

2002 BEA Data Analysis for the Development of the Experimental PPI Aggregation System

The Producer Price Index (PPI) experimental aggregation system tracks price change for goods, services, and construction sold to all portions of final demand and intermediate demand. Development of the PPI experimental aggregation system relies heavily on Bureau of Economic Analysis (BEA) Input-Output (IO) data. This document describes how 2002 IO data was used to build the experimental aggregation system. In addition, the document compares the 2002 IO data analysis results to a similar analysis based on 1997 IO data.

Final demand

Final demand indexes from the experimental aggregation system track price change of goods, services, and construction products sold to personal consumption, capital investment, government, and export.¹ The system includes an index for overall final demand as well as indexes for different types of commodities sold to specific portions of final demand. Commodity types include goods, construction, traditional services, transportation services, and trade services.

The final demand indexes are constructed by aggregating 6-digit PPI commodity indexes. A commodity index is included in the aggregation only if the commodity is consumed by that portion of final demand. The weight of a specific commodity index to a higher level index is constructed by multiplying the overall commodity index Census value of shipments by the proportion of use for that commodity to the higher level category.

PPI analyzed 2002 BEA “Use of Commodities by Industries” data to determine whether a commodity is consumed in final demand and the proportion of the commodity’s value that is consumed in final demand. The use table provides the actual dollar value of each commodity consumed for intermediate demand (ID) and final demand (FD). Within final demand, the portion of use for personal consumption (PC), capital investment (CI), government purchase (Govt), and export (Exp) is also shown. The portion of use consumed by each category is calculated as the category’s use divided by total use. The results of this analysis are presented in Table 1.

¹ All PPI aggregate indexes including the Stage of Processing (SOP) indexes and experimental aggregation indexes are constructed from producers’ output prices. The SOP system and experimental aggregation system presented below both aggregate goods prices according to type of buyer, and producer output prices are used as a proxy for actual prices paid by the buyer. In many cases, the same commodity is purchased by different types of buyers and is therefore included in different aggregate indexes. In these cases, the identical PPI commodity index will often be used in all aggregations. For example, regular gasoline is purchased for personal consumption, export, government, and business. PPI publishes only one commodity index for regular gasoline (WPU057104) and this index is used in all aggregations regardless of type of buyer (personal consumption, export, government, or business).

