326 | 0.00309 | 0.00160 | 0.00125 |
| 42. RAILROADS | 0.00038 | 0.00170 | 0.00106 | 0.0 | 0.00858 | 0.01287 | 0.00101 | 0.00610 |
| 43. TRUCKING + WAREHOUSING | 0.00502 | 0.00592 | 0.00008 | 0.00209 | 0.00792 | 0.02350 | 0.00148 | 0.00388 |
| 44. ALL OTHER TRANSPORTATION | 0.00390 | 0.00054 | 0.00270 | 0.00415 | 0.00598 | 0.00969 | 0.00817 | 0.00054 |
| 45. COMMUNICATIONS | 0.00815 | 0.00395 | 0.00447 | 0.00524 | 0.00109 | 0.00433 | 0.00399 | 0.01243 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00326 | 0.00342 | 0.00384 | 0.00246 | 0.00732 | 0.03479 | 0.00098 | 0.04839 |
| 47. GAS COMPANIES AND SYSTEMS | 0.01022 | 0.00101 | 0.00367 | 0.00238 | 0.00583 | 0.00109 | 0.00589 | 0.00316 |
| 48. WATER + SANITARY SERVICES | 0.00267 | 0.00025 | 0.00067 | 0.00009 | 0.00002 | 0.00010 | 0.00080 | 0.01562 |
| 49. HOUSEHOLDS | 0.41488 | 0.30010 | 0.28696 | 0.25701 | 0.44374 | 0.21826 | 0.14250 | 0.25690 |
| 50. ALL OTHER FINAL PAYMENTS | 0.29869 | 0.36907 | 0.33942 | 0.37436 | 0.16951 | 0.15849 | 0.60733 | 0.23846 |
| 51. IMPORTS | 0.10395 | 0.24105 | 0.23778 | 0.16508 | 0.27861 | 0.29100 | 0.11896 | 0.18888 |
| 52. TOTAL | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |

TABLE III
DIRECT AND INDIRECT REQUIREMENTS PER DOLLAR OF DELIVERY
TO FINAL DEMAND, WEST VIRGINIA, 1975

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------------------------------------|------------------|-------------------|----------------------|--------------------|--------------------|------------------|----------------------|---------------------|
| | AGRICUL- TURE | COAL MIN UNDER | COAL MIN STRIP&AU | PETROL& NAT GAS | ALL OTHR MINING | GEN CONT BLDG | GEN CONT NON-BLDG | SP TRADE CONTR'S |
| 1. AGRICULTURE | 1.11709 | 0.00069 | 0.00033 | 0.00007 | 0.00534 | 0.00097 | 0.00040 | 0.00142 |
| 2. COAL MINING (UNDERGROUND) | 0.00531 | 1.01725 | 0.27860 | 0.00172 | 0.00170 | 0.00500 | 0.00517 | 0.00273 |
| 3. COAL MINING (STRIP + AUGER) | 0.00071 | 0.03245 | 1.36638 | 0.00060 | 0.00062 | 0.00096 | 0.00049 | 0.00075 |
| 4. PETROLEUM + NATURAL GAS | 0.00083 | 0.00093 | 0.00060 | 1.06108 | 0.00088 | 0.00172 | 0.01018 | 0.00132 |
| 5. ALL OTHER MINING | 0.02199 | 0.00076 | 0.00089 | 0.00094 | 1.04447 | 0.01876 | 0.03039 | 0.00672 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00488 | 0.00008 | 0.00011 | 0.00032 | 0.00013 | 1.03461 | 0.00036 | 0.00054 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.00044 | 0.00156 | 0.00062 | 0.00043 | 0.00050 | 0.02838 | 1.03773 | 0.00381 |
| 8. SPECIAL TRADES CONTRACTORS | 0.01083 | 0.00276 | 0.00196 | 0.00492 | 0.05180 | 0.24113 | 0.03492 | 1.03054 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.00972 | 0.00003 | 0.00008 | 0.00014 | 0.00014 | 0.00037 | 0.00009 | 0.00036 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.00001 | 0.00001 | 0.00003 | 0.00005 | 0.00001 | 0.00005 | 0.00002 | 0.00003 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.00001 | 0.00001 | 0.00004 | 0.00005 | 0.00001 | 0.00006 | 0.00002 | 0.00003 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.00001 | 0.00001 | 0.00002 | 0.00004 | 0.00001 | 0.00004 | 0.00001 | 0.00002 |
| 13. APPAREL + ACCESSORIES | 0.00001 | 0.00002 | 0.00004 | 0.00011 | 0.00002 | 0.00007 | 0.00004 | 0.00002 |
| 14. LOGGING + SAWMILLS | 0.00686 | 0.01231 | 0.00524 | 0.00018 | 0.00938 | 0.01077 | 0.00323 | 0.02120 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00231 | 0.00023 | 0.00015 | 0.00023 | 0.00149 | 0.00492 | 0.00101 | 0.00005 |
| 16. PRINTING + PUBLISHING | 0.00192 | 0.00155 | 0.00214 | 0.00765 | 0.00594 | 0.00437 | 0.00255 | 0.00186 |
| 17. CHEMICALS | 0.00562 | 0.00023 | 0.00054 | 0.00051 | 0.01399 | 0.00287 | 0.00757 | 0.00295 |
| 18. PETROLEUM | 0.00155 | 0.00214 | 0.00140 | 0.00067 | 0.00649 | 0.01154 | 0.13033 | 0.00596 |
| 19. GLASS | 0.00009 | 0.00006 | 0.00008 | 0.00023 | 0.00017 | 0.00058 | 0.00102 | 0.00205 |
| 20. STONE + CLAY PRODUCTS | 0.01372 | 0.00575 | 0.00975 | 0.00032 | 0.00174 | 0.11416 | 0.05486 | 0.00989 |
| 21. PRIMARY METAL PRODUCTS | 0.00172 | 0.00197 | 0.00147 | 0.00116 | 0.00256 | 0.02614 | 0.01514 | 0.02185 |
| 22. FABRICATED METAL PRODUCTS | 0.00466 | 0.00813 | 0.00282 | 0.00851 | 0.01349 | 0.04280 | 0.00771 | 0.06279 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.00026 | 0.00077 | 0.00104 | 0.00010 | 0.00462 | 0.00235 | 0.01977 | 0.00287 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.00020 | 0.00016 | 0.00404 | 0.00033 | 0.00025 | 0.00176 | 0.00052 | 0.00113 |
| 25. TRANSPORTATION EQUIPMENT | 0.00036 | 0.00005 | 0.00048 | 0.00008 | 0.00041 | 0.00018 | 0.00011 | 0.00006 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00006 | 0.00013 | 0.00007 | 0.01056 | 0.00006 | 0.00006 | 0.00014 | 0.00004 |
| 27. ALL OTHER MANUFACTURING | 0.00190 | 0.00048 | 0.00081 | 0.00102 | 0.00623 | 0.02403 | 0.00376 | 0.02608 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00023 | 0.00007 | 0.00062 | 0.00035 | 0.00019 | 0.00141 | 0.00041 | 0.00080 |
| 29. WHOLESALE TRADE | 0.06226 | 0.00542 | 0.03244 | 0.03792 | 0.03672 | 0.01816 | 0.01460 | 0.01644 |
| 30. RETAIL FOOD STORES | 0.00008 | 0.00006 | 0.00010 | 0.00034 | 0.00022 | 0.00018 | 0.00010 | 0.00008 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.01351 | 0.00028 | 0.00173 | 0.01115 | 0.00207 | 0.00311 | 0.00161 | 0.00879 |
| 32. ALL OTHER RETAIL | 0.00356 | 0.00414 | 0.00486 | 0.01581 | 0.00327 | 0.00407 | 0.00351 | 0.00169 |
| 33. BANKING | 0.02635 | 0.00080 | 0.01889 | 0.00668 | 0.00681 | 0.00777 | 0.00612 | 0.01362 |
| 34. OTHER FINANCE | 0.00614 | 0.00023 | 0.00562 | 0.00456 | 0.00092 | 0.00111 | 0.00062 | 0.00099 |
| 35. INSURANCE AGENTS + BROKERS | 0.01345 | 0.01035 | 0.01842 | 0.10435 | 0.01787 | 0.01329 | 0.03152 | 0.02033 |
| 36. REAL ESTATE | 0.01143 | 0.00043 | 0.00071 | 0.00581 | 0.00145 | 0.00749 | 0.00297 | 0.01106 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.00150 | 0.00402 | 0.00245 | 0.00805 | 0.00261 | 0.00221 | 0.00247 | 0.00450 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00017 | 0.00005 | 0.00012 | 0.00020 | 0.00017 | 0.00144 | 0.00053 | 0.00096 |
| 39. MEDICAL + LEGAL SERVICES | 0.00231 | 0.00311 | 0.00774 | 0.02491 | 0.00340 | 0.00563 | 0.00457 | 0.00357 |
| 40. EDUCATIONAL SERVICES | 0.00037 | 0.00013 | 0.00080 | 0.00083 | 0.00030 | 0.00024 | 0.00011 | 0.00029 |
| 41. ALL OTHER SERVICES | 0.01709 | 0.00643 | 0.04043 | 0.04194 | 0.01489 | 0.01171 | 0.00509 | 0.01437 |
| 42. RAILROADS | 0.03067 | 0.00123 | 0.00792 | 0.00657 | 0.00445 | 0.00175 | 0.00399 | 0.00062 |
| 43. TRUCKING + WAREHOUSING | 0.01999 | 0.00533 | 0.01413 | 0.00480 | 0.02045 | 0.00934 | 0.03376 | 0.01107 |
| 44. ALL OTHER TRANSPORTATION | 0.00626 | 0.00419 | 0.00255 | 0.00129 | 0.00128 | 0.00222 | 0.00553 | 0.00334 |
| 45. COMMUNICATIONS | 0.00419 | 0.00234 | 0.00631 | 0.00644 | 0.00256 | 0.00576 | 0.00847 | 0.00300 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00761 | 0.01603 | 0.00798 | 0.00751 | 0.00503 | 0.00631 | 0.00387 | 0.00397 |
| 47. GAS COMPANIES AND SYSTEMS | 0.00372 | 0.00076 | 0.00195 | 0.00397 | 0.00200 | 0.00859 | 0.01323 | 0.00780 |
| 48. WATER + SANITARY SERVICES | 0.00042 | 0.00011 | 0.00040 | 0.00110 | 0.00024 | 0.02591 | 0.00033 | 0.00083 |
| 49. TOTAL | 1.44435 | 1.15606 | 1.85588 | 1.39658 | 1.29935 | 1.71632 | 1.51096 | 1.33514 |

