BENCHMARK I-O ACCOUNTS: CONTEXT FOR INTEGRATION AND ACCELERATION

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Benchmark I-O Accounts

I. Composition
II. Strengths
III. Weaknesses
IV. Short-Term and Long-Term Strategies for Setting Value-Added Levels
V. Questions

Composition of the Benchmark Input-Output Accounts

491 industries, 483 commodities, 13 final demand categories

Standard framework (new for 1997 Benchmark)

Supplementary tables:

- Analytical (Leontief-type)
- NIPA bridges
- Capital flow
- Employment (new)

Roles of the Benchmark

1. Set levels of GDP expenditures
2. Establish final demand / intermediate shares of commodity flow for the NIPA's
3. Provide a statistical framework for other programs

I-O Use Table (1)

		INDUSTRIES										FINAL USES (GDP)							TOTAL COMMODITY OUTPUT
		Agricultu	Mining	Construc tion	Manufac turing	Transpor tation	Trade	Finance	Services	Other	Total Intermedi Use	PCE	PFI	CBI	X	M	GOV'	GDP	
COMMODITIES	Agriculture																		
	Minerals																		
	Constructior																		
	Manufacturin																		
	Transportatio																		
	Trade																		
	Finance																		
	Services																		
	Other																		
	Noncomparab imports																		
	Total Intermediate inputs																		
VALUE ADDED	COMP																		
	IBT																		
	Other value added																		
	Total																		
TOTAL INDUSTRY OUTPUT																			

I-O Use Table (2)

		INDUSTRIES										FINAL USES (GDP)							TOTAL COMMODITY OUTPUT
		Agricultur	Mining	Construc tion	Manufac- turing	Transpor- tation	Trade	Finance	Services	Other	Total Intermedia Use	PCE	PFI	CBI	X	M	GOV	GDP	
COMMODITIES	Agriculture																		
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	Total Intermediate inputs																		
VALUE ADDED	COMP																		
	IBT																		
	Other value added																		
	Total																		

Strengths of the Benchmark:

- Broad coverage and consistent data from the economic censuses for 90 - 95% of output
- High level of detail at working level
- Commodity-flow method

However, some sectors have only limited source data coverage, for example:

- Education
- Postal service
- Air and rail transportation
- Labor, political, and religious organizations

Benchmark Detail:

Published:

- 483 commodities
- 491 industries
- 13 final uses

Working-level, unpublished:

- Approximately 8,000 commodities
- 900 industries
- 300 final uses

Examples of Benchmark Detail

#1 Creamery butter manufacturing (publication level)

-- Creamery butter shipped in bulk (detail level)
-- Creamery butter shipped in consumer packages (detail level)

#2 Soap and other detergent manufacturing (publication level)

-- Commercial / industrial laundry detergents (detail level)
-- Household laundry detergents (detail level)

Commodity-Flow Method

Converts domestic output to domestic supply, and then allocates domestic supply to domestic purchasers (persons, businesses, and government).

Commodity-Flow Method

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Commodity-Flow Method -- Class of Client Data

Miscellaneous Subjects | 1997

Issued April 2001

EC97S54S-SB

1997 Economic Census

Professional, Scientific, and Technical Services

Subject Series

Table 2. Receipts by Class of Client for Selected Professional, Scientific, and Technical Services for the United States and States: 1997

[Includes only establishments with payroll. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

NAICS code	Geographic area and kind of business or operation	Establishments (number)	Receipts ($1,000)	Receipts by class of client: Individuals (percent)	Trade, farming, industrial, financial, and other business firms (percent)	Federal Government (percent)	State and local government (percent)	All other (percent)	Receipts of establishments responding to inquiry as percent of total receipts
	UNITED STATES								
5412	Accounting, tax return prep, bookkeeping, & payroll services	97 512	61 117 315	18	58	1	2	21	71.2
54121	Accounting, tax return prep, bookkeeping, & payroll services	97 512	61 117 315	18	58	1	2	21	71.2
541211	Offices of certified public accountants	53 651	38 601 265	15	65	2	3	15	85.2
541213	Tax return preparation services	12 830	2 184 210	91	7	–	–	2	76.4
541214	Payroll services	2 709	14 113 017	7	34	–	–	59	42.7
541219	Other accounting services	28 322	6 218 823	29	51	1	2	17	47.0

Weaknesses of the Benchmark:

- Only 30% Census coverage, supplemented with trade association data
- “Other value added” is measured as a residual

Data Coverage for Estimating Intermediate Inputs Varies

Industry sector	Source of data
Agriculture, forestry, fishing, and hunting	For agriculture, materials and services from the U.S. Department of Agriculture; limited coverage of intermediate inputs by the 1997 economic censuses for other industries
Mining, construction, and manufacturing	Information on selected purchases of materials and services from the 1997 economic censuses
Services, trade, transportation & warehousing and utilities	For Census-covered industries, information from Census' Business Expenditures Survey on broad categories of operating expenses, such as office supplies, accounting services, and utilities; for all other industries, trade association data

Example of Industry with Incomplete Information on Inputs

1997 Wood window and door manufacturing

(millions of dollars)

Intermediate	Cost of materials:	4,499	52.3%
	Selected purchased services	169	0.2
Value added	Compensation:	2,108	24.5
	Value added and other expenses	1,824	21.2
	Gross output:	8,600	100.0

Short-Term and Long-Term Strategies

- Short term strategy:

  Modify the 1997 Benchmark ("1997-Prime")

- Long term strategy:

  Improve the coverage and quality of data on intermediate purchases

Steps to Create a "1997 Prime" Benchmark

Step #1: Incorporate the results of the 2003 NIPA comprehensive revision into the current 1997 Benchmark

Step #2: Provide the "best level" estimates for gross output, intermediate inputs, and value added by using best data available.

Merging Information for Setting Value-Added Levels

Benchmark VA (Output - Intermediate inputs)

GDP-by-Industry VA		
	Poor Benchmark data / good GDP-by-Industry data e.g., Transportation/ Warehousing	**Good Benchmark data / good GDP-by-industry data e.g., Health care**
	Poor Benchmark data/ poor GDP-by-industry data e.g., Construction	**Good Benchmark data/ poor GDP-by-industry data e.g., Mining**

Questions

- ✓ What are your thoughts on using a “1997-Prime” Benchmark I-O table for setting “best levels” of value added for industries? Does the industry-specific approach seem reasonable?
- ✓ Do you think that we should pursue data improvements for intermediate inputs as our long-term strategy? Does this make sense?
- ✓ What level of industry detail is the most useful for the Benchmark I-O accounts? Should BEA take the opportunity of integrating the industry programs to reduce the amount of industry detail? Or, is the detail necessary for outside users and, consequently, a good use of BEA resources?