Table 1. Percent use of commodities

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
1111A0	Oilseed farming	67.0	33.0	0.0	0.0	0.0	33.0
1111B0	Grain farming	78.4	21.6	2.1	0.0	0.5	19.0
111200	Vegetable and melon farming	24.1	75.9	69.2	0.0	1.5	5.2
111335	Tree nut farming	50.4	49.6	38.3	0.0	0.0	11.4
1113A0	Fruit farming	32.1	67.9	59.3	0.0	0.1	8.5
111400	Greenhouse, nursery, and floriculture production	19.4	80.6	75.4	0.0	2.5	2.7
111910	Tobacco farming	93.7	6.3	0.0	0.0	0.0	6.3
111920	Cotton farming	59.4	40.6	0.0	0.0	0.7	39.9
1119A0	Sugarcane and sugar beet farming	99.8	0.2	0.0	0.0	0.0	0.2
1119B0	All other crop farming	95.6	4.4	1.0	0.0	1.1	2.2
112120	Dairy cattle and milk production	99.9	0.1	0.0	0.0	0.0	0.1
1121A0	Cattle ranching and farming	99.4	0.6	0.2	0.0	0.0	0.4
112300	Poultry and egg production	85.6	14.4	12.8	0.0	0.5	1.1
112A00	Animal production, except cattle and poultry and eggs	80.3	19.7	15.0	0.0	0.4	4.2
113300	Logging	95.6	4.4	0.0	0.0	0.0	4.4
113A00	Forest nurseries, forest products, and timber tracts	98.2	1.8	0.0	0.0	0.0	1.8
114100	Fishing	60.6	39.4	19.4	0.0	0.6	19.4
114200	Hunting and trapping	0.0	100.0	100.0	0.0	0.0	0.0
115000	Support activities for agriculture and forestry	94.8	5.2	2.6	0.0	2.5	0.1
211000	Oil and gas extraction	99.2	0.8	0.0	0.0	0.0	0.8
212100	Coal mining	95.0	5.0	0.1	0.0	0.6	4.4
212210	Iron ore mining	92.6	7.4	0.0	0.0	0.0	7.4
212230	Copper, nickel, lead, and zinc mining	82.0	18.0	0.0	0.0	0.0	18.0
2122A0	Gold, silver, and other metal ore mining	58.0	42.0	0.0	1.2	0.1	40.8
212310	Stone mining and quarrying	99.5	0.5	0.0	0.0	0.0	0.5
212320	Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying	93.5	6.5	0.9	0.0	0.0	5.6
212390	Other nonmetallic mineral mining and quarrying	76.3	23.7	1.3	0.0	19.6	2.8
213111	Drilling oil and gas wells	0.0	100.0	0.0	100.0	0.0	0.0
213112	Support activities for oil and gas operations	10.0	90.0	0.0	90.0	0.0	0.0
21311A	Support activities for other mining	40.7	59.3	0.0	59.3	0.0	0.0
221100	Electric power generation, transmission, and distribution	53.2	46.8	42.6	0.0	4.1	0.2
221200	Natural gas distribution	49.2	50.8	41.3	0.0	9.4	0.0
221300	Water, sewage and other systems	26.8	73.2	59.4	0.0	13.7	0.1
230101	Nonresidential commercial and health care structures	0.0	100.0	0.0	85.9	14.1	0.0
230102	Nonresidential manufacturing structures	0.0	100.0	0.0	96.9	3.1	0.0
230103	Other nonresidential structures	0.0	100.0	0.0	35.0	65.0	0.0
230201	Residential permanent site single- and multi-family structures	0.0	100.0	0.0	98.0	2.0	0.0
230202	Other residential structures	1.0	99.0	0.0	95.5	3.5	0.0
230301	Nonresidential maintenance and repair	73.3	26.7	0.0	0.0	26.6	0.1
230302	Residential maintenance and repair	99.2	0.8	0.0	0.0	0.8	0.0
311111	Dog and cat food manufacturing	2.0	98.0	92.5	0.0	0.3	5.2
311119	Other animal food manufacturing	84.5	15.5	9.2	0.0	0.5	5.8
311210	Flour milling and malt manufacturing	70.2	29.8	18.9	0.0	0.4	10.5
311221	Wet corn milling	82.6	17.4	3.2	0.0	0.0	14.2
311225	Fats and oils refining and blending	62.8	37.2	33.9	0.0	0.6	2.7
31122A	Soybean and other oilseed processing	79.3	20.7	2.0	0.0	0.0	18.7