TABLE III (CONTINUED)
 DIRECT AND INDIRECT REQUIREMENTS PER DOLLAR OF DELIVERY
 TO FINAL DEMAND, WEST VIRGINIA, 1975

| | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-----------------------------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| | FOOD&KIN MEAT&NEC | FOOD&KIN DAIRIES | FOOD&KIN BAKERIES | FOOD&KIN BEV'AGES | APPAREL& ACCESS'S | LOGGING& SAWMILLS | FURNIT& WOOD FAB | PRINTING &PUBLISH |
| 1. AGRICULTURE | 0.20656 | 0.27551 | 0.01083 | 0.00017 | 0.00008 | 0.06574 | 0.00874 | 0.00009 |
| 2. COAL MINING (UNDERGROUND) | 0.00376 | 0.00299 | 0.00547 | 0.00453 | 0.00263 | 0.00410 | 0.00946 | 0.00251 |
| 3. COAL MINING (STRIP + AUGER) | 0.00113 | 0.00076 | 0.00201 | 0.00059 | 0.00080 | 0.00105 | 0.00084 | 0.00058 |
| 4. PETROLEUM + NATURAL GAS | 0.00090 | 0.00059 | 0.00255 | 0.00089 | 0.00057 | 0.00079 | 0.00100 | 0.00097 |
| 5. ALL OTHER MINING | 0.00424 | 0.00557 | 0.00033 | 0.00056 | 0.00023 | 0.00160 | 0.00041 | 0.00014 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00094 | 0.00134 | 0.00058 | 0.00005 | 0.00009 | 0.00099 | 0.00171 | 0.00128 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.00035 | 0.00074 | 0.00025 | 0.00087 | 0.00039 | 0.00097 | 0.00060 | 0.00038 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00406 | 0.01017 | 0.00094 | 0.00066 | 0.02184 | 0.00901 | 0.00181 | 0.00149 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 1.08308 | 0.01896 | 0.00143 | 0.00027 | 0.00008 | 0.00066 | 0.00011 | 0.00015 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.00002 | 1.01513 | 0.00733 | 0.00011 | 0.00000 | 0.00002 | 0.00001 | 0.00011 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.00002 | 0.00011 | 1.00114 | 0.00012 | 0.00000 | 0.00002 | 0.00001 | 0.00012 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.00002 | 0.00007 | 0.00001 | 1.00811 | 0.00000 | 0.00001 | 0.00001 | 0.00008 |
| 13. APPAREL + ACCESSORIES | 0.00004 | 0.00001 | 0.00001 | 0.00127 | 1.00000 | 0.00005 | 0.00002 | 0.00002 |
| 14. LOGGING + SAWMILLS | 0.00135 | 0.00187 | 0.00018 | 0.00009 | 0.00048 | 1.19631 | 0.15678 | 0.00011 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00046 | 0.00059 | 0.00017 | 0.00006 | 0.00001 | 0.00016 | 1.00622 | 0.00024 |
| 16. PRINTING + PUBLISHING | 0.00369 | 0.00511 | 0.00474 | 0.01672 | 0.00608 | 0.00146 | 0.00241 | 1.27567 |
| 17. CHEMICALS | 0.00125 | 0.00173 | 0.00043 | 0.00333 | 0.00029 | 0.00066 | 0.00686 | 0.00160 |
| 18. PETROLEUM | 0.00055 | 0.00067 | 0.00043 | 0.00050 | 0.00032 | 0.00235 | 0.00056 | 0.00035 |
| 19. GLASS | 0.00055 | 0.00009 | 0.00012 | 0.01052 | 0.00005 | 0.00006 | 0.00143 | 0.00029 |
| 20. STONE + CLAY PRODUCTS | 0.00272 | 0.00362 | 0.00054 | 0.00054 | 0.00088 | 0.00139 | 0.00061 | 0.00056 |
| 21. PRIMARY METAL PRODUCTS | 0.00093 | 0.00083 | 0.00047 | 0.00905 | 0.00072 | 0.00124 | 0.00163 | 0.00054 |
| 22. FABRICATED METAL PRODUCTS | 0.00127 | 0.00196 | 0.00065 | 0.00078 | 0.00165 | 0.00631 | 0.01224 | 0.00050 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.00011 | 0.00037 | 0.00012 | 0.00018 | 0.00018 | 0.00032 | 0.00077 | 0.00008 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.00022 | 0.00035 | 0.00035 | 0.00021 | 0.00027 | 0.00019 | 0.00020 | 0.00030 |
| 25. TRANSPORTATION EQUIPMENT | 0.00009 | 0.00011 | 0.00003 | 0.00002 | 0.00002 | 0.00023 | 0.00004 | 0.00002 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00301 | 0.00008 | 0.00004 | 0.00003 | 0.00001 | 0.00003 | 0.00004 | 0.00003 |
| 27. ALL OTHER MANUFACTURING | 0.00134 | 0.00290 | 0.00435 | 0.00924 | 0.00653 | 0.00390 | 0.00154 | 0.00049 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00018 | 0.00298 | 0.00024 | 0.00323 | 0.00010 | 0.00015 | 0.00008 | 0.00257 |
| 29. WHOLESALE TRADE | 0.04843 | 0.03467 | 0.02900 | 0.01561 | 0.00457 | 0.00978 | 0.00546 | 0.00800 |
| 30. RETAIL FOOD STORES | 0.00016 | 0.00020 | 0.00018 | 0.00061 | 0.00022 | 0.00008 | 0.00009 | 0.04484 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00646 | 0.00527 | 0.00666 | 0.00796 | 0.00064 | 0.00604 | 0.00193 | 0.00406 |
| 32. ALL OTHER RETAIL | 0.00670 | 0.00398 | 0.01090 | 0.00228 | 0.00048 | 0.00105 | 0.00081 | 0.02733 |
| 33. BANKING | 0.01444 | 0.00780 | 0.00790 | 0.00114 | 0.00143 | 0.00603 | 0.00290 | 0.00346 |
| 34. OTHER FINANCE | 0.01572 | 0.00191 | 0.00346 | 0.00016 | 0.00007 | 0.00148 | 0.00026 | 0.00053 |
| 35. INSURANCE AGENTS + BROKERS | 0.00671 | 0.01083 | 0.02091 | 0.01609 | 0.01107 | 0.02618 | 0.00858 | 0.01808 |
| 36. REAL ESTATE | 0.00261 | 0.00541 | 0.00100 | 0.00064 | 0.00052 | 0.01594 | 0.00248 | 0.02746 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.00078 | 0.00128 | 0.00170 | 0.00124 | 0.00090 | 0.01390 | 0.00232 | 0.00433 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00012 | 0.00013 | 0.00016 | 0.00191 | 0.00012 | 0.00067 | 0.00028 | 0.00034 |
| 39. MEDICAL + LEGAL SERVICES | 0.01024 | 0.00223 | 0.00177 | 0.00357 | 0.00058 | 0.01049 | 0.00366 | 0.00549 |
| 40. EDUCATIONAL SERVICES | 0.00018 | 0.00085 | 0.00084 | 0.00021 | 0.00016 | 0.00035 | 0.00038 | 0.00161 |
| 41. ALL OTHER SERVICES | 0.00594 | 0.04396 | 0.04307 | 0.01023 | 0.00790 | 0.01788 | 0.02001 | 0.03687 |
| 42. RAILROADS | 0.00623 | 0.00787 | 0.00101 | 0.00048 | 0.00048 | 0.00349 | 0.00074 | 0.00041 |
| 43. TRUCKING + WAREHOUSING | 0.01399 | 0.01176 | 0.00378 | 0.01192 | 0.00998 | 0.01008 | 0.00457 | 0.00871 |
| 44. ALL OTHER TRANSPORTATION | 0.00858 | 0.00335 | 0.00426 | 0.01044 | 0.00218 | 0.00470 | 0.00305 | 0.00539 |
| 45. COMMUNICATIONS | 0.00384 | 0.00395 | 0.00746 | 0.01436 | 0.02531 | 0.01110 | 0.00645 | 0.01347 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.01501 | 0.00940 | 0.02684 | 0.00421 | 0.00959 | 0.01305 | 0.00786 | 0.00657 |
| 47. GAS COMPANIES AND SYSTEMS | 0.00512 | 0.00370 | 0.02560 | 0.00425 | 0.00445 | 0.00439 | 0.00848 | 0.00750 |
| 48. WATER + SANITARY SERVICES | 0.00195 | 0.00199 | 0.00136 | 0.00787 | 0.00095 | 0.00074 | 0.00305 | 0.00142 |
| 49. TOTAL | 1.49607 | 1.151571 | 1.24357 | 1.18789 | 1.12590 | 1.45718 | 1.29948 | 1.51714 |

