Appendix A
American Samoa Input-Output Table

1. Introduction

The 2002 American Samoa input-output table, which is the methodological centerpiece of this study, serves two purposes. First, through a systematic accounting of transactions among industries, government, households, and other sectors of final demand (investment, exports, and imports), the input-output table describes the structure of the American Samoa economy. As a set of accounts, the input-output table provides important measures of economic activity, such as Gross Domestic Product. Second, the input-output data provide the factual basis for estimating output, income, and employment multipliers. Used in economic impact analyses, multipliers estimate the total change in production, labor earnings, and jobs in the economy resulting from a given change in economic activity, such as an increase in tuna cannery exports or federal government grants and expenditures.

The rest of this appendix, which is divided into four major parts, describes the input-output table and how it is used in this study. The first two parts discuss input-output definitions and conventions and the construction of the input-output table. The third section describes the 2002 American Samoa input-output table. Also discussed in this part are the adjusted direct coefficients table and the adjusted inverse coefficients table, which constitute the input-output model. The input-output table (Table A-2), the adjusted direct coefficients table (Table A-3), and the adjusted inverse coefficients table (Table A-4) are found at the end of the appendix. The final section illustrates how the input-output model is used to estimate the impact of the fish processing industry on American Samoa employment.

2. Definitions and Conventions

Base Year

The input-output table is estimated for calendar year 2002. This year is selected because it is the latest year for which there is complete information on the American Samoa economy. To some readers, an input-output table for 2002 may seem outdated. With respect to the levels of activity in the American Samoa economy, this is certainly true. But the age of the table should be judged in light of the use to which it is put. For applications that make use of the input-output coefficients, such as impact analysis, the 2002 estimates should remain useful for a number of years, since evidence with other input-output tables indicates that these coefficients are relatively stable over time (Conway, 1977, and Conway, 1980).

Sectors

The American Samoa input-output table identifies fifteen industrial groups (agriculture, fishing, and mining; construction; fish processing; other manufacturing; wholesale trade; retail trade; transportation and warehousing; information; financial activities; professional and business services; educational and healthcare services; accommodation; food services and drinking places;

other services; and other government authorities). In addition, there are six components of final demand (personal consumption expenditures; private investment; American Samoa government expenditures; other federal government expenditures; visitor expenditures; and other exports). Finally, there are three final payment sectors (labor income, which is divided into wage and salary disbursements, proprietors' income, and other labor income; other value added; and imports).

Four government authorities are included as part of the industrial sector: American Samoa Telecommunications, which is part of information; Lyndon B. Johnson Hospital, which is part of educational and healthcare services; American Samoa Power Authority, which is part of other government authorities; and American Samoa Community College, which is also part of other government authorities.

Following are brief definitions of the input-output sectors. The North American Industrial Classification System (NAICS) code is shown in parentheses for each industry:

1. Agriculture, fishing, and mining (11, 21). Value of products for commercial sales and the imputed value of products for self-consumption.

2. Construction (23). Value of new construction put in place and maintenance and repair. Output covers private and public construction by local and non-local contractors.

3. Fish processing (3117). Value of sales.

4. Other manufacturing (other 31, 32-33). Value of sales.

5. Wholesale trade (42). Value of the difference between wholesale sales and the cost of goods purchased for resale (i.e., the value of the wholesale margin).

6. Retail trade (44-45). Value of the difference between retail sales and the cost of goods purchased for resale (i.e., the value of the retail sales margin).

7. Transportation and warehousing (48-49). Value of revenue.

8. Information (51). Value of revenue.

9. Financial activities (52-53). Value of operating revenue less interest expenses for financial institutions. Value of premiums received less value of benefits paid for insurance companies. Value of revenue from selling, renting, and managing property for real estate establishments.

10. Professional and business services (54-56). Value of revenue.

11. Educational and healthcare services (other 61, 62). Value of revenue.

12. Accommodation (721). Value of revenue.

13. Food and drinking places (722). Value of revenue.

14. Other services (71, 81). Value of revenue.

15. Other authorities (22, part 61). Value of revenue.

16. Personal consumption expenditures. Value of goods and services purchased for personal use.

17. Private investment. Value of private capital expenditures for housing, nonresidential structures, software, and equipment. Also included is the value of the change in private inventories.

18. American Samoa government expenditures. Value of operating and capital expenditures by the American Samoa government, including expenditures funded by federal government grants.

19. Other federal government expenditures. Value of operating and capital expenditures by the U.S. federal government, including grants to the government authorities.

20. Visitor expenditures. Value of expenditures by tourists, business travelers, and other visitors.

21. Other exports. Value of exported goods and services.

22. Labor income. Value of wage and salary disbursements, proprietors' income, and other labor income.

23. Other value added. Value of rent, net interest payments, indirect business taxes, capital consumption allowance, and profits.

24. Imports. Value of imported goods and services.

Transactions on Current and Capital Account

Transactions in the input-output table cover expenditures on both current and capital account. However, the transactions among industries are on current account only. Viewing them from the standpoint of purchases, these transactions represent the annual operating expenses of industry.

The purchases of capital goods by the private sector are shown in the investment column of final demand. They include the value of the additions to housing, plant, software, and equipment that are charged to fixed asset accounts. In the accounting of current production costs, only the annual capital consumption allowance (the current depreciation charge for the services of capital) is considered to be a purchased input. The capital consumption allowance is shown as part of other value added.

Producers' Prices

Input-output transactions are valued at producers' prices. Each transaction represents the revenue earned by the producer and not the cost incurred by the purchaser. To arrive at purchasers' prices, it would be necessary to add the value of trade and transportation margins to producers' prices.

According to input-output accounting conventions, the costs of distributing a commodity are shown as direct sales of services from trade (wholesale trade and retail trade) and transportation services (trucking and warehousing, water transportation, air transportation, and miscellaneous transportation services) to the sector purchasing the commodity. For example, in the American Samoa input-output table, the large purchase by households from retail trade is the mark-up earned by retail establishments acting as intermediaries between producers and consumers.