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
311230	Breakfast cereal manufacturing	3.3	96.7	90.5	0.0	1.7	4.6
311313	Beet sugar manufacturing	68.0	32.0	27.8	0.0	1.6	2.7
31131A	Sugar cane mills and refining	72.7	27.3	24.8	0.0	0.3	2.2
311320	Chocolate and confectionery manufacturing from cacao beans	62.8	37.2	30.7	0.0	0.0	6.5
311330	Confectionery manufacturing from purchased chocolate	3.6	96.4	93.3	0.0	0.1	2.9
311340	Nonchocolate confectionery manufacturing	10.4	89.6	83.6	0.0	2.3	3.7
311410	Frozen food manufacturing	19.7	80.3	76.1	0.0	1.0	3.1
311420	Fruit and vegetable canning, pickling, and drying	26.9	73.1	61.5	0.0	5.7	5.8
311513	Cheese manufacturing	55.9	44.1	42.2	0.0	0.7	1.2
311514	Dry, condensed, and evaporated dairy product manufacturing	39.1	60.9	44.6	0.0	7.6	8.6
31151A	Fluid milk and butter manufacturing	25.3	74.7	65.0	0.0	9.2	0.5
311520	Ice cream and frozen dessert manufacturing	60.5	39.5	30.9	0.0	7.2	1.4
311615	Poultry processing	33.9	66.1	61.4	0.0	0.5	4.2
31161A	Animal (except poultry) slaughtering, rendering, and processing	38.8	61.2	49.4	0.0	4.3	7.5
311700	Seafood product preparation and packaging	54.4	45.6	35.3	0.0	7.1	3.2
311810	Bread and bakery product manufacturing	10.3	89.7	84.3	0.0	4.0	1.5
311820	Cookie, cracker, and pasta manufacturing	12.8	87.2	84.7	0.0	1.3	1.2
311830	Tortilla manufacturing	2.6	97.4	95.0	0.0	2.1	0.2
311910	Snack food manufacturing	12.7	87.3	80.4	0.0	0.6	6.3
311920	Coffee and tea manufacturing	30.8	69.2	59.8	0.0	5.3	4.2
311930	Flavoring syrup and concentrate manufacturing	97.2	2.8	0.4	0.0	0.1	2.2
311940	Seasoning and dressing manufacturing	34.5	65.5	58.9	0.0	3.0	3.7
311990	All other food manufacturing	26.5	73.5	62.9	0.0	0.6	10.0
312110	Soft drink and ice manufacturing	14.2	85.8	84.6	0.0	0.4	0.8
312120	Breweries	6.2	93.8	91.9	0.0	0.5	1.3
312130	Wineries	21.0	79.0	75.8	0.0	0.0	3.1
312140	Distilleries	33.0	67.0	63.9	0.0	0.1	3.0
3122A0	Tobacco product manufacturing	5.4	94.6	88.7	0.0	0.4	5.4
313100	Fiber, yarn, and thread mills	90.3	9.7	1.7	0.0	0.5	7.5
313210	Broadwoven fabric mills	63.2	36.8	8.8	0.0	1.4	26.6
313220	Narrow fabric mills and schiffli machine embroidery	57.2	42.8	10.5	0.0	1.5	30.8
313230	Nonwoven fabric mills	83.5	16.5	3.4	0.1	1.2	11.8
313240	Knit fabric mills	87.3	12.7	0.1	0.0	0.0	12.6
313310	Textile and fabric finishing mills	95.7	4.3	4.1	0.0	0.0	0.2
313320	Fabric coating mills	76.0	24.0	0.3	0.0	4.5	19.3
314110	Carpet and rug mills	19.1	80.9	45.8	30.5	0.5	4.1
314120	Curtain and linen mills	17.0	83.0	77.4	0.0	2.2	3.4
314910	Textile bag and canvas mills	61.1	38.9	29.9	0.0	6.4	2.6
314990	All other textile product mills	58.4	41.6	26.9	0.0	4.3	10.4
315100	Apparel knitting mills	15.2	84.8	79.8	0.0	0.0	5.0
315210	Cut and sew apparel contractors	95.7	4.3	0.0	0.0	4.3	0.0
315220	Men's and boys' cut and sew apparel manufacturing	1.9	98.1	89.5	0.0	3.4	5.3
315230	Women's and girls' cut and sew apparel manufacturing	1.5	98.5	95.5	0.0	0.0	3.0
315290	Other cut and sew apparel manufacturing	8.4	91.6	86.3	0.0	1.1	4.2
315900	Apparel accessories and other apparel manufacturing	14.1	85.9	68.6	0.0	7.0	10.3