TABLE III (CONTINUED)
 DIRECT AND INDIRECT REQUIREMENTS PER DOLLAR OF DELIVERY
 TO FINAL DEMAND, WEST VIRGINIA, 1975

| | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-----------------------------------------|-----------|----------|---------|----------------|-------------------|--------------------|----------------------|--------------------|
| | CHEMICALS | PETRO'UM | GLASS | STONE& CLAY | PRIMARY METALS | FABRIC'D METALS | MACHIN'Y EXC ELEC | ELEC MACH INERY |
| 1. AGRICULTURE | 0.00018 | 0.00050 | 0.00040 | 0.00092 | 0.00008 | 0.00006 | 0.00002 | 0.00006 |
| 2. COAL MINING (UNDERGROUND) | 0.02386 | 0.02917 | 0.00351 | 0.01282 | 0.02700 | 0.00568 | 0.00282 | 0.00969 |
| 3. COAL MINING (STRIP + AUGER) | 0.00184 | 0.00167 | 0.00154 | 0.00142 | 0.00147 | 0.00102 | 0.00055 | 0.00213 |
| 4. PETROLEUM + NATURAL GAS | 0.01034 | 0.07028 | 0.00329 | 0.00583 | 0.00052 | 0.00126 | 0.00075 | 0.00174 |
| 5. ALL OTHER MINING | 0.00180 | 0.07908 | 0.01764 | 0.04616 | 0.00476 | 0.00106 | 0.00033 | 0.00095 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00038 | 0.00010 | 0.00019 | 0.00011 | 0.00049 | 0.00043 | 0.00018 | 0.00025 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.00109 | 0.00080 | 0.00026 | 0.00062 | 0.00029 | 0.00933 | 0.00028 | 0.00055 |
| 8. SPECIAL TRADES CONTRACTORS | 0.01080 | 0.00508 | 0.00216 | 0.00385 | 0.00128 | 0.00119 | 0.00055 | 0.00075 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.00039 | 0.00008 | 0.00048 | 0.00013 | 0.00006 | 0.00008 | 0.00002 | 0.00006 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.00002 | 0.00002 | 0.00001 | 0.00002 | 0.00001 | 0.00002 | 0.00001 | 0.00002 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.00002 | 0.00002 | 0.00001 | 0.00003 | 0.00001 | 0.00002 | 0.00001 | 0.00002 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.00001 | 0.00002 | 0.00001 | 0.00002 | 0.00001 | 0.00001 | 0.00001 | 0.00002 |
| 13. APPAREL + ACCESSORIES | 0.00004 | 0.00003 | 0.00001 | 0.00038 | 0.00001 | 0.00001 | 0.00001 | 0.00002 |
| 14. LOGGING + SAWMILLS | 0.00054 | 0.00158 | 0.00034 | 0.00064 | 0.00040 | 0.00013 | 0.00006 | 0.00031 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00003 | 0.00018 | 0.00055 | 0.00011 | 0.00002 | 0.00004 | 0.00007 | 0.00107 |
| 16. PRINTING + PUBLISHING | 0.00182 | 0.00288 | 0.00493 | 0.00738 | 0.00053 | 0.00229 | 0.00496 | 0.00242 |
| 17. CHEMICALS | 1.13835 | 0.04619 | 0.00234 | 1.02678 | 0.00508 | 0.00249 | 0.00064 | 0.02379 |
| 18. PETROLEUM | 0.00291 | 1.02671 | 0.00049 | 0.04206 | 0.00032 | 0.00129 | 0.00021 | 0.00035 |
| 19. GLASS | 0.00101 | 0.00011 | 1.02796 | 0.00017 | 0.00005 | 0.00006 | 0.00003 | 0.00009 |
| 20. STONE + CLAY PRODUCTS | 0.00163 | 0.02611 | 0.00444 | 1.02280 | 0.00037 | 0.00072 | 0.00020 | 0.00044 |
| 21. PRIMARY METAL PRODUCTS | 0.00133 | 0.00216 | 0.00291 | 0.00247 | 1.00296 | 0.10350 | 0.05269 | 0.15542 |
| 22. FABRICATED METAL PRODUCTS | 0.00440 | 0.00894 | 0.00221 | 0.01826 | 0.00151 | 1.00128 | 0.02164 | 0.00086 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.00033 | 0.00050 | 0.00082 | 0.00046 | 0.00138 | 0.00173 | 1.00020 | 0.00455 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.00100 | 0.00027 | 0.00024 | 0.00086 | 0.00038 | 0.00017 | 0.01151 | 1.00245 |
| 25. TRANSPORTATION EQUIPMENT | 0.00009 | 0.00010 | 0.00005 | 0.00059 | 0.00014 | 0.00011 | 0.00006 | 0.00005 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00375 | 0.00086 | 0.00005 | 0.00020 | 0.00003 | 0.00003 | 0.00004 | 0.00271 |
| 27. ALL OTHER MANUFACTURING | 0.01068 | 0.00198 | 0.04152 | 0.00728 | 0.00441 | 0.00502 | 0.00053 | 0.00179 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00039 | 0.00046 | 0.00019 | 0.00021 | 0.00008 | 0.00039 | 0.00025 | 0.00044 |
| 29. WHOLESALE TRADE | 0.00926 | 0.02852 | 0.01827 | 0.02230 | 0.00564 | 0.01379 | 0.00932 | 0.00681 |
| 30. RETAIL FOOD STORES | 0.00008 | 0.00012 | 0.00018 | 0.00028 | 0.00003 | 0.00009 | 0.00018 | 0.00010 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00042 | 0.00169 | 0.00044 | 0.00669 | 0.00015 | 0.00024 | 0.00068 | 0.00045 |
| 32. ALL OTHER RETAIL | 0.00312 | 0.00436 | 0.00322 | 0.01332 | 0.00331 | 0.00364 | 0.00240 | 0.00575 |
| 33. BANKING | 0.00116 | 0.00475 | 0.00533 | 0.00472 | 0.00136 | 0.00096 | 0.00435 | 0.00177 |
| 34. OTHER FINANCE | 0.00017 | 0.00343 | 0.00020 | 0.00044 | 0.00010 | 0.00088 | 0.00011 | 0.00012 |
| 35. INSURANCE AGENTS + BROKERS | 0.00645 | 0.01116 | 0.02165 | 0.01130 | 0.00242 | 0.00272 | 0.01170 | 0.00969 |
| 36. REAL ESTATE | 0.00047 | 0.00094 | 0.00064 | 0.00099 | 0.00017 | 0.00467 | 0.00040 | 0.00263 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.00356 | 0.00146 | 0.00166 | 0.00112 | 0.00128 | 0.00296 | 0.00099 | 0.00104 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00047 | 0.00041 | 0.00031 | 0.00016 | 0.00010 | 0.00019 | 0.00031 | 0.00080 |
| 39. MEDICAL + LEGAL SERVICES | 0.00403 | 0.00460 | 0.00177 | 0.00694 | 0.00226 | 0.00207 | 0.00138 | 0.00426 |
| 40. EDUCATIONAL SERVICES | 0.00012 | 0.00021 | 0.00031 | 0.00042 | 0.00021 | 0.00014 | 0.00012 | 0.00115 |
| 41. ALL OTHER SERVICES | 0.00588 | 0.01007 | 0.01555 | 0.02093 | 0.00091 | 0.00588 | 0.00476 | 0.01080 |
| 42. RAILROADS | 0.00942 | 0.00259 | 0.00096 | 0.00469 | 0.00457 | 0.00108 | 0.00595 | 0.00234 |
| 43. TRUCKING + WAREHOUSING | 0.00976 | 0.04257 | 0.00610 | 0.03827 | 0.00922 | 0.00476 | 0.00111 | 0.00517 |
| 44. ALL OTHER TRANSPORTATION | 0.00518 | 0.01515 | 0.00128 | 0.00398 | 0.00106 | 0.00136 | 0.00728 | 0.00496 |
| 45. COMMUNICATIONS | 0.00579 | 0.03103 | 0.00425 | 0.00681 | 0.00391 | 0.00359 | 0.00477 | 0.00738 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.01067 | 0.01072 | 0.01354 | 0.01358 | 0.00766 | 0.01163 | 0.00674 | 0.02678 |
| 47. GAS COMPANIES AND SYSTEMS | 0.01567 | 0.02232 | 0.03441 | 0.02899 | 0.00389 | 0.01180 | 0.00510 | 0.01449 |
| 48. WATER + SANITARY SERVICES | 0.00240 | 0.00066 | 0.00056 | 0.00084 | 0.00007 | 0.00134 | 0.00029 | 0.00399 |
| 49. TOTAL | 1.31312 | 1.50260 | 1.24916 | 1.36933 | 1.10195 | 1.21324 | 1.16655 | 1.32343 |