As a consequence of the producers' price convention, input-output tables do not literally trace the flows to and from the trade industry. If the buying and reselling of commodities by trade establishments were shown, one would lose the valuable information on the linkages between producers and consumers, since virtually all commodities would then flow from a single source, namely trade.

3. Construction of the Input-Output Table

Sectoring Plan

The initial step in building the American Samoa input-output table entails drawing up a sectoring plan. Choosing the number of sectors for the table entails an assessment of the trade-off between the usefulness of a more disaggregated table and the availability and reliability of detailed input-output information. The sectoring plan also attempts to highlight the important basic activities in the American Samoa economy, such as fish processing.

Control Totals, Labor Income, and Employment

Control totals refer to the total expenditures and sales of each industry (e.g., the total input and output of fish processing). Control totals also include the total value of each final demand sector (e.g., total personal consumption expenditures) and the total value of each final payments sector (e.g., total value added). The quality of the input-output table depends in large part upon the accuracy of the control total estimates. With the exception of agriculture, fishing, and mining and other government authorities, the control totals for each industry, final demand sector, and final payments sector were obtained directly from two published sources: *2002 Economic Census of Island Areas: American Samoa* and "Annual Nominal and Constant Dollar Estimates of Gross Domestic Product in American Samoa, 1999 to 2005" (Rubin, 2007).

A reliable input-output model also requires accurate estimates of income and employment by sector. The economic census provided estimates of wages and salaries, payroll employment, and proprietors for most of the industries. Other related information came from the agricultural and population censuses and the annual statistical yearbooks. Payroll and employment data were in turn used to develop estimates of labor income and value added by sector.

Intersectoral Transactions

Some input-output tables, such as the Washington input-output table (Bourque and Conway, 1977) have relied upon surveys of industry and government to obtain information on the transactions among the sectors of the economy. The American Samoa input-output table benefited greatly from information regarding the distribution of industry sales published in the 2002 economic census. The input-output table also made use of other published data, knowledge of the markets for particular goods and services, and U.S. input-output data.

On occasion, there were contradictory estimates of particular intersectoral transactions, necessitating a search for additional information. In a few instances, a reconciliation of conflicting information was not possible, and the estimates were made judgmentally.

Accuracy

There is no way of knowing for sure the degree of accuracy of the American Samoa input-output table. Nevertheless, since the table is largely constructed from data published in the economic census and the Gross Domestic Product (GDP) accounts, which appear to be reasonably accurate, the quality of the input-output estimates is deemed sufficient for the purpose of this study.

One test of the validity of the data published in the economic census and the GDP accounts is their ability to fit compatibly within the two-way accounting system of the input-output table. For example, is the estimate of total exports derived from the sales data reported in the economic census in line with the estimate of total exports reported in the GDP accounts? In general, the input-output table was able to fully incorporate the data from these two sources of information without creating any substantial problem in ultimately balancing the input-output table.

Of course, there is always room for improving the input-output estimates. The next study would benefit from a more comprehensive survey of businesses, government, and households to obtain more detailed information on sales and purchases. Such an effort would require a substantial investment of time and money. In the meantime, users of the current input-output table should keep in mind its potential shortcomings.

4. American Samoa Input-Output Table

Input-Output Table

As previously noted, the American Samoa input-output table for 2002 is shown in Table A-2 at the end of this appendix. Also called the transactions table, the input-output table shows the purchases and sales of private and public sectors in the American Samoa economy. Transactions are measured in millions of dollars.

Sectors listed across the top of the table are purchasers of inputs. Sectors listed down the left-hand side of the table are sellers of output. Numbers down a column are the 2002 purchases of inputs from the sectors named at the left that are required to produce the output of the sector named at the top. Conversely, numbers across a row are the sales from the sector named at the

left to the sectors named at the top. According to input-output accounting conventions, total purchases (input) equals total sales (output) for each industrial sector.

Table A-2 also shows employment (wage and salary employment and proprietors) by sector. Although employment is not part of the input-output table, it is an important variable in the input-output model.

As shown in the input-output table, transactions occur among industries, the final demand sectors, and the final payments sectors of the American Samoa economy. More specifically, industries sell their products to other local industries and the sectors of final demand (consumption expenditures, investment, government expenditures, visitor expenditures, and other exports). Industries purchase their inputs to production from other local industries and the final payments sectors (labor income, other value added, and imports).

As an example, consider the transactions of the fish processing industry. In 2002, its total output (and thus its total input) was $503.4 million, most of which was exported ($438.3 million). To meet its input requirements, the fish processing industry made purchases amounting to $0.7 million from construction for maintenance and repair and $1.6 million from information primarily for telecommunications services. Including a $60.4 million intra-industry transaction, total purchases from American Samoa businesses came to $90.9 million. The industry paid $48.2 million in wages and salaries to its 5,538 employees and $305.2 million for imported goods and services, mostly tuna. Valued added in fish processing amounted to $107.3 million.

In addition to showing detailed industry sales and purchases, the input-output table has an estimate of American Samoa Gross Domestic Product (GDP), which can be calculated in two ways:

$$GDP = C + I + G + X - M$$

or

$$GDP = VA$$

where

C = personal consumption expenditures
I = private investment
G = American Samoa and other federal government expenditures
X = visitor expenditures and other exports
M = imports
VA = total value added for all sectors

According to the input-output table, GDP or total value added in 2002 was $481.4 million:

$$GDP = 331.5 + 43.7 + 150.3 + 38.9 + 4.3 + 444.7 - 532.0 = 481.4$$

$$GDP = VA = 481.4$$

This is the estimate of GDP reported in the American Samoa Gross Domestic Product accounts.