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
311230	Breakfast cereal manufacturing	3.3	96.7	90.5	0.0	1.7	4.6
316100	Leather and hide tanning and finishing	73.5	26.5	0.0	0.0	0.4	26.1
316200	Footwear manufacturing	0.3	99.7	97.1	0.0	0.4	2.2
316900	Other leather and allied product manufacturing	19.7	80.3	72.0	0.0	1.9	6.4
321100	Sawmills and wood preservation	94.6	5.4	0.0	0.0	0.3	5.0
321219	Reconstituted wood product manufacturing	86.7	13.3	0.0	0.0	10.1	3.3
32121A	Veneer and plywood manufacturing	94.2	5.8	0.0	0.0	0.0	5.8
32121B	Engineered wood member and truss manufacturing	98.2	1.8	0.0	0.0	0.0	1.8
321910	Wood windows and doors and millwork	97.5	2.5	0.0	0.0	1.1	1.5
321920	Wood container and pallet manufacturing	67.3	32.7	13.8	0.0	16.8	2.1
321991	Manufactured home (mobile home) manufacturing	1.1	98.9	0.0	98.5	0.0	0.4
321992	Prefabricated wood building manufacturing	98.9	1.1	0.0	0.0	0.1	1.0
321999	All other miscellaneous wood product manufacturing	57.0	43.0	29.9	0.0	10.1	3.0
322110	Pulp mills	68.3	31.7	0.0	0.0	0.0	31.7
322120	Paper mills	64.5	35.5	18.3	0.0	9.6	7.6
322130	Paperboard mills	99.7	0.3	0.0	0.0	0.0	0.3
322210	Paperboard container manufacturing	94.0	6.0	1.2	0.0	1.6	3.2
32222A	Coated and laminated paper, packaging paper and plastics film manufacturing	75.7	24.3	9.1	0.0	2.2	13.1
32222B	All other paper bag and coated and treated paper manufacturing	77.5	22.5	1.2	0.0	13.4	7.9
322230	Stationery product manufacturing	18.5	81.5	9.9	0.0	64.7	6.9
322291	Sanitary paper product manufacturing	32.3	67.7	54.8	0.0	5.8	7.1
322299	All other converted paper product manufacturing	63.2	36.8	17.8	0.0	12.2	6.8
323110	Printing	75.0	25.0	3.2	0.0	19.6	2.1
323120	Support activities for printing	88.6	11.4	0.0	0.0	10.4	1.1
324110	Petroleum refineries	55.0	45.0	30.1	0.0	10.7	4.1
324121	Asphalt paving mixture and block manufacturing	84.9	15.1	0.0	0.0	14.4	0.7
324122	Asphalt shingle and coating materials manufacturing	97.9	2.1	0.0	0.0	0.0	2.1
324191	Petroleum lubricating oil and grease manufacturing	68.1	31.9	25.5	0.0	5.7	0.7
324199	All other petroleum and coal products manufacturing	57.0	43.0	15.7	0.0	0.1	27.2
325110	Petrochemical manufacturing	89.9	10.1	0.0	0.0	1.6	8.5
325120	Industrial gas manufacturing	85.0	15.0	2.1	0.0	10.3	2.6
325130	Synthetic dye and pigment manufacturing	74.8	25.2	0.0	0.0	5.2	20.0
325181	Alkalies and chlorine manufacturing	82.6	17.4	0.1	0.0	4.2	13.1
325182	Carbon black manufacturing	89.6	10.4	0.0	0.0	0.0	10.4
325188	All other basic inorganic chemical manufacturing	62.9	37.1	0.1	11.0	6.0	20.0
325190	Other basic organic chemical manufacturing	75.5	24.5	0.8	0.0	3.4	20.3
325211	Plastics material and resin manufacturing	77.5	22.5	0.0	0.0	0.0	22.5
325212	Synthetic rubber manufacturing	76.4	23.6	0.0	0.0	0.0	23.6
325220	Artificial and synthetic fibers and filaments manufacturing	88.9	11.1	0.0	0.0	0.0	11.1
325310	Fertilizer manufacturing	78.7	21.3	0.9	0.0	5.9	14.4
325320	Pesticide and other agricultural chemical manufacturing	55.1	44.9	27.0	0.0	7.2	10.7
325411	Medicinal and botanical manufacturing	100.0	0.0	0.0	0.0	0.0	0.0
325412	Pharmaceutical preparation manufacturing	19.3	80.7	66.4	0.0	6.6	7.6
325413	In-vitro diagnostic substance manufacturing	99.7	0.3	0.0	0.0	0.0	0.3
325414	Biological product (except diagnostic) manufacturing	83.8	16.2	0.0	0.0	2.8	13.4