TABLE III (CONTINUED)
 DIRECT AND INDIRECT REQUIREMENTS PER DOLLAR OF DELIVERY
 TO FINAL DEMAND, WEST VIRGINIA, 1975

| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|-----------------------------------------|--------------------|----------------------|-------------------|---------------------|------------------|--------------------|--------------------|--------------------|
| | TRANSPOT EQUIPM | INSTRU'S &PRODUCT | ALL OTHR MANUF | EATING& DR'NG ES | WHOLSAL TRADE | RETAIL FOOD STR | RETAIL GAS STAT | ALL OTHR RETAIL |
| 1. AGRICULTURE | 0.00004 | 0.00005 | 0.00704 | 0.02338 | 0.00018 | 0.00016 | 0.00003 | 0.00029 |
| 2. COAL MINING (UNDERGROUND) | 0.00434 | 0.00047 | 0.00551 | 0.00328 | 0.00500 | 0.00592 | 0.00340 | 0.00758 |
| 3. COAL MINING (STRIP + AUGER) | 0.00079 | 0.00021 | 0.01346 | 0.00136 | 0.00144 | 0.00220 | 0.00100 | 0.00295 |
| 4. PETROLEUM + NATURAL GAS | 0.00064 | 0.00045 | 0.00097 | 0.00227 | 0.00218 | 0.00210 | 0.00281 | 0.00147 |
| 5. ALL OTHER MINING | 0.00325 | 0.00007 | 0.00060 | 0.00059 | 0.00014 | 0.00026 | 0.00204 | 0.00042 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00014 | 0.00001 | 0.00016 | 0.00020 | 0.00007 | 0.00306 | 0.00034 | 0.00173 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.00025 | 0.00020 | 0.00272 | 0.00026 | 0.00026 | 0.00062 | 0.00054 | 0.00075 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00046 | 0.00019 | 0.02478 | 0.00092 | 0.00181 | 0.00500 | 0.00059 | 0.00863 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.00002 | 0.00004 | 0.01121 | 0.04779 | 0.00021 | 0.00009 | 0.00002 | 0.00011 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.00001 | 0.00000 | 0.00001 | 0.03108 | 0.00007 | 0.00007 | 0.00001 | 0.00074 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.00001 | 0.00000 | 0.00001 | 0.03446 | 0.00008 | 0.00002 | 0.00001 | 0.00072 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.00000 | 0.00000 | 0.00000 | 0.02168 | 0.00005 | 0.00001 | 0.00001 | 0.00067 |
| 13. APPAREL + ACCESSORIES | 0.00001 | 0.00000 | 0.00001 | 0.00010 | 0.00002 | 0.00001 | 0.00001 | 0.00003 |
| 14. LOGGING + SAWMILLS | 0.00021 | 0.00041 | 0.00069 | 0.00029 | 0.00014 | 0.00025 | 0.00010 | 0.00050 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00012 | 0.00003 | 0.00008 | 0.00064 | 0.00020 | 0.00034 | 0.00012 | 0.00136 |
| 16. PRINTING + PUBLISHING | 0.00099 | 0.00129 | 0.00345 | 0.00277 | 0.00194 | 0.04925 | 0.00550 | 0.04095 |
| 17. CHEMICALS | 0.00092 | 0.00011 | 0.00674 | 0.00042 | 0.00210 | 0.00040 | 0.00132 | 0.00050 |
| 18. PETROLEUM | 0.00028 | 0.00010 | 0.00140 | 0.00020 | 0.00052 | 0.00060 | 0.02476 | 0.00049 |
| 19. GLASS | 0.00002 | 0.00001 | 0.00085 | 0.00122 | 0.00024 | 0.00005 | 0.00004 | 0.01004 |
| 20. STONE + CLAY PRODUCTS | 0.00030 | 0.00008 | 0.00106 | 0.00056 | 0.00036 | 0.00103 | 0.00113 | 0.00071 |
| 21. PRIMARY METAL PRODUCTS | 0.09445 | 0.00035 | 0.00485 | 0.00045 | 0.00100 | 0.00045 | 0.00031 | 0.00068 |
| 22. FABRICATED METAL PRODUCTS | 0.00086 | 0.00029 | 0.03227 | 0.00035 | 0.00062 | 0.00086 | 0.00047 | 0.00113 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.00023 | 0.00007 | 0.00952 | 0.00005 | 0.00010 | 0.00012 | 0.00006 | 0.00014 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.01204 | 0.00006 | 0.00238 | 0.00018 | 0.00059 | 0.00032 | 0.00020 | 0.00039 |
| 25. TRANSPORTATION EQUIPMENT | 1.00022 | 0.00001 | 0.00046 | 0.00003 | 0.00027 | 0.00003 | 0.00011 | 0.00011 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00004 | 1.00120 | 0.00007 | 0.00024 | 0.00004 | 0.00003 | 0.00004 | 0.00014 |
| 27. ALL OTHER MANUFACTURING | 0.00048 | 0.00383 | 1.00736 | 0.00068 | 0.00135 | 0.00526 | 0.00032 | 0.00195 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00012 | 0.00002 | 0.00011 | 1.00842 | 0.00212 | 0.00040 | 0.00023 | 0.00086 |
| 29. WHOLESALE TRADE | 0.00298 | 0.00054 | 0.00447 | 0.06061 | 1.01766 | 0.01081 | 0.01526 | 0.00619 |
| 30. RETAIL FOOD STORES | 0.00004 | 0.00005 | 0.00013 | 0.00412 | 0.00025 | 1.00183 | 0.00020 | 0.00146 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00033 | 0.00018 | 0.00106 | 0.00160 | 0.00916 | 0.00275 | 1.00221 | 0.00454 |
| 32. ALL OTHER RETAIL | 0.00155 | 0.00025 | 0.00091 | 0.00235 | 0.00252 | 0.00270 | 0.00264 | 1.01054 |
| 33. BANKING | 0.00160 | 0.00438 | 0.00343 | 0.00470 | 0.00480 | 0.00337 | 0.00461 | 0.01166 |
| 34. OTHER FINANCE | 0.00005 | 0.00002 | 0.00037 | 0.00198 | 0.00686 | 0.00129 | 0.00032 | 0.00382 |
| 35. INSURANCE AGENTS + BROKERS | 0.00365 | 0.00228 | 0.00356 | 0.01012 | 0.01315 | 0.01959 | 0.01193 | 0.01328 |
| 36. REAL ESTATE | 0.00020 | 0.00013 | 0.00212 | 0.00162 | 0.00055 | 0.06845 | 0.00697 | 0.01851 |
| 37. ALL OTHER FIN, INSUR, + REAL | 0.00041 | 0.00022 | 0.00056 | 0.00094 | 0.00326 | 0.00184 | 0.00120 | 0.00260 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00006 | 0.00005 | 0.00014 | 0.00017 | 0.00114 | 0.00023 | 0.00010 | 0.00180 |
| 39. MEDICAL + LEGAL SERVICES | 0.00129 | 0.00017 | 0.00148 | 0.00142 | 0.00375 | 0.00246 | 0.00146 | 0.00760 |
| 40. EDUCATIONAL SERVICES | 0.00015 | 0.00010 | 0.00016 | 0.00027 | 0.00058 | 0.00063 | 0.00034 | 0.00151 |
| 41. ALL OTHER SERVICES | 0.00619 | 0.00524 | 0.00776 | 0.00951 | 0.00944 | 0.03139 | 0.01757 | 0.05012 |
| 42. RAILROADS | 0.01485 | 0.00021 | 0.00458 | 0.00127 | 0.00576 | 0.00075 | 0.00216 | 0.00346 |
| 43. TRUCKING + WAREHOUSING | 0.00203 | 0.00503 | 0.00570 | 0.00399 | 0.01654 | 0.00846 | 0.02702 | 0.01818 |
| 44. ALL OTHER TRANSPORTATION | 0.00050 | 0.00443 | 0.00248 | 0.00236 | 0.01112 | 0.00202 | 0.00246 | 0.00378 |
| 45. COMMUNICATIONS | 0.00756 | 0.00174 | 0.00359 | 0.00582 | 0.00853 | 0.01772 | 0.01586 | 0.00680 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00973 | 0.00223 | 0.00738 | 0.01427 | 0.01874 | 0.02950 | 0.01130 | 0.01156 |
| 47. GAS COMPANIES AND SYSTEMS | 0.00639 | 0.00277 | 0.00475 | 0.02348 | 0.01788 | 0.02111 | 0.01016 | 0.01152 |
| 48. WATER + SANITARY SERVICES | 0.00191 | 0.00172 | 0.00055 | 0.00199 | 0.00056 | 0.00280 | 0.00261 | 0.00241 |
| 49. TOTAL | 1.18270 | 1.04127 | 1.19288 | 1.33646 | 1.17535 | 1.30859 | 1.18190 | 1.27736 |