Adjusted Direct Coefficients Table

Table A-3 is the adjusted direct coefficients table. Each direct coefficient is the direct input required from the sector named at the left by the sector named at the top as a fraction of the purchasing sector's total input (output). The direct coefficient for the purchase of maintenance and repair by fish processing is 0.00139, which is calculated by dividing $0.7 million by $503.4 million.

The direct coefficients, along with the other coefficients shown in Table A-3 (e.g., the employment coefficients, which measure jobs required in an industry per million dollars of output) make up the parameters of the input-output model.

The direct coefficients of three sectors have been adjusted in an attempt to provide more precise calculations of the impacts estimated in this study:

1. Agriculture, fishing, and mining. Agricultural output includes the imputed value of production for self-consumption, which presumably would be unaffected by a change in the market economy, such as the shutdown of a tuna cannery. Thus, in order to avoid overestimating the indirect impacts on agriculture, agricultural production for self-consumption should be removed from the input-output table prior to calculating the direct coefficients.

   Effectively eliminating this activity from consideration in economic impacts entails reducing agricultural output and input, agricultural proprietors' income, and agricultural sales to households by $38.0 million, the imputed value of agricultural production for self-consumption. Thus, the adjusted direct coefficient for the purchase of wholesale trade services by agriculture, fishing, and mining is 0.01154 (=0.3/[64.0-38.0]), while the adjusted labor income direct coefficient is 0.46923 (=[50.2-38.0]/[64.0-38.0]). The adjusted employment coefficient is 20.000 (=520/[64.0-38.0]).

2. Fish processing. Of the $49.4 million in wages and salaries and other labor income earned by employees in the fish processing industry, an estimated $9.0 million were remitted to places outside of American Samoa. This implies that the input-output model must show that, while labor income in fish processing is still $49.4 million, the $9.0 million for remittances has no indirect impact on the local economy.

   This is accomplished in the following way: while leaving the labor income coefficient (labor income in millions of dollars per job) unchanged, reduce fish processing labor income by $9.0 million before calculating the adjusted labor income direct coefficient (labor income per dollar of output). The labor income coefficient is 0.00892 (=49.4/5538), in which the $49.4 million in labor income includes the $9.0 million in remittances. The adjusted labor income direct coefficient is 0.08025 (=[49.4-9.0]/503.4), which incorporates

the deduction for remittances. The fish processing employment coefficient is 11.001 (=5538/503.4).

3. Consumption and government expenditures. Calculation of the adjusted direct coefficients for the consumer/government sector (the last column of the adjusted direct coefficients table) involves two considerations: the incorporation of the government sector into the input-output model; and the choice of the income variable for the coefficients' divisor.

   Input-output models typically treat households like an industry, thereby incorporating the impact on the economy of labor earnings and consumer spending. This is termed a Type II input-output model.

   A Type III model, which yields somewhat higher multipliers, also includes local government as an endogenous sector. This inclusion is warranted to the extent that government is supported by locally generated revenues, such as taxes and fees. The American Samoa input-output model combines consumer spending with that part of American Samoa government expenditures supported by local taxes and fees. In 2002, it is estimated that 41.5 percent of government expenditures were supported by locally generated revenue. The remaining part was financed by federal government funds.

   With regard to the second consideration, various income divisors have been used to determine the direct coefficients in the consumer or consumer/government sector of an input-output model, among them total value added, personal income, and total labor income. In this study, the divisor is total labor income plus transfer payments. This concept of income presumes that transfer payments (principally, government payments for retirement and disability), like proprietors' income from agricultural production for self-consumption, are unaffected by changes in the economy. This choice for the income divisor has two beneficial features for this analysis. It permits one to estimate the impact of transfer payments on the American Samoa economy without double-counting. It also results in middle-range estimates of multipliers. Using labor income as the income divisor would result in higher multipliers, while using personal income would result in lower multipliers.

   The income divisor for the consumer/government sector is further modified to take into account the exclusion of agricultural production for self-consumption and remittances by fish processing workers from the input-output model, as shown below.

   The adjustments to the direct coefficients for the consumer/government sector is illustrated with the coefficient for agriculture, fishing, and mining. The estimated coefficient is 0.06942 (=[57.1-38.0+0.2]/[285.6+39.4-38.0 -9.0]), where $57.1 million is the total value of household expenditures for agricultural and fish products, $38.0 million is the imputed value of

agricultural products for self-consumption, $0.2 million is the part of American Samoa government purchases for agricultural and fish products supported by local taxes and fees, $285.6 million is total labor income, $39.4 million is total transfer payments, as reported in the Gross Domestic Product accounts, and $9.0 million is fish processing industry remittances.

The input-output model also requires employment and labor income coefficients for the government sector. The employment coefficient is defined with respect to the above income divisor. The employment coefficient is 6.234 (=1733/[285.6+39.4-38.0-9.0]). The labor income coefficient is the average earnings of government workers in 2002. The estimate is 0.01893 (=32.8/1733). In both calculations, 1,733 is the estimated number of American Samoa government employees supported by local revenue.

The adjustments to the direct coefficients are made for two reasons. First, the adjustments are required to eliminate double-counting. Second, the adjustments permit one to break down the American Samoa economy into its basic components (i.e., activities that bring money into the economy and support jobs through the multiplier or re-spending process): fish processing; visitor expenditures; other exports; American Samoa government supported by federal funds; private investment; transfer payments; and other federal government expenditures. In other words, with this formulation of the input-output model, one can assign all output, employment, labor income, and value added in the American Samoa economy to one of these sources. As a result, it is possible to express the relatively importance of each basic activity to the economy.

Adjusted Inverse Coefficients Table

Table A-4 is the table of adjusted inverse coefficients. Derived from the adjusted direct coefficients, the adjusted inverse coefficients represent the core of the American Samoa input-output model.