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
325510	Paint and coating manufacturing	86.9	13.1	1.8	0.0	4.7	6.6
325520	Adhesive manufacturing	79.9	20.1	8.8	0.0	2.2	9.1
325610	Soap and cleaning compound manufacturing	31.7	68.3	54.3	0.0	7.5	6.4
325620	Toilet preparation manufacturing	6.9	93.1	84.5	0.0	0.8	7.9
325910	Printing ink manufacturing	88.4	11.6	0.0	0.0	0.9	10.7
3259A0	All other chemical product and preparation manufacturing	65.6	34.4	6.6	0.0	15.3	12.4
326110	Plastics packaging materials and unlaminated film and sheet manufacturing	82.6	17.4	7.2	0.0	1.9	8.3
326121	Unlaminated plastics profile shape manufacturing	95.5	4.5	0.0	0.0	0.0	4.5
326122	Plastics pipe and pipe fitting manufacturing	91.5	8.5	0.0	0.0	2.5	5.9
326130	Laminated plastics plate, sheet (except packaging), and shape mfg.	99.2	0.8	0.0	0.0	0.0	0.8
326140	Polystyrene foam product manufacturing	89.8	10.2	7.2	0.0	2.9	0.1
326150	Urethane and other foam product (except polystyrene) manufacturing	92.9	7.1	6.4	0.4	0.2	0.1
326160	Plastics bottle manufacturing	96.2	3.8	0.0	0.0	0.0	3.8
32619A	Other plastics product manufacturing	79.8	20.2	8.9	0.0	3.9	7.4
326210	Tire manufacturing	50.1	49.9	34.1	0.0	5.4	10.5
326220	Rubber and plastics hoses and belting manufacturing	70.3	29.7	6.3	0.0	3.9	19.5
326290	Other rubber product manufacturing	73.4	26.6	5.4	0.8	13.7	6.7
32711A	Pottery, ceramics, and plumbing fixture manufacturing	49.3	50.7	39.3	0.0	1.8	9.7
32712A	Brick, tile, and other structural clay product manufacturing	99.0	1.0	0.0	0.0	0.0	1.0
32712B	Clay and nonclay refractory manufacturing	86.6	13.4	0.0	0.0	0.0	13.4
327211	Flat glass manufacturing	82.5	17.5	0.0	0.0	0.0	17.5
327212	Other pressed and blown glass and glassware manufacturing	66.8	33.2	21.0	0.0	3.0	9.1
327213	Glass container manufacturing	93.6	6.4	3.2	0.0	0.0	3.1
327215	Glass product manufacturing made of purchased glass	75.0	25.0	8.7	0.0	1.2	15.1
327310	Cement manufacturing	99.4	0.6	0.0	0.0	0.0	0.6
327320	Ready-mix concrete manufacturing	99.9	0.1	0.0	0.0	0.0	0.1
327330	Concrete pipe, brick, and block manufacturing	99.6	0.4	0.0	0.0	0.0	0.4
327390	Other concrete product manufacturing	98.3	1.7	0.3	0.0	0.4	1.0
3274A0	Lime and gypsum product manufacturing	97.0	3.0	0.5	0.0	0.9	1.6
327910	Abrasive product manufacturing	78.5	21.5	2.8	0.0	6.1	12.6
327991	Cut stone and stone product manufacturing	61.6	38.4	36.3	0.0	1.0	1.0
327992	Ground or treated mineral and earth manufacturing	87.4	12.6	5.3	0.0	0.0	7.2
327993	Mineral wool manufacturing	92.8	7.2	0.0	0.0	0.0	7.2
327999	Miscellaneous nonmetallic mineral products	89.2	10.8	0.0	0.0	0.1	10.7
331110	Iron and steel mills and ferroalloy manufacturing	94.8	5.2	0.0	0.0	0.0	5.1
331200	Steel product manufacturing from purchased steel	88.7	11.3	5.5	0.0	1.2	4.6
331314	Secondary smelting and alloying of aluminum	100.0	0.0	0.0	0.0	0.0	0.0
33131A	Alumina refining and primary aluminum production	97.0	3.0	0.0	0.0	0.4	2.6
33131B	Aluminum product manufacturing from purchased aluminum	89.6	10.4	0.0	0.0	0.0	10.4
331411	Primary smelting and refining of copper	95.5	4.5	0.0	0.0	1.0	3.5
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)	90.2	9.8	0.0	0.0	0.0	9.8