TABLE III (CONTINUED)
 DIRECT AND INDIRECT REQUIREMENTS PER DOLLAR OF DELIVERY
 TO FINAL DEMAND, WEST VIRGINIA, 1975

| | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|-----------------------------------------|---------|------------------|--------------------|----------|------------------|--------------------|-------------------|----------------------|
| | BANKING | OTHER FINANCE | INSURANC AGENTS | REAL EST | ALL OTHR FIRE | HOTELS& LODGING | MEDICAL& LEGAL | EDUCAT'L SERVICES |
| 1. AGRICULTURE | 0.00004 | 0.00007 | 0.00010 | 0.00016 | 0.00064 | 0.00981 | 0.00150 | 0.00037 |
| 2. COAL MINING (UNDERGROUND) | 0.00064 | 0.00055 | 0.00041 | 0.00163 | 0.00190 | 0.02244 | 0.00275 | 0.00444 |
| 3. COAL MINING (STRIP + AUGER) | 0.00021 | 0.00017 | 0.00014 | 0.00054 | 0.00046 | 0.03175 | 0.00045 | 0.00258 |
| 4. PETROLEUM + NATURAL GAS | 0.00171 | 0.00060 | 0.00053 | 0.00167 | 0.00122 | 0.00245 | 0.00100 | 0.00133 |
| 5. ALL OTHER MINING | 0.00015 | 0.00009 | 0.00003 | 0.00122 | 0.00012 | 0.00109 | 0.00022 | 0.00119 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00087 | 0.00064 | 0.00011 | 0.04749 | 0.00017 | 0.00237 | 0.00008 | 0.02003 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.00026 | 0.00032 | 0.00008 | 0.00326 | 0.00020 | 0.00685 | 0.00027 | 0.02368 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00577 | 0.00125 | 0.00044 | 0.03519 | 0.00248 | 0.04149 | 0.00529 | 0.00886 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.00007 | 0.00017 | 0.00022 | 0.00014 | 0.00186 | 0.00027 | 0.00439 | 0.00060 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.00002 | 0.00007 | 0.00010 | 0.00008 | 0.00054 | 0.00009 | 0.00125 | 0.00073 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.00003 | 0.00007 | 0.00010 | 0.00009 | 0.00052 | 0.00008 | 0.00119 | 0.00069 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.00002 | 0.00005 | 0.00007 | 0.00005 | 0.00034 | 0.00007 | 0.00077 | 0.00087 |
| 13. APPAREL + ACCESSORIES | 0.00005 | 0.00012 | 0.00013 | 0.00003 | 0.00184 | 0.00048 | 0.00437 | 0.00002 |
| 14. LOGGING + SAWMILLS | 0.00015 | 0.00004 | 0.00002 | 0.00102 | 0.00009 | 0.00127 | 0.00017 | 0.00042 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00009 | 0.00004 | 0.00001 | 0.00030 | 0.00007 | 0.00014 | 0.00012 | 0.00017 |
| 16. PRINTING + PUBLISHING | 0.00918 | 0.01942 | 0.00311 | 0.03367 | 0.00716 | 0.00773 | 0.00260 | 0.00411 |
| 17. CHEMICALS | 0.00044 | 0.00057 | 0.00023 | 0.00089 | 0.00207 | 0.00101 | 0.00462 | 0.00051 |
| 18. PETROLEUM | 0.00046 | 0.00031 | 0.00009 | 0.00126 | 0.00020 | 0.00181 | 0.00025 | 0.00334 |
| 19. GLASS | 0.00007 | 0.00011 | 0.00009 | 0.00019 | 0.00108 | 0.00023 | 0.00238 | 0.00018 |
| 20. STONE + CLAY PRODUCTS | 0.00044 | 0.00053 | 0.00018 | 0.00686 | 0.00041 | 0.00254 | 0.00036 | 0.00445 |
| 21. PRIMARY METAL PRODUCTS | 0.00275 | 0.00077 | 0.00011 | 0.00226 | 0.00029 | 0.00161 | 0.00035 | 0.00112 |
| 22. FABRICATED METAL PRODUCTS | 0.00150 | 0.00067 | 0.00015 | 0.00408 | 0.00045 | 0.00357 | 0.00066 | 0.00152 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.00023 | 0.00013 | 0.00002 | 0.00033 | 0.00006 | 0.00039 | 0.00008 | 0.00054 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.00031 | 0.00054 | 0.00013 | 0.00083 | 0.00028 | 0.00096 | 0.00028 | 0.00031 |
| 25. TRANSPORTATION EQUIPMENT | 0.00002 | 0.00002 | 0.00001 | 0.00005 | 0.00002 | 0.00007 | 0.00002 | 0.00002 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00004 | 0.00006 | 0.00021 | 0.00004 | 0.00058 | 0.00006 | 0.00134 | 0.00003 |
| 27. ALL OTHER MANUFACTURING | 0.00140 | 0.00033 | 0.00026 | 0.00191 | 0.00089 | 0.00172 | 0.00198 | 0.00078 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00025 | 0.00086 | 0.00196 | 0.00194 | 0.00035 | 0.00040 | 0.00015 | 0.00184 |
| 29. WHOLESALE TRADE | 0.00223 | 0.00318 | 0.00121 | 0.03156 | 0.00631 | 0.04315 | 0.01339 | 0.01233 |
| 30. RETAIL FOOD STORES | 0.00035 | 0.00076 | 0.00019 | 0.00121 | 0.00132 | 0.00030 | 0.00263 | 0.00016 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00049 | 0.00045 | 0.00078 | 0.00185 | 0.00102 | 0.00917 | 0.00205 | 0.00068 |
| 32. ALL OTHER RETAIL | 0.00357 | 0.00427 | 0.00211 | 0.00947 | 0.01183 | 0.01184 | 0.00893 | 0.01249 |
| 33. BANKING | 1.00101 | 0.06853 | 0.00340 | 0.01056 | 0.00355 | 0.03692 | 0.00405 | 0.00204 |
| 34. OTHER FINANCE | 0.00114 | 1.00320 | 0.00053 | 0.00247 | 0.00181 | 0.00134 | 0.00419 | 0.00021 |
| 35. INSURANCE AGENTS + BROKERS | 0.01158 | 0.00704 | 1.00448 | 0.00585 | 0.01051 | 0.03280 | 0.01364 | 0.00846 |
| 36. REAL ESTATE | 0.00617 | 0.01104 | 0.00210 | 1.06922 | 0.00303 | 0.01050 | 0.00081 | 0.00135 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.00957 | 0.00127 | 0.06682 | 0.00463 | 1.00160 | 0.00305 | 0.00135 | 0.00075 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00028 | 0.00021 | 0.00059 | 0.00188 | 0.00054 | 1.00035 | 0.00047 | 0.00065 |
| 39. MEDICAL + LEGAL SERVICES | 0.01065 | 0.02911 | 0.03026 | 0.00620 | 0.43493 | 0.00763 | 1.03456 | 0.00413 |
| 40. EDUCATIONAL SERVICES | 0.00110 | 0.00360 | 0.00031 | 0.00185 | 0.00081 | 0.00178 | 0.00098 | 1.02379 |
| 41. ALL OTHER SERVICES | 0.03986 | 0.07344 | 0.01591 | 0.09601 | 0.03494 | 0.08177 | 0.03361 | 0.03165 |
| 42. RAILROADS | 0.00022 | 0.00028 | 0.00013 | 0.00068 | 0.00065 | 0.00196 | 0.00112 | 0.00049 |
| 43. TRUCKING + WAREHOUSING | 0.00120 | 0.00097 | 0.00033 | 0.00256 | 0.00136 | 0.00615 | 0.00207 | 0.00480 |
| 44. ALL OTHER TRANSPORTATION | 0.03640 | 0.00819 | 0.00079 | 0.00448 | 0.00189 | 0.00386 | 0.00174 | 0.00168 |
| 45. COMMUNICATIONS | 0.01058 | 0.01733 | 0.00603 | 0.02629 | 0.01263 | 0.03863 | 0.00868 | 0.00934 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00242 | 0.00203 | 0.00157 | 0.00598 | 0.00533 | 0.05541 | 0.00471 | 0.00849 |
| 47. GAS COMPANIES AND SYSTEMS | 0.00424 | 0.00305 | 0.00537 | 0.01529 | 0.01211 | 0.02336 | 0.00953 | 0.01114 |
| 48. WATER + SANITARY SERVICES | 0.00118 | 0.00064 | 0.00030 | 0.00292 | 0.00088 | 0.00831 | 0.00170 | 0.00244 |
| 49. TOTAL | 1.17143 | 1.26717 | 1.15224 | 1.44814 | 1.57334 | 1.52103 | 1.18912 | 1.22181 |