The adjusted inverse coefficients show the value of output in dollars from the sector named at the left required directly and indirectly to support a dollar of output delivered from the sector named at the top. For example, to support a dollar of fish processing output, the retail trade inverse coefficient of 0.03225 indicates that about 3.2 cents of output is required directly and indirectly from retail trade. The adjusted direct coefficients table shows that the direct requirement by fish processing from retail trade is approximately 0.3 cents (0.00258). This implies that the indirect requirement from retail trade amounts to 2.9 (=3.2-0.3) cents. Much of the indirect impact on retail trade stems from the spending of fish processing employee wages and salaries for consumer goods and services.

The inverse coefficients table is therefore a table of output multipliers, representing the repercussions on the output of each industrial sector from changes in the output of a given sector. The labor income row of the inverse coefficients table gives the labor income multiplier for each sector. Employment multipliers are derived from the output multipliers and corresponding labor coefficients, as shown in the following illustration.

5. Fish Processing Output and Employment Impact

A central issue in this study is the importance of the fish processing industry to the American Samoa economy. One measure of its importance is the number of jobs in American Samoa directly and indirectly supported by the tuna canneries. Table A-1 shows the calculations of the output and employment impacts of fish processing exports. Note that each of the numbers in the calculation can be found in the input-output table (Table A-2), the adjusted direct coefficients table (Table A-3), or the adjusted inverse coefficients table (Table A-4).

In 2002, tuna cannery exports amounted to $438.3 million, which represented 87.1 percent of total fish processing output ($503.4 million). An estimated 4,822 (=5538[438.3/503.4) workers earning $43.0 (=4822[0.00892]) million in labor income were required to produce the exports. In the terminology of impact analysis, these numbers are called the direct impact.

Table A-1

Fish Processing Output and Employment Impact, 2002
Based on Exports of $438.3 Million

	Inverse Coefficients	Output Impact[1] (mils. $)	Employment Coefficients	Employment Impact
Agriculture, fishing, and mining	0.01316	5.77	20.00	115
Construction	0.00713	3.13	13.53	42
Fish processing	1.13883	499.15	11.00	5,491
Other manufacturing	0.00026	0.11	112.00	13
Wholesale trade	0.00716	3.14	28.39	89
Retail trade	0.03225	14.14	37.23	526
Transportation and warehousing	0.01345	5.89	50.71	299
Information	0.01310	5.74	15.72	90
Financial activities	0.02418	10.60	8.77	93
Professional and business services	0.04489	19.68	14.42	284
Educational and healthcare services	0.01267	5.56	24.79	138
Accommodation	0.00006	0.03	44.00	1
Food services and drinking places	0.01154	5.06	28.13	142
Other services	0.01478	6.48	19.18	124
Government authorities	0.04223	18.51	9.71	180
Labor income/Government employment[2]	0.17947	78.66	6.23	490
Total		602.97[3]		8,118

[1]The output impact is calculated as the product of the corresponding inverse coefficient and the value of fish processing exports, which is $438.3 million.

[2]The output impact is the estimated labor income generated in the American Samoa economy by the fish processing industry. The employment impact is the number of American Samoa government jobs supported by the industry. The government job impact is based on the labor income impact.

[3]The total output impact excludes labor income.

The next step in the analysis is to estimate the total output impact, taking into account the multiplier effect. The fish processing adjusted inverse coefficients from Table A-4 are given in the first column of Table A-1. These output multipliers are each multiplied by the value of tuna cannery exports to obtain the direct and indirect impact on the output of the industries named at the left. Thus, tuna cannery exports indirectly generated $5.8 (=0.01316[438.3]) million of output in agriculture, fishing, and mining, where 0.01316 is the corresponding adjusted inverse coefficient. The total impact on fish processing output was $499.2 (=1.13883[438.3]) million, which represented nearly all of the industry's output in 2002. The impact of fish processing exports on the total industrial output of the American Samoa economy amounted to $603.0 million.

The employment impact on a given industry is simply the output impact multiplied by the industry's employment coefficient. On average 20.00 workers (wage and salary employees and proprietors) were required to produce one million dollars of agricultural, fishing, and mining output in 2002 Thus, the fish processing industry indirectly supported 115 (=20.00[5.77]) jobs in agriculture, fishing, and mining. As shown in Table A-1, the greatest job impact outside of fish processing occurred in retail trade, where 526 (=37.23[14.14]) jobs were indirectly supported by the canneries. Altogether, the fish processing industry accounted for an estimated 8,118 jobs, which represented 45.6 percent (=8118/17798) of total American Samoa employment.

The output multiplier implied by this analysis is the total output generated in the economy per dollar of fish processing exports. Thus, the output multiplier is 1.38 (=603.0/438.3). The employment multiplier is the total employment supported in the economy per export job in the tuna canneries. The implied employment multiplier is 1.68 (=8118/4822).

According to the 1977 American Samoa input-output study, the fish processing employment multiplier was 1.55. Thus, it appears that the multiplier has risen over time, but this is not necessarily the case. The 2002 and 1977 input-output models have slightly different specifications. In particular, the 2002 model has been reformulated in two ways that has affected the size of its multipliers. The denominator used to calculate the direct coefficients in the consumer/government sector is now labor income plus transfer payments (not just labor income, as in the 1977 model), which effectively reduces the size of the multipliers. On the other hand, the inclusion of the part of government expenditures supported by local appropriations as an endogenous variable in the 2002 input-output model has the effect of raising the multipliers. In general, the difference between the 1977 and 2002 employment multipliers for the fish processing industry, whether real or due to the reformulation of the model, is not large enough to be considered significant. It certainly has no bearing on the general conclusions drawn from the input-output analysis conducted for this study.

References

Bourque, P. J. and R. S. Conway, Jr. *The 1972 Washington Input-Output Study*. Seattle: Graduate School of Business Administration, University of Washington, 1976.