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
331420	Copper rolling, drawing, extruding and alloying	89.6	10.4	0.0	0.0	0.3	10.1
331490	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying	78.6	21.4	0.4	0.0	0.3	20.7
331510	Ferrous metal foundries	97.8	2.2	0.0	0.0	0.0	2.2
331520	Nonferrous metal foundries	99.3	0.7	0.1	0.0	0.5	0.1
332114	Custom roll forming	99.9	0.1	0.0	0.0	0.0	0.1
33211A	All other forging, stamping, and sintering	99.9	0.1	0.0	0.0	0.0	0.0
33211B	Crown and closure manufacturing and metal stamping	91.7	8.3	3.1	0.0	2.7	2.5
33221A	Cutlery, utensil, pot, and pan manufacturing	19.3	80.7	70.5	0.0	2.9	7.3
33221B	Handtool manufacturing	52.7	47.3	16.6	2.8	17.6	10.3
332310	Plate work and fabricated structural product manufacturing	96.5	3.5	0.2	0.3	1.0	2.1
332320	Ornamental and architectural metal products manufacturing	96.7	3.3	0.0	1.1	0.9	1.3
332410	Power boiler and heat exchanger manufacturing	56.0	44.0	0.0	28.1	2.8	13.2
332420	Metal tank (heavy gauge) manufacturing	48.7	51.3	0.0	41.2	2.6	7.5
332430	Metal can, box, and other metal container (light gauge) manufacturing	94.6	5.4	0.3	1.2	1.0	3.0
332500	Hardware manufacturing	81.1	18.9	2.3	1.6	1.2	13.9
332600	Spring and wire product manufacturing	90.1	9.9	1.4	0.0	0.7	7.7
332710	Machine shops	95.8	4.2	0.0	0.0	3.7	0.5
332720	Turned product and screw, nut, and bolt manufacturing	93.4	6.6	0.9	0.0	0.5	5.2
332800	Coating, engraving, heat treating and allied activities	99.9	0.1	0.0	0.0	0.0	0.1
332913	Plumbing fixture fitting and trim manufacturing	96.9	3.1	0.0	0.0	0.0	3.1
33291A	Valve and fittings other than plumbing	76.1	23.9	0.0	7.3	1.6	15.1
332991	Ball and roller bearing manufacturing	84.8	15.2	0.0	0.0	2.5	12.7
332996	Fabricated pipe and pipe fitting manufacturing	88.4	11.6	0.0	10.7	0.8	0.0
33299A	Ammunition manufacturing	0.4	99.6	33.6	0.0	55.0	11.0
33299B	Arms, ordnance, and accessories manufacturing	3.5	96.5	41.3	0.0	44.7	10.5
33299C	Other fabricated metal manufacturing	73.2	26.8	7.6	2.0	2.4	14.9
333111	Farm machinery and equipment manufacturing	9.3	90.7	0.0	70.6	2.6	17.5
333112	Lawn and garden equipment manufacturing	11.4	88.6	10.9	76.5	0.8	0.5
333120	Construction machinery manufacturing	12.4	87.6	0.0	56.8	9.4	21.4
333130	Mining and oil and gas field machinery manufacturing	14.1	85.9	0.0	24.4	0.4	61.1
333220	Plastics and rubber industry machinery manufacturing	15.9	84.1	0.0	64.3	0.2	19.6
333295	Semiconductor machinery manufacturing	20.0	80.0	0.0	52.6	0.0	27.4
33329A	Other industrial machinery manufacturing	18.1	81.9	2.2	62.8	1.4	15.5
333314	Optical instrument and lens manufacturing	11.3	88.7	2.2	24.7	3.4	58.4
333315	Photographic and photocopying equipment manufacturing	4.8	95.2	31.3	31.2	15.0	17.7
333319	Other commercial and service industry machinery manufacturing	19.9	80.1	0.0	66.3	9.6	4.2
33331A	Vending, commercial, industrial, and office machinery manufacturing	13.2	86.8	5.5	48.2	19.3	13.7
333414	Heating equipment (except warm air furnaces) manufacturing	63.9	36.1	27.5	2.5	1.4	4.7
333415	Air conditioning, refrigeration, and warm air heating equipment manufacturing	60.1	39.9	3.9	18.6	4.0	13.3
33341A	Air purification and ventilation equipment manufacturing	45.1	54.9	0.0	44.8	1.1	9.0