TABLE III (CONTINUED)
 DIRECT AND INDIRECT REQUIREMENTS PER DOLLAR OF DELIVERY
 TO FINAL DEMAND, WEST VIRGINIA, 1975

| | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
|-----------------------------------------|----------------------|----------|---------------------|----------------------|--------------------|----------------------|---------------------|---------------------|
| | ALL OTHR SERVICES | RAILR'DS | TRUCK & WAREHOUS | ALL OTHR TRANSPOT | COMMU- NICATT'S | ELEC CO. &SYSTEMS | GAS CO. &SYSTEMS | WATER & SANITARY |
| 1. AGRICULTURE | 0.00005 | 0.00010 | 0.00004 | 0.00019 | 0.00005 | 0.00018 | 0.00008 | 0.00024 |
| 2. COAL MINING (UNDERGROUND) | 0.00148 | 0.00135 | 0.00130 | 0.00292 | 0.00205 | 0.20102 | 0.00411 | 0.01245 |
| 3. COAL MINING (STRIP + AUGER) | 0.00049 | 0.00033 | 0.00044 | 0.00066 | 0.00064 | 0.07438 | 0.00031 | 0.00398 |
| 4. PETROLEUM + NATURAL GAS | 0.00160 | 0.00084 | 0.00677 | 0.03625 | 0.00120 | 0.00105 | 0.09226 | 0.00171 |
| 5. ALL OTHER MINING | 0.00035 | 0.00680 | 0.00038 | 0.00100 | 0.00145 | 0.00060 | 0.00021 | 0.03466 |
| 6. GENERAL CONTRACTORS (BUILDING) | 0.00072 | 0.00337 | 0.00039 | 0.00008 | 0.00011 | 0.00014 | 0.00033 | 0.00051 |
| 7. GENERAL CONTRACTORS (NON-BUILDING) | 0.00099 | 0.00024 | 0.00743 | 0.00040 | 0.00543 | 0.00056 | 0.00022 | 0.08460 |
| 8. SPECIAL TRADES CONTRACTORS | 0.00400 | 0.00847 | 0.00220 | 0.00477 | 0.00059 | 0.00094 | 0.00083 | 0.00527 |
| 9. FOOD + KINDRED PROD-MEATS+N.E.C. | 0.00005 | 0.00002 | 0.00005 | 0.00026 | 0.00004 | 0.00006 | 0.00013 | 0.00006 |
| 10. FOOD + KINDRED PRODUCTS (DAIRIES) | 0.00004 | 0.00001 | 0.00002 | 0.00001 | 0.00002 | 0.00003 | 0.00008 | 0.00005 |
| 11. FOOD + KINDRED PRODUCTS (BAKERIES) | 0.00010 | 0.00001 | 0.00003 | 0.00001 | 0.00003 | 0.00004 | 0.00008 | 0.00005 |
| 12. FOOD + KINDRED PRODUCTS (BEVERAGES) | 0.00004 | 0.00001 | 0.00002 | 0.00001 | 0.00002 | 0.00002 | 0.00005 | 0.00004 |
| 13. APPAREL + ACCESSORIES | 0.00002 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.00001 | 0.00009 |
| 14. LOGGING + SAWMILLS | 0.00015 | 0.00095 | 0.00009 | 0.00031 | 0.00008 | 0.00256 | 0.00009 | 0.00074 |
| 15. FURNITURE + OTHER WOOD FABRICATION | 0.00023 | 0.00003 | 0.00008 | 0.00104 | 0.00006 | 0.00015 | 0.00012 | 0.00025 |
| 16. PRINTING + PUBLISHING | 0.02633 | 0.00061 | 0.01037 | 0.00132 | 0.00467 | 0.00419 | 0.00249 | 0.00396 |
| 17. CHEMICALS | 0.00556 | 0.00061 | 0.00035 | 0.00113 | 0.00054 | 0.00027 | 0.00012 | 0.02577 |
| 18. PETROLEUM | 0.00212 | 0.00925 | 0.00207 | 0.00751 | 0.00377 | 0.00322 | 0.00026 | 0.01220 |
| 19. GLASS | 0.00022 | 0.00005 | 0.00010 | 0.00005 | 0.00002 | 0.00003 | 0.00004 | 0.00051 |
| 20. STONE + CLAY PRODUCTS | 0.00052 | 0.00157 | 0.00072 | 0.00045 | 0.02384 | 0.00417 | 0.00148 | 0.01086 |
| 21. PRIMARY METAL PRODUCTS | 0.00229 | 0.00691 | 0.00052 | 0.06949 | 0.00244 | 0.00134 | 0.00078 | 0.00422 |
| 22. FABRICATED METAL PRODUCTS | 0.00536 | 0.00171 | 0.00039 | 0.02506 | 0.00086 | 0.00217 | 0.00152 | 0.01148 |
| 23. MACHINERY (EXCEPT ELECTRICAL) | 0.00107 | 0.00171 | 0.00018 | 0.00454 | 0.00021 | 0.00028 | 0.00006 | 0.00192 |
| 24. ELECTRICAL MACHINERY + APPARATUS | 0.00659 | 0.00025 | 0.00009 | 0.00025 | 0.00386 | 0.00053 | 0.00007 | 0.00704 |
| 25. TRANSPORTATION EQUIPMENT | 0.00025 | 0.00808 | 0.00067 | 0.00018 | 0.00010 | 0.00027 | 0.00004 | 0.00011 |
| 26. INSTRUMENTS + RELATED PRODUCTS | 0.00016 | 0.00003 | 0.00008 | 0.00037 | 0.00010 | 0.00004 | 0.00092 | 0.00017 |
| 27. ALL OTHER MANUFACTURING | 0.00039 | 0.00048 | 0.00068 | 0.02163 | 0.00058 | 0.00044 | 0.00065 | 0.00104 |
| 28. EATING + DRINKING ESTABLISHMENTS | 0.00044 | 0.00008 | 0.00058 | 0.00028 | 0.00067 | 0.00093 | 0.00231 | 0.00054 |
| 29. WHOLESALE TRADE | 0.02113 | 0.00221 | 0.05932 | 0.00847 | 0.00356 | 0.00867 | 0.00539 | 0.02364 |
| 30. RETAIL FOOD STORES | 0.00094 | 0.00003 | 0.00038 | 0.00005 | 0.00017 | 0.00016 | 0.00011 | 0.00015 |
| 31. RETAIL GASOLINE SERVICE STATIONS | 0.00366 | 0.00020 | 0.00475 | 0.00237 | 0.00096 | 0.00039 | 0.00192 | 0.00306 |
| 32. ALL OTHER RETAIL | 0.01998 | 0.00272 | 0.00708 | 0.00123 | 0.00139 | 0.00164 | 0.00227 | 0.03936 |
| 33. BANKING | 0.00616 | 0.00044 | 0.00504 | 0.00860 | 0.00352 | 0.00175 | 0.00211 | 0.00241 |
| 34. OTHER FINANCE | 0.00033 | 0.00009 | 0.00091 | 0.00027 | 0.00007 | 0.00040 | 0.00044 | 0.00041 |
| 35. INSURANCE AGENTS + BROKERS | 0.00883 | 0.02223 | 0.02260 | 0.00440 | 0.00263 | 0.00516 | 0.00973 | 0.01092 |
| 36. REAL ESTATE | 0.00689 | 0.00028 | 0.00165 | 0.00060 | 0.00145 | 0.00114 | 0.00593 | 0.00127 |
| 37. ALL OTHER FIN, INSUR, + REAL ESTATE | 0.00180 | 0.00156 | 0.00176 | 0.00061 | 0.00180 | 0.00136 | 0.00200 | 0.00252 |
| 38. HOTELS + OTHER LODGING PLACES | 0.00104 | 0.00018 | 0.00068 | 0.00046 | 0.00043 | 0.00064 | 0.00117 | 0.00021 |
| 39. MEDICAL + LEGAL SERVICES | 0.00360 | 0.00286 | 0.00132 | 0.00129 | 0.00114 | 0.00312 | 0.00312 | 0.00233 |
| 40. EDUCATIONAL SERVICES | 0.01937 | 0.00010 | 0.00008 | 0.00029 | 0.00048 | 0.00015 | 0.00013 | 0.00015 |
| 41. ALL OTHER SERVICES | 1.03345 | 0.00518 | 0.00242 | 0.01448 | 0.02534 | 0.00736 | 0.00640 | 0.00569 |
| 42. RAILROADS | 0.00086 | 1.00203 | 0.00162 | 0.00083 | 0.00892 | 0.01413 | 0.00169 | 0.00800 |
| 43. TRUCKING + WAREHOUSING | 0.00667 | 0.00688 | 1.00183 | 0.00381 | 0.00963 | 0.02657 | 0.00220 | 0.01044 |
| 44. ALL OTHER TRANSPORTATION | 0.00502 | 0.00090 | 0.00379 | 1.00501 | 0.00663 | 0.01128 | 0.00856 | 0.00234 |
| 45. COMMUNICATIONS | 0.00983 | 0.00468 | 0.00562 | 0.00650 | 1.00196 | 0.00578 | 0.00497 | 0.01461 |
| 46. ELECTRIC COMPANIES + SYSTEMS | 0.00512 | 0.00410 | 0.00552 | 0.00418 | 0.00843 | 1.03990 | 0.00208 | 0.05325 |
| 47. GAS COMPANIES AND SYSTEMS | 0.01216 | 0.00172 | 0.00528 | 0.00375 | 0.00722 | 0.00193 | 1.00663 | 0.00622 |
| 48. WATER + SANITARY SERVICES | 0.00303 | 0.00041 | 0.00080 | 0.00025 | 0.00017 | 0.00021 | 0.00096 | 1.01614 |
| 49. TOTAL | 1.23148 | 1.11269 | 1.16847 | 1.24763 | 1.13936 | 1.43139 | 1.17745 | 1.42762 |

BIBLIOGRAPHY

Books:

- Bourque, Philip J., and Richard S. Conway, Jr. *The 1972 Washington Input-Output Study*. Seattle: University of Washington Press, 1977.
- Carter, Anne P. *Structural Change in the American Economy*. Cambridge: Harvard University Press, 1970.
- Chicago, Alpha C. *Fundamental Methods of Mathematical Economics*. 2nd Edition. New York: McGraw-Hill Book Company, 1974.
- Czamanski, Stan. *Regional Science Techniques in Practice*. Lexington: D. C. Heath & Company, 1972.
- Harmston, Floyd K., Varnon Rao, Jasbir S. Jaswal, and Wayne S. Chow, *Intersectoral Analysis of the Missouri Economy 1958, 1963, 1967, 1972*. Vol. 1: *Intersectoral Flow of Goods and Services in Current and Constant Dollars*. Published by State of Missouri, 1977.
- Isard, Walter, ed. *Methods of Regional Analysis*. Cambridge: MIT Press, 1960. , and Thomas W. Langford. *Regional Input Output Study: Recollections, Reflections, and Diverse Notes on the Philadelphia Experience*. Cambridge: MIT Press, 1971.
- , Thomas W. Langford, and Eliahu Romanoff. *Philadelphia Region Input-Output Study - Working Papers*. Philadelphia: University of Pennsylvania, 1966.
- Johnston, J. *Econometric Methods*. 2nd Edition. New York: McGraw-Hill Book Company, 1972.
- Leontief, Wassily. *Input-Output Economics*. New York: Oxford University Press, 1966 .
- Miernyk, William H. *The Elements of Input-Output Analysis*. New York: Random House, 1965.
- , Ernest R. Bonner, John H. Chapman, Jr. ,and Kenneth Shellhammer. *Impact of the Space Program on a Local Economy*. Morgantown, WV: The West Virginia University Library, 1967.
- , Kenneth L. Shellhammer, Douglas M. Brown, Ronald L. Coccari, Charles J. Gallagher, and Wesley H. Wineman. *Simulating Regional Economic Development*. Lexington: D. C. Heath & Company, 1970.
- Richardson, Harry W. *Input-Output and Regional Economics*. New York: John Wiley & Sons, Inc., 1972.
- Yan, Chiou-Shuang. *Introduction to Input-Output Economics*. New York: Holt, Rinehart & Winston, Inc., 1969.

Articles:

- Bradley, I. E. and J. P. Cander. "Input-Output Multipliers: Some Theoretical Comments." *Journal of Regional Science*, 9 (1969), pp. 309-317.
- Czamanski, S. and E. E. Malizia. "Applicability and Limitations in the Use of National Input-Output Tables for Regional Studies." *Papers and Proceedings of the Regional Science Association*, 23 (1969), pp. 65-77.
- Giarratani, F. "A Note on the McMenamin-Haring Input-Output Projection Technique." *Journal of Regional Science* (December 1975), pp. 371-373.
- Hirsch, W. Z. "Interindustry Relations of a Metropolitan Area." *Review of Economics and Statistics*, 41 (1959), pp. 360-369.
- Jensen, R. C. and D. McGuarr. "Reconciliation. of Purchases and Sales Estimates in an Input-Output Table." *Urban Studies*, 13 (February 1976), pp. 61-62.
- Leontief, W. "An Alternative to Aggregation in Input-Output Analysis and National Accounts." *Review of Economics and Statistics*, 49 (1967), pp. 412-419.
- , "Environmental Repercussions and the Economic Structure: An Input-Output Approach." *Review of Economics and Statistics*, 52 (1970), pp. 262-271.

....., "The Structure of Development." *Scientific American*, 209 (September 1963).

Leven, C. L. "Regional Income and Product Accounts: Construction and Application." In W. Hochwald (ed.) *Design of Regional Accounts*, Baltimore: John Hopkins Press, 1961, pp. 148-195.

McMenamin, D. G. and J. E. Haring. "An Appraisal of Non-survey Techniques for Estimating Regional Input-Output Models," *Journal of Regional Science* (August 1974) pp. 191-205

Malizia, Emil and Daniel L. Bond. "Empirical Tests of the RAS Method of Interindustry Coefficient Adjustment." *Journal of Regional Science*, 14 (December 1974) pp. 355-366.