Conway, R. S., Jr. "Changes in Regional Input-Output Coefficients and Regional Forecasting." *Regional Science and Urban Economics* (153-171), 1980

Conway, R. S., Jr. "The Stability of Regional Input-Output Multipliers." *Environment and Planning* (197-214), 1977.

Department of Commerce, American Samoa. *American Samoa Statistical Yearbook*, annual issues.

Department of Treasury, American Samoa. *American Samoa Government Fiscal Year 2002 Final Budget*, 2003.

Department of Treasury, American Samoa. *Territory of American Samoa Basic Financial Statements*, September 30, 2002.

Malcolm D. McPhee and Associates. "An Economic Development Strategy for American Samoa," September 1981.

Rubin, M. "Annual Nominal and Constant Dollar Estimates of Gross Domestic Product in American Samoa, 1999-2005," International Programs Center, Population Division, U.S. Bureau of the Census, September 6, 2007.

U.S. Bureau of Economics Analysis. "Benchmark Input-Output Accounts of the United States, 1997." *Survey of Current Business* (19-109), December 2002,

U.S. Bureau of Labor Statistics. *2005 Household Income and Expenditure Survey: American Samoa (Preliminary Report)*, unpublished.

U.S. Bureau of the Census. *2002 Economic Census of Island Areas: American Samoa*, April 2005.

U.S. Bureau of the Census. *Consolidated Federal Funds Report: Fiscal Year 2002*, www.census.gov.

U.S. Department of Agriculture. *2003 Census of Agriculture: American Samoa*, April 2005.

U.S. Department of Labor. *Economic Report: Minimum Wage in American Samoa, 2007*, May 2007.

Table A-2

American Samoa Input-Output Table, 2002
Millions of Dollars

		1	2	3	4	5	6
		Agriculture, fishing, and mining	Construction	Fish processing	Other manufacturing	Wholesale trade	Retail trade
1	Agriculture, fishing, and mining (11,21)	0.5	0.0	0.0	0.0	0.0	0.0
2	Construction (23)	0.1	0.1	0.7	0.0	0.0	0.2
3	Fish processing (3117)	0.0	0.0	60.4	0.0	0.0	0.0
4	Other manufacturing (other 31,32-33)	0.0	0.0	0.0	0.0	0.0	0.0
5	Wholesale trade (42)	0.3	1.1	0.8	0.0	0.1	0.3
6	Retail trade (44-45)	0.1	1.8	1.3	0.0	0.0	0.2
7	Transportation and warehousing (48-49)	0.1	0.4	2.1	0.0	1.1	0.6
8	Information (51)	0.1	0.5	1.6	0.0	0.2	0.6
9	Financial activities (52-53)	0.1	0.9	0.7	0.0	0.9	1.8
10	Professional and business services (54-56)	0.1	11.1	8.4	0.0	3.0	5.4
11	Educational and healthcare services (other 61,62)	0.0	0.0	0.0	0.0	0.0	0.1
12	Accommodation (721)	0.0	0.0	0.0	0.0	0.0	0.0
13	Food services and drinking places (722)	0.0	0.0	0.0	0.0	0.0	0.0
14	Other services (71,81)	0.1	1.3	3.0	0.0	0.1	0.4
15	Government authorities (22,part 61)	0.2	0.2	11.9	0.0	0.2	2.6
16	Total intermediate input	1.7	17.4	90.9	0.0	5.6	12.2
17	Value added	54.3	12.3	107.3	0.4	5.5	31.1
18	Labor income	50.2	9.6	49.4	0.3	3.9	17.5
19	Wage and salary disbursements	3.2	8.5	48.2	0.1	3.6	14.6
20	Proprietors' income	46.8	0.9	0.0	0.2	0.2	2.5
21	Other labor income	0.2	0.2	1.2	0.0	0.1	0.4
22	Other value added	4.1	2.7	57.9	0.1	1.6	13.6
23	Imports	8.0	14.5	305.2	0.1	1.3	6.5
24	Total input	64.0	44.2	503.4	0.5	12.4	49.8
	Employment	520	598	5538	56	352	1854
	Wage and salary employees	280	563	5538	12	345	1628
	Proprietors	240	35	0	44	7	226

Table A-2

American Samoa Input-Output Table, 2002
Millions of Dollars

		7	8	9	10	11	12
		Transportation and warehousing	Information	Financial activities	Professional and business services	Educational and healthcare services	Accommodation
1	Agriculture, fishing, and mining (11,21)	0.0	0.0	0.0	0.0	0.2	0.0
2	Construction (23)	0.0	0.1	0.5	0.1	0.2	0.0
3	Fish processing (3117)	0.0	0.0	0.0	0.0	0.0	0.0
4	Other manufacturing (other 31,32-33)	0.0	0.0	0.0	0.0	0.0	0.0
5	Wholesale trade (42)	0.1	0.1	0.1	0.4	0.4	0.0
6	Retail trade (44-45)	0.1	0.0	0.1	0.2	0.1	0.1
7	Transportation and warehousing (48-49)	2.5	0.1	0.0	0.4	0.3	0.0
8	Information (51)	0.3	1.6	0.3	1.3	0.2	0.0
9	Financial activities (52-53)	0.5	0.3	1.0	1.4	1.0	0.0
10	Professional and business services (54-56)	1.9	0.4	0.5	1.5	1.5	0.0
11	Educational and healthcare services (other 61,62)	0.0	0.0	0.1	0.2	0.2	0.0
12	Accommodation (721)	0.0	0.0	0.0	0.0	0.0	0.0
13	Food services and drinking places (722)	0.0	0.0	0.0	0.0	0.3	0.1
14	Other services (71,81)	0.2	0.2	0.8	0.5	0.3	0.0
15	Government authorities (22,part 61)	0.2	0.3	0.6	0.8	0.6	0.1
16	Total intermediate input	5.8	3.1	4.0	6.8	5.3	0.3
17	Value added	9.2	8.7	23.5	36.8	17.0	0.5
18	Labor income	6.3	4.4	6.4	18.2	15.6	0.3
19	Wage and salary disbursements	4.2	3.9	4.9	12.4	13.8	0.1
20	Proprietors' income	2.0	0.2	1.4	5.5	1.1	0.2
21	Other labor income	0.1	0.3	0.1	0.3	0.7	0.0
22	Other value added	2.9	4.3	17.1	18.6	1.4	0.2
23	Imports	0.5	6.9	9.8	18.8	8.6	0.2
24	Total input	15.5	18.7	37.3	62.4	30.9	1.0
	Employment	786	294	327	900	766	44
	Wage and salary employees	608	290	298	806	739	26
	Proprietors	178	4	29	94	27	18

Table A-2

American Samoa Input-Output Table, 2002
Millions of Dollars

		13	14	15	16	17	18
		Food services and drinking places	Other services	Government authorities	Total intermediate demand	Personal consumption expenditures	Private investment
1	Agriculture, fishing, and mining (11,21)	0.5	0.0	0.1	1.3	57.1	0.0
2	Construction (23)	0.1	0.0	0.2	2.3	1.1	24.0
3	Fish processing (3117)	0.1	0.0	0.0	60.5	2.5	0.0
4	Other manufacturing (other 31,32-33)	0.0	0.0	0.0	0.0	0.4	0.0
5	Wholesale trade (42)	0.8	0.4	0.5	5.4	4.3	1.2
6	Retail trade (44-45)	0.1	0.1	0.1	4.3	43.7	0.6
7	Transportation and warehousing (48-49)	0.2	1.2	0.8	9.8	4.7	0.1
8	Information (51)	0.2	0.3	0.5	7.7	7.2	0.0
9	Financial activities (52-53)	0.8	0.8	1.0	11.2	24.4	0.4
10	Professional and business services (54-56)	0.9	0.4	0.5	35.6	18.2	0.0
11	Educational and healthcare services (other 61,62)	0.0	0.1	0.2	0.9	16.2	0.0
12	Accommodation (721)	0.0	0.0	0.0	0.0	0.1	0.0
13	Food services and drinking places (722)	1.0	0.0	0.0	1.4	16.7	0.0
14	Other services (71,81)	0.1	0.2	0.4	7.6	7.2	0.0
15	Government authorities (22,part 61)	0.2	0.1	1.9	19.9	10.7	0.0
16	Total intermediate input	5.0	3.6	6.2	167.9	214.5	26.3
17	Value added	7.0	8.6	20.5	342.7	38.7	0.0
18	Labor income	4.2	3.9	9.3	199.5	0.0	0.0
19	Wage and salary disbursements	3.5	2.7	8.4	132.1	0.0	0.0
20	Proprietors' income	0.6	1.1	0.0	62.7	0.0	0.0
21	Other labor income	0.1	0.1	0.9	4.7	0.0	0.0
22	Other value added	2.8	4.7	11.2	143.2	38.7	0.0
23	Imports	8.3	6.1	24.4	419.2	78.3	17.4
24	Total input	20.3	18.3	51.1	929.8	331.5	43.7
	Employment	571	351	496	13453	0	0
	Wage and salary employees	510	255	496	12394	0	0
	Proprietors	61	96	0	1059	0	0

Table A-2

American Samoa Input-Output Table, 2002
Millions of Dollars

		19	20	21	22	23	24
		American Samoa government expenditures	Other federal government expenditures	Visitor expenditures	Other exports	Total final demand	Total output
1	Agriculture, fishing, and mining (11,21)	0.5	0.0	0.1	5.0	62.7	64.0
2	Construction (23)	14.8	2.0	0.0	0.0	41.9	44.2
3	Fish processing (3117)	2.1	0.0	0.0	438.3	442.9	503.4
4	Other manufacturing (other 31,32-33)	0.0	0.0	0.0	0.1	0.5	0.5
5	Wholesale trade (42)	0.5	1.0	0.0	0.0	7.0	12.4
6	Retail trade (44-45)	0.3	0.5	0.2	0.2	45.5	49.8
7	Transportation and warehousing (48-49)	0.5	0.2	0.1	0.1	5.7	15.5
8	Information (51)	3.2	0.6	0.0	0.0	11.0	18.7
9	Financial activities (52-53)	1.3	0.0	0.0	0.0	26.1	37.3
10	Professional and business services (54-56)	7.1	0.5	0.0	1.0	26.8	62.4
11	Educational and healthcare services (other 61,62)	6.0	7.8	0.0	0.0	30.0	30.9
12	Accommodation (721)	0.0	0.0	0.9	0.0	1.0	1.0
13	Food services and drinking places (722)	0.2	0.0	2.0	0.0	18.9	20.3
14	Other services (71,81)	3.4	0.0	0.1	0.0	10.7	18.3
15	Government authorities (22,part 61)	11.7	8.8	0.0	0.0	31.2	51.1
16	Total intermediate input	51.6	21.4	3.4	444.7	761.9	929.8
17	Value added	92.4	7.6	0.0	0.0	138.7	481.4
18	Labor income	79.2	6.9	0.0	0.0	86.1	285.6
19	Wage and salary disbursements	75.9	6.0	0.0	0.0	81.9	214.0
20	Proprietors' income	0.0	0.0	0.0	0.0	0.0	62.7
21	Other labor income	3.3	0.9	0.0	0.0	4.2	8.9
22	Other value added	13.2	0.7	0.0	0.0	52.6	195.8
23	Imports	6.3	9.9	0.9	0.0	112.8	532.0
24	Total input	150.3	38.9	4.3	444.7	1013.4	1943.2
	Employment	4187	158	0	0	4345	17798
	Wage and salary employees	4187	158	0	0	4345	16739
	Proprietors	0	0	0	0	0	1059