Miernyk, William H. "Comments on Recent Developments in Regional Input-Output Analysis." *International Regional Science Review*, 2 Fall 1976.

....., "The Projection of Technical Coefficients for Medium-Term Forecasting." In W. F. Cosslin (ed.) *Medium-Term Dynamic Forecasting*. London: Input-Output Publishing Company, 1975, pp. 29-41.

....., "Regional and Interregional Input-Output Models: A Reappraisal." In Benjamin Chinitz, et al., (eds) *Spatial, Regional and Population Economics, Essays in Honor of Edgar M. Hoover*. New York: Gordon and Breach 1973, pp. 263-292.

Sandoval, A. D. "Constant Relation Between Input-Output Income Multipliers." *Review of Economics and Statistics* 49 (1967), pp. 599-600.

Schaffer, W. A. and K. Chu. "Non-Survey Techniques for Constructing Regional Interindustry Models," *Papers and Proceedings of the Regional Science Association*, 23 (1969) pp. 83-101.

U. S. Department of Commerce. "The Input-Output Structure of the U. S. Economy: 1967." *Survey of Current Business* (February 1974), pp. 24-59.

U.S. Government Documents:

Association of American Railroads, Economics and Finance Dept. *Yearbook of Railroad Facts* (1975)

Association of American Railroads, Washington, D. C.

Economics Research Service. *Balance Sheet of the Farming Sector: 1976*. Department of Agriculture, Bulletin 403 (September 1976).

....., *The Farm Cost Situation*. Department of Agriculture, Bulletin 43 (February 1972).

U. S. Bureau of the Census. *Annual Survey of Manufactures 1973, Industry Profiles*, M71(AS) - 10 (1975).

....., *Annual Survey of Manufactures 1975 Industry Profiles*, M76(AS) - 6 (1977).

....., *County Business Patterns, 1975 - West Virginia* (1977).

....., *Census of Construction Industries, 1972*. Area Series - South Atlantic States.

....., *Census of Manufacturers, 1972*. Area Series - West Virginia.

....., *Census of Mineral Industries, 1972*. Area Series - South Atlantic States.

....., *Census of Retail Trade, 1972*. Area Series - West Virginia.

....., *Census of Selected Services, 1972*. Area Series - West Virginia.

....., *Census of Wholesale Trade, 1972*. Area Series - West Virginia.

....., *Local Government Finances in Selected Metropolitan Areas and Large Counties 1973-1974 and 1974- 1975*. Series GF-74, GF-75, No. 6 (1976) (1977).

....., *1974 Census of Agriculture; Preliminary Report: West Virginia* (July 1976).

....., *State Government Finances in 1975*. Series GF-75, No. 3 (1976).

....., *Statistical Abstract of the United States, 1974, 1975, 1976*.

U. S. Department of Commerce. *Survey of Current Business* (February 1974, August 1976, 1977, and 1978).

U. S. Bureau of Labor Statistics. *Consumer Expenditure Survey Series: Interview Survey, 1972-1973*. Report 455-4 (1977).

..... , *Relative Importance of Components in the Consumer Price Index*, December 1975, Report 439.

U. S. Bureau of Mines. *Minerals Yearbook 1975* (1977) .

U. S. Community Services Administration. *Federal Outlays in West Virginia, 1975*.

U. S. Department of Agriculture. *Agricultural Statistics: 1975*.

..... , *Handbook of Agricultural Charts: 1976*. Handbook No. 504.

..... , "Supplement to Statistical Bulletin No. 547, September 1975." *State Farm Income Statistics*, Economic Research Service, U.S.D.A.

U. S. Federal Communications Commission. *Statistics of Communications Common Carriers, 1975*.

..... , *Thirty-ninth Annual Report, 1975*.

U. S. Office of Management and Budget. *Standard Industrial Classification Manual 1972* (1973).

U. S. Treasury Department, Office of the Comptroller of the Currency. *1975 Annual Report of the Comptroller of the Currency*. Washington, D. C.: Comptroller of the Currency Administrator of National Banks (1976).

West Virginia Sources:

State of West Virginia, Chamber of Commerce. *West Virginia Business Index, 1974, 1975*.

..... , Insurance Commissioner . *Insurance Commissioner's 65th Annual Report*.

..... , Office of the State Auditor. *65th Annual Statement of Net Receipts and Disbursements* (1977).

..... , Office of the Tax Commissioner. *36th Biennial Report*.

..... , *75th Report of Financial Institutions*. Ed by Commissioner of Banking (1975) .

..... , *61st Annual Report of the Public Service Commission*. Ed by Muriel R. Moore and Robert L. Stine, BJW Printers, Beckley.

West Virginia Coal Association . *West Virginia Coal Facts, 1975*.

West Virginia Department of Commerce, Industrial Development Division, *1976 West Virginia Economic Profile*.

..... , Industrial Development Division. *West Virginia Manufacturing Directory, 1976*.

West Virginia Department of Employment Security. *Employment Wages, 1973, 1974, 1975*.

West Virginia Department of Mines. *Annual Report*.

West Virginia Research League, Inc. *The 1975 Statistical Handbook*.

Other

American Gas Association, Department of Statistics. *1973 Gas Facts* (1974).

Moody's Investors Service, Inc. *Moody's Transportation Manual*. New York (1976) .

APPENDIX

Regional Research Institute
West Virginia University

West Virginia Interindustry Relations Study
Instructions for Business Questionnaire

Will you please read the instructions to each set of questions carefully before responding. It is important that the information you provide be consistent with that of other establishments in the survey.

If you have any questions will you please call Dr. Frank Giarratani at (304)293-2896, collect.

Questions 4, 5, & 6

Your answers to these questions will permit us to classify your establishment by size and industry. Once this is done, your establishment data will be combined with those of other firms in your industry. These data *and all other information you provide* will be used only at the *industry* level.

Question 7

By “typical” dollar of sales we mean an average sale by your establishment to intermediate *users* (other industries) and final *users* (households, government). The word “users” has been emphasized because it is important that we identify those sectors that actually use your products or services for additional production and those that buy your product or service for final consumption. If most of your sales are to a wholesaler or retailer- – who in turn passes your product on to other sectors – *it is the sector of final destination that we wish to identify.*

Example: Sales

| Sector | | Percent to West Virginia Sectors |
|-----------------------------------------|-----|----------------------------------------|
| Manufacturing | 15 | |
| 9. Food & Kindred Products (meats) | | _____ % |
| 10. Food & Kindred Products (dairies) | | _____ % |
| 11. Food & Kindred Products (bakeries) | | _____ % |
| 12. Food & Kindred Products (beverages) | | _____ % |
| 13. Apparel & Accessories | | _____ % |
| 14. Logging & Sawmills | .02 | 50 % |
| 15. Furniture & Other Wood Fabrication | | _____ % |
| 16. Printing & Publishing | | _____ % |
| 17. Chemicals | .03 | 80 % |
| 18. Petroleum | | _____ % |
| 19. Glass | | _____ % |
| 20. Stone & Clay Products | | _____ % |
| 21. Primary Metal Products | | _____ % |
| 22. Fabricated Metal Products | .05 | _____ % |
| 23. Machinery (except electrical) | | _____ % |
| 24. Electrical Machinery & Apparatus | | _____ % |
| 25. Transportation Equipment | | _____ % |
| 26. Instruments & Related Products | .05 | _____ % |
| 27. All Other Manufacturing | | _____ % |

This hypothetical respondent has indicated that 15 cents of a typical dollar of sales went to the major group “Manufacturing.” This includes sales to West Virginia establishments in Sectors 14 and 17. All other manufacturing sales were to establishments outside of West Virginia.

Question 8

The purpose of this question is to identify the industrial *origin* of the goods and services required by your establishment for use in *current* production. Goods purchased on capital account are considered later in this questionnaire.

Please make every effort to assign to individual industries their appropriate share of your expenses. Your establishment may purchase a substantial part of its inputs from wholesalers, but it is important that such purchases be assigned *to the industry from which they originate*. Please indicate, where appropriate that this purchase “passed through” a wholesaler by an “X”

Sector 44a, Company-owned Transportation, includes leased vehicles.

Example: Current Expenses

| Sector | | Percent From West Virginia Establishments |
|-----------------------------------------|-------|-------------------------------------------------|
| Manufacturing | .10 | |
| 9. Food & Kindred Products (meats) | | % |
| 10. Food & Kindred Products (dairies) | | % |
| 11. Food & Kindred Products (bakeries) | | % |
| 12. Food & Kindred Products (beverages) | | % |
| 13. Apparel & Accessories | | % |
| 14. Logging & Sawmills | .03 | % |
| 15. Furniture & Other Wood Fabrication | | % |
| 16. Printing & Publishing | | % |
| 17. Chemicals | .02 | 100 % |
| 18. Petroleum | | % |
| 19. Glass | | % |
| 20. Stone & Clay Products | | % |
| 21. Primary Metal Products | | % |
| 22. Fabricated Metal Products | .05 | % |
| 23. Machinery (except electrical) | | % |
| 24. Electrical Machinery & Apparatus | | % |
| 25. Transportation Equipment | .01 | % |
| 26. Instruments & Related Products | X .04 | 80 % |
| 27. All Other Manufacturing | | % |

X = Purchases “passed through” wholesale sector. All others are direct purchases for sector shown.

This hypothetical respondent has indicated that 10 cents of a typical dollar of current expenses has been assigned to the major group “Manufacturing.” Of this amount, purchases were made from West Virginia establishments in Sectors 17 and 26. All other purchases were from establishments located outside of the state. Instruments and related products were purchased from a wholesale firm. All other purchases were from the industries shown.

Questions 9 & 10

Continued growth in West Virginia will cause some industries to expand capacity. Answers to questions 9 and 10 will permit us to estimate the anticipated increase in capacity associated with capital expenditures in any given year. We have chosen a three-year period to average the effect of unusual expenditures in any one year. *Potential* output is very difficult to estimate; but your response, along with those of other establishments, will permit us to estimate the amount of investment needed to expand capacity by a given amount.