Table A-3

American Samoa Input-Output Table, 2002
Adjusted Direct Coefficients

	1	2	3	4	5	6
	Agriculture, fishing, and mining	Construction	Fish processing	Other manufacturing	Wholesale trade	Retail trade
1 Agriculture, fishing, and mining (11,21)	0.01923	0.00000	0.00000	0.00000	0.00000	0.00000
2 Construction (23)	0.00385	0.00226	0.00139	0.00000	0.00000	0.00402
3 Fish processing (3117)	0.00000	0.00000	0.11998	0.00000	0.00000	0.00000
4 Other manufacturing (other 31,32-33)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
5 Wholesale trade (42)	0.01154	0.02489	0.00159	0.00000	0.00806	0.00602
6 Retail trade (44-45)	0.00385	0.04072	0.00258	0.00000	0.00000	0.00402
7 Transportation and warehousing (48-49)	0.00385	0.00905	0.00417	0.00000	0.08871	0.01205
8 Information (51)	0.00385	0.01131	0.00318	0.00000	0.01613	0.01205
9 Financial activities (52-53)	0.00385	0.02036	0.00139	0.00000	0.07258	0.03614
10 Professional and business services (54-56)	0.00385	0.25113	0.01669	0.00000	0.24194	0.10843
11 Educational and healthcare services (other 61,62)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00201
12 Accommodation (721)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
13 Food services and drinking places (722)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
14 Other services (71,81)	0.00385	0.02941	0.00596	0.00000	0.00806	0.00803
15 Government authorities (22,part 61)	0.00769	0.00452	0.02364	0.00000	0.01613	0.05221
16 Labor income	0.46923	0.21719	0.08025	0.60000	0.31452	0.35141
Employment coefficient (jobs/$ mils.)	20.000	13.529	11.001	112.000	28.387	37.229
Wage and salary employment coefficient (jobs/$ mils.)	10.769	12.738	11.001	24.000	27.823	32.691
Proprietors coefficient (jobs/$ mils.)	9.231	0.792	0.000	88.000	0.565	4.538
Labor income coefficient ($ mils./job)	0.02346	0.01605	0.00892	0.00536	0.01108	0.00944

Table A-3

American Samoa Input-Output Table, 2002
Adjusted Direct Coefficients

	7	8	9	10	11	12
	Transportation and warehousing	Information	Financial activities	Professional and business services	Educational and healthcare services	Accommodation
1 Agriculture, fishing, and mining (11,21)	0.00000	0.00000	0.00000	0.00000	0.00647	0.00000
2 Construction (23)	0.00000	0.00535	0.01340	0.00160	0.00647	0.00000
3 Fish processing (3117)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
4 Other manufacturing (other 31,32-33)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
5 Wholesale trade (42)	0.00645	0.00535	0.00268	0.00641	0.01294	0.00000
6 Retail trade (44-45)	0.00645	0.00000	0.00268	0.00321	0.00324	0.10000
7 Transportation and warehousing (48-49)	0.16129	0.00535	0.00000	0.00641	0.00971	0.00000
8 Information (51)	0.01935	0.08556	0.00804	0.02083	0.00647	0.00000
9 Financial activities (52-53)	0.03226	0.01604	0.02681	0.02244	0.03236	0.00000
10 Professional and business services (54-56)	0.12258	0.02139	0.01340	0.02404	0.04854	0.00000
11 Educational and healthcare services (other 61,62)	0.00000	0.00000	0.00268	0.00321	0.00647	0.00000
12 Accommodation (721)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
13 Food services and drinking places (722)	0.00000	0.00000	0.00000	0.00000	0.00971	0.10000
14 Other services (71,81)	0.01290	0.01070	0.02145	0.00801	0.00971	0.00000
15 Government authorities (22,part 61)	0.01290	0.01604	0.01609	0.01282	0.01942	0.10000
16 Labor income	0.40645	0.23529	0.17158	0.29167	0.50485	0.30000
Employment coefficient (jobs/$ mils.)	50.710	15.722	8.767	14.423	24.790	44.000
Wage and salary employment coefficient (jobs/$ mils.)	39.226	15.508	7.989	12.917	23.916	26.000
Proprietors coefficient (jobs/$ mils.)	11.484	0.214	0.777	1.506	0.874	18.000
Labor income coefficient ($ mils./job)	0.00802	0.01497	0.01957	0.02022	0.02037	0.00682

Table A-3

American Samoa Input-Output Table, 2002
Adjusted Direct Coefficients

	13	14	15	16
	Food services and drinking places	Other services	Government authorities	Consumption and government expenditures
1 Agriculture, fishing, and mining (11,21)	0.02463	0.00000	0.00196	0.06942
2 Construction (23)	0.00493	0.00000	0.00391	0.02554
3 Fish processing (3117)	0.00493	0.00000	0.00000	0.01187
4 Other manufacturing (other 31,32-33)	0.00000	0.00000	0.00000	0.00144
5 Wholesale trade (42)	0.03941	0.02186	0.00978	0.01619
6 Retail trade (44-45)	0.00493	0.00546	0.00196	0.15755
7 Transportation and warehousing (48-49)	0.00985	0.06557	0.01566	0.01763
8 Information (51)	0.00985	0.01639	0.00978	0.03058
9 Financial activities (52-53)	0.03941	0.04372	0.01957	0.08957
10 Professional and business services (54-56)	0.04433	0.02186	0.00978	0.07590
11 Educational and healthcare services (other 61,62)	0.00000	0.00546	0.00391	0.06727
12 Accommodation (721)	0.00000	0.00000	0.00000	0.00036
13 Food services and drinking places (722)	0.04926	0.00000	0.00000	0.06043
14 Other services (71,81)	0.00493	0.01093	0.00783	0.03094
15 Government authorities (22,part 61)	0.00985	0.00546	0.03718	0.05576
16 Labor income	0.20690	0.21311	0.18200	0.11799
Employment coefficient (jobs/$ mils.)	28.128	19.180	9.706	6.234
Wage and salary employment coefficient (jobs/$ mils.)	25.123	13.934	9.706	6.234
Proprietors coefficient (jobs/$ mils.)	3.005	5.246	0.000	0.000
Labor income coefficient ($ mils./job)	0.00736	0.01111	0.01875	0.01893

Table A-4

American Samoa Input-Output Table, 2002
Adjusted Inverse Matrix

		1	2	3	4	5	6
		Agriculture, fishing, and mining	Construction	Fish processing	Other manufacturing	Wholesale trade	Retail trade
1	Agriculture, fishing, and mining (11,21)	1.07760	0.04109	0.01316	0.07023	0.05531	0.04990
2	Construction (23)	0.02760	1.02014	0.00713	0.02845	0.02424	0.02532
3	Fish processing (3117)	0.01100	0.00779	1.13883	0.01332	0.01048	0.00944
4	Other manufacturing (other 31,32-33)	0.00114	0.00081	0.00026	1.00138	0.00109	0.00098
5	Wholesale trade (42)	0.03264	0.04281	0.00716	0.02460	1.03095	0.02562
6	Retail trade (44-45)	0.13256	0.13322	0.03225	0.15545	0.12431	1.11520
7	Transportation and warehousing (48-49)	0.03380	0.03875	0.01345	0.03280	0.13665	0.04161
8	Information (51)	0.04017	0.04594	0.01310	0.04234	0.06094	0.04778
9	Financial activities (52-53)	0.09651	0.09784	0.02418	0.10950	0.17318	0.12105
10	Professional and business services (54-56)	0.10913	0.34462	0.04489	0.12027	0.36244	0.20451
11	Educational and healthcare services (other 61,62)	0.05511	0.04024	0.01267	0.06662	0.05369	0.05003
12	Accommodation (721)	0.00029	0.00020	0.00006	0.00035	0.00027	0.00025
13	Food services and drinking places (722)	0.05107	0.03618	0.01154	0.06186	0.04868	0.04386
14	Other services (71,81)	0.03645	0.05649	0.01478	0.03852	0.04463	0.03850
15	Government authorities (22,part 61)	0.06879	0.05485	0.04223	0.07238	0.08108	0.10892
16	Labor income	0.79409	0.56232	0.17947	0.96198	0.75676	0.68164

Table A-4

American Samoa Input-Output Table, 2002
Adjusted Inverse Matrix

		7	8	9	10	11	12
		Transportation and warehousing	Information	Financial activities	Professional and business services	Educational and healthcare services	Accommodation
1	Agriculture, fishing, and mining (11,21)	0.06575	0.03327	0.02371	0.03815	0.07262	0.04895
2	Construction (23)	0.02777	0.01974	0.02362	0.01767	0.03399	0.02026
3	Fish processing (3117)	0.01246	0.00630	0.00449	0.00723	0.01251	0.00933
4	Other manufacturing (other 31,32-33)	0.00129	0.00065	0.00047	0.00075	0.00129	0.00091
5	Wholesale trade (42)	0.03279	0.01849	0.01239	0.02075	0.03798	0.02241
6	Retail trade (44-45)	0.15398	0.07412	0.05595	0.08795	0.14951	0.20337
7	Transportation and warehousing (48-49)	1.22738	0.02491	0.01411	0.02775	0.04610	0.02740
8	Information (51)	0.06975	1.11530	0.02479	0.04744	0.04976	0.03233
9	Financial activities (52-53)	0.14853	0.07249	1.06742	0.08547	0.14080	0.08352
10	Professional and business services (54-56)	0.26844	0.08625	0.06116	1.09537	0.17230	0.09916
11	Educational and healthcare services (other 61,62)	0.06315	0.03182	0.02549	0.03965	1.06927	0.04447
12	Accommodation (721)	0.00032	0.00016	0.00012	0.00019	0.00032	1.00023
13	Food services and drinking places (722)	0.05788	0.02927	0.02086	0.03359	0.06813	0.14578
14	Other services (71,81)	0.05459	0.03128	0.03629	0.03051	0.04817	0.02817
15	Government authorities (22,part 61)	0.08785	0.05361	0.04261	0.05441	0.09054	0.15873
16	Labor income	0.89989	0.45508	0.32394	0.52179	0.89946	0.63122

Table A-4

American Samoa Input-Output Table, 2002
Adjusted Inverse Matrix

		13	14	15	16
		Food services and drinking places	Other services	Government authorities	Consumption and government expenditures
1	Agriculture, fishing, and mining (11,21)	0.06048	0.03408	0.02800	0.11705
2	Construction (23)	0.02002	0.01477	0.01503	0.04742
3	Fish processing (3117)	0.01234	0.00645	0.00491	0.02220
4	Other manufacturing (other 31,32-33)	0.00067	0.00067	0.00051	0.00231
5	Wholesale trade (42)	0.05530	0.03557	0.02015	0.04100
6	Retail trade (44-45)	0.08143	0.08174	0.05987	0.25908
7	Transportation and warehousing (48-49)	0.03464	0.09849	0.03380	0.05466
8	Information (51)	0.03551	0.04250	0.02833	0.07057
9	Financial activities (52-53)	0.10238	0.10507	0.06424	0.18250
10	Professional and business services (54-56)	0.12301	0.09977	0.06274	0.20045
11	Educational and healthcare services (other 61,62)	0.03274	0.03817	0.02884	0.11104
12	Accommodation (721)	0.00017	0.00017	0.00013	0.00058
13	Food services and drinking places (722)	1.08179	0.03002	0.02285	0.10310
14	Other services (71,81)	0.02675	1.03290	0.02382	0.06420
15	Government authorities (22,part 61)	0.04952	0.04458	1.06695	0.12063
16	Labor income	0.46611	0.46593	0.35463	1.60329