Questions 11, 12, & 13

These questions ask that you identify generally the geographic origin of expansion and replacement capital goods purchased by your firm.

Question 14

Consider *only* those capital goods purchased from West Virginia establishments here and estimate the percent of your expenditures to each of the sectors indicated.

8. How much of a *typical* dollar of your establishment's current expenses (purchases) can be attributed to each of the following sectors:

| Sector | Percent From <i>WEST VIRGINIA</i> Establishments |
|-------------------------------------------|--------------------------------------------------------|
| <hr/> | |
| Agriculture and Extractive Industries | |
| 1. Agriculture | _____ % |
| 2. Coal Mines (underground) | _____ % |
| 3. Coal Mines (strip and auger) | _____ % |
| 4. Petroleum & Natural Gas | _____ % |
| 5. All Other Mining | _____ % |
| <hr/> | |
| Contractors | |
| 6. General Contractors (building) | _____ % |
| 7. General Contractors (non-building) | _____ % |
| 8. Special Trade Contractors | _____ % |
| <hr/> | |
| Manufacturing | |
| 9. Food & Kindred Products (meats) | _____ % |
| 10. Food & Kindred Products (dairies) | _____ % |
| 11. Food & Kindred Products (bakeries) | _____ % |
| 12. Food & Kindred Products (beverages) | _____ % |
| 13. Apparel & Accessories | _____ % |
| 14. Logging & Sawmills | _____ % |
| 15. Furniture & Other Wood Fabrication | _____ % |
| 16. Printing & Publishing | _____ % |
| 17. Chemicals | _____ % |
| 18. Petroleum | _____ % |
| 19. Glass | _____ % |
| 20. Stone & Clay Products | _____ % |
| 21. Primary Metal Products | _____ % |
| 22. Fabricated Metal Products | _____ % |
| 23. Machinery (except electrical) | _____ % |
| 24. Electrical Machinery & Apparatus | _____ % |
| 25. Transportation Equipment | _____ % |
| 26. Instruments & Related Products | _____ % |
| 27. All Other Manufacturing | _____ % |
| <hr/> | |
| Wholesale and Retail Trade | |
| 28. Eating and Drinking Establishments | _____ % |
| 29. Wholesale Trade | _____ % |
| 30. Retail Food Stores | _____ % |
| 31. Retail Gasoline Service Stations | _____ % |
| 32. All Other Retail | _____ % |
| <hr/> | |
| Services | |
| 33. Banking | _____ % |
| 34. Other Finance | _____ % |
| 30. Insurance Agents & Brokers | _____ % |
| 35. Retail Gasoline Service Stations | _____ % |
| 36. Real Estate | _____ % |
| 37. All Other Finance, Ins. & Real Estate | _____ % |
| 38. Hotels & Other Lodging Places | _____ % |
| 39. Medical & Legal Services | _____ % |
| 40. Educational Services | _____ % |
| 41. All Other Services | _____ % |
| <hr/> | |
| Transportation | |
| 42. Railroads | _____ % |
| 43. Trucking & Warehousing | _____ % |
| 44. All Other Transportation | _____ % |
| 44a. Company-Owned Transportation | _____ % |
| <hr/> | |
| Communications & Utilities | |
| 45. Communications | _____ % |
| 46. Electric Companies & Systems | _____ % |
| 47. Gas Companies & Systems | _____ % |
| 48. Water & Sanitary Services | _____ % |
| <hr/> | |
| Final Payments | |
| 49. Wages & Salaries | _____ % |
| 50. Local Government (taxes) | _____ % |
| 51. State Government (taxes) | _____ % |
| 52. Federal Government (taxes) | _____ % |
| 53. Profits, Retained Earnings | _____ % |
| 54. Depreciation Allowance | _____ % |
| Typical Dollar of Expenses | <u>\$1.00</u> |

9. What was your average yearly expenditure for capital goods over the period 1973-1975?
 (to the nearest thousand) _____

10. By what dollar amount was your *potential* output, or capacity, increased as a result of this expenditure?
 (The figure we want is the *average* annual increase in capacity over the three years covered by question 9.)
 Average increase in capacity _____

11. How much of this average yearly investment was for:

- a) expansion \$ _____
- b) replacement \$ _____
- Total* \$ _____ (From question 9)

12. What percent of the *replacement* capital goods purchased by your establishment were produced.

- a) in West Virginia _____%
- b) outside of West Virginia _____%
- Total* _____100%

13. What percent of the *expansion* capital goods purchased by your establishment produced by firms located...

- a) in West Virginia _____%
- b) outside of West Virginia _____%
- Total* _____100%

14. What percent of your expenditures on expansion and replacement capital can be attributed to the following *West Virginia* sectors:

| <u>Sector</u> | Expansion Capital | Replacement Capital |
|----------------------------------------|----------------------|------------------------|
| 5. Mining (other than coal) | | |
| Contractors | | |
| 6. General Contractors (building) | | |
| 7. General Contractors (non-building) | | |
| 8. Special Trade Contractors | | |
| Manufacturing | | |
| 14. Logging & Sawmills | | |
| 15. Furniture & Other Wood Fabrication | | |
| 20. Stone & Clay Products | | |
| 21. Primary Metal Products | | |
| 22. Fabricated Metal Products | | |
| 23. Machinery (except electrical) | | |
| 24. Electrical Machinery & Apparatus | | |
| 25. Transportation Equipment | | |
| 26. Instruments & Related Products | | |
| 27. All Other Manufacturing | | |
| Wholesale and Retail Trade | | |
| 29. Wholesale Trade | | |
| 32. Retail Trade | | |
| Total | 100% | 100% |

15. What percent of your total sales in 1975 were made from inventory accumulated in 1974 or earlier?
 _____%

16. What percent of your total production in 1975 was accumulated in inventory to be sold in 1976 or later?
 _____%

Regional Research Institute West
Virginia University
West Virginia Interindustry Relations Study
Business Questionnaire
(for year ending December 31, 1975)

Establishment Code Number _____

1. Name of Establishment _____

2. Address _____

3. Respondent and Title _____

4. Principal Products or Services (and % of total sales)

- | | | | |
|----------|---------|----------|---------|
| 1. _____ | _____ % | 4. _____ | _____ % |
| 2. _____ | _____ % | 5. _____ | _____ % |
| 3. _____ | _____ % | 6. _____ | _____ % |

5. What was your average monthly employment in 1975? _____

6. What were your total sales in 1975 (to the nearest thousand)? _____

7. How much of a *typical* dollar of your establishment's sales went to the following sectors:

| Sector | | Percent From WEST VIRGINIA Sectors |
|----------------------------------------------|---------------|------------------------------------------|
| <u>Agriculture and Extractive Industries</u> | | |
| 1. Agriculture | | _____ % |
| 2. Coal Mines (underground) | | _____ % |
| 3. Coal Mines (strip and auger) | | _____ % |
| 4. Petroleum & Natural Gas | | _____ % |
| 5. All Other Mining | | _____ % |
| <u>Contractors</u> | | |
| 6. General Contractors (building) | | _____ % |
| 7. General Contractors (non-building) | | _____ % |
| 8. Special Trade Contractors | | _____ % |
| <u>Manufacturing</u> | | |
| 9. Food & Kindred Products (meats) | | _____ % |
| 10. Food & Kindred Products (dairies) | | _____ % |
| 11. Food & Kindred Products (bakeries) | | _____ % |
| 12. Food & Kindred Products (beverages) | | _____ % |
| 13. Apparel & Accessories | | _____ % |
| 14. Logging & Sawmills | | _____ % |
| 15. Furniture & Other Wood Fabrication | | _____ % |
| 16. Printing & Publishing | | _____ % |
| 17. Chemicals | | _____ % |
| 18. Petroleum | | _____ % |
| 19. Glass | | _____ % |
| 20. Stone & Clay Products | | _____ % |
| 21. Primary Metal Products | | _____ % |
| 22. Fabricated Metal Products | | _____ % |
| 23. Machinery (except electrical) | | _____ % |
| 24. Electrical Machinery & Apparatus | | _____ % |
| 25. Transportation Equipment | | _____ % |
| 26. Instruments & Related Products | | _____ % |
| 27. All Other Manufacturing | | _____ % |
| <u>Wholesale and Retail Trade</u> | | |
| 28. Eating and Drinking Establishments | | _____ % |
| 29. Wholesale Trade | | _____ % |
| 30. Retail Food Stores | | _____ % |
| 31. Retail Gasoline Service Stations | | _____ % |
| 32. All Other Retail | | _____ % |
| <u>Services</u> | | |
| 33. Banking | | _____ % |
| 34. Other Finance | | _____ % |
| 30. Insurance Agents & Brokers | | _____ % |
| 35. Retail Gasoline Service Stations | | _____ % |
| 36. Real Estate | | _____ % |
| 37. All Other Finance, Ins. & Real Estate | | _____ % |
| 38. Hotels & Other Lodging Places | | _____ % |
| 39. Medical & Legal Services | | _____ % |
| 40. Educational Services | | _____ % |
| 41. All Other Services | | _____ % |
| <u>Transportation</u> | | |
| 42. Railroads | | _____ % |
| 43. Trucking & Warehousing | | _____ % |
| 44. All Other Transportation | | _____ % |
| 44a. Company-Owned Transportation | | _____ % |
| <u>Communications & Utilities</u> | | |
| 45. Communications | | _____ % |
| 46. Electric Companies & Systems | | _____ % |
| 47. Gas Companies & Systems | | _____ % |
| 48. Water & Sanitary Services | | _____ % |
| <u>Final Sales</u> | | |
| 49. Households | | _____ % |
| 50. Local Government (taxes) | | _____ % |
| 51. State Government (taxes) | | _____ % |
| 52. Federal Government (taxes) | | _____ % |
| Typical Dollar of Sales | <u>\$1.00</u> | |

7a. What per cent of your total sales typically pass through a wholesaler? _____