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
333511	Industrial mold manufacturing	12.6	87.4	0.0	78.4	0.0	9.1
333514	Special tool, die, jig, and fixture manufacturing	14.0	86.0	0.0	81.4	0.2	4.4
333515	Cutting tool and machine tool accessory manufacturing	87.7	12.3	0.0	0.0	0.8	11.6
33351A	Metal cutting and forming machine tool manufacturing	13.8	86.2	0.6	50.8	7.2	27.5
33351B	Rolling mill and other metalworking machinery manufacturing	12.2	87.8	0.0	84.6	0.0	3.2
333611	Turbine and turbine generator set units manufacturing	16.8	83.2	0.0	54.9	4.5	23.8
333612	Speed changer, industrial high-speed drive, and gear manufacturing	85.7	14.3	0.0	0.0	0.1	14.2
333613	Mechanical power transmission equipment manufacturing	86.0	14.0	0.0	0.0	0.1	13.9
333618	Other engine equipment manufacturing	64.2	35.8	0.9	4.9	5.0	25.0
333911	Pump and pumping equipment manufacturing	21.6	78.4	0.0	49.5	11.2	17.7
333912	Air and gas compressor manufacturing	14.8	85.2	0.0	60.3	0.6	24.3
333920	Material handling equipment manufacturing	29.7	70.3	0.0	58.8	2.0	9.6
333991	Power-driven handtool manufacturing	6.4	93.6	28.4	52.7	2.9	9.6
333993	Packaging machinery manufacturing	19.3	80.7	0.0	68.6	0.2	12.0
333994	Industrial process furnace and oven manufacturing	15.2	84.8	0.0	38.9	0.0	45.9
33399A	Other general purpose machinery manufacturing	20.9	79.1	1.1	36.4	0.9	40.8
33399B	Fluid power process machinery	83.2	16.8	0.0	3.3	3.9	9.5
334111	Electronic computer manufacturing	3.2	96.8	19.1	56.9	8.1	12.6
334112	Computer storage device manufacturing	47.5	52.5	3.6	27.1	11.6	10.2
33411A	Computer terminals and other computer peripheral equipment manufacturing	30.1	69.9	14.4	35.4	7.9	12.2
334210	Telephone apparatus manufacturing	12.6	87.4	2.4	57.2	6.3	21.5
334220	Broadcast and wireless communications equipment	21.0	79.0	5.5	56.3	7.6	9.7
334290	Other communications equipment manufacturing	73.6	26.4	0.5	14.0	4.6	7.3
334300	Audio and video equipment manufacturing	10.0	90.0	77.3	3.2	0.5	9.0
334411	Electron tube manufacturing	48.5	51.5	0.0	0.0	8.0	43.5
334412	Bare printed circuit board manufacturing	79.2	20.8	0.0	0.0	0.2	20.6
334413	Semiconductor and related device manufacturing	62.2	37.8	0.0	0.0	3.0	34.7
334417	Electronic connector manufacturing	64.3	35.7	0.0	0.0	1.0	34.7
334418	Printed circuit assembly (electronic assembly) manufacturing	77.5	22.5	1.0	0.0	0.2	21.3
334419	Other electronic component manufacturing	75.8	24.2	2.0	0.0	2.9	19.3
33441A	Electronic capacitor, resistor, coil, transformer, and other inductor manufacturing	70.3	29.7	0.0	0.0	1.2	28.5
334510	Electromedical and electrotherapeutic apparatus manufacturing	11.5	88.5	6.5	57.2	5.3	19.6
334511	Search, detection, and navigation instruments manufacturing	14.3	85.7	0.1	33.7	43.6	8.3
334512	Automatic environmental control manufacturing	93.0	7.0	0.0	0.0	0.1	6.9
334513	Industrial process variable instruments manufacturing	19.5	80.5	0.0	36.2	4.4	39.8
334514	Totalizing fluid meters and counting devices manufacturing	68.2	31.8	0.0	22.0	4.7	5.1
334515	Electricity and signal testing instruments manufacturing	13.9	86.1	0.0	31.4	14.9	39.8
334516	Analytical laboratory instrument manufacturing	13.1	86.9	0.0	54.3	2.6	29.9
334517	Irradiation apparatus manufacturing	8.9	91.1	0.0	62.2	5.3	23.6

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
33451A	Watch, clock, and other measuring and controlling device manufacturing	16.8	83.2	30.1	26.4	9.1	17.6
334613	Magnetic and optical recording media manufacturing	63.8	36.2	10.8	3.5	6.2	15.7
33461A	Software, audio, and video media reproducing	92.8	7.2	0.0	0.0	3.0	4.3
335110	Electric lamp bulb and part manufacturing	30.4	69.6	28.8	0.0	28.9	11.9
335120	Lighting fixture manufacturing	72.0	28.0	13.7	4.3	5.5	4.5
335210	Small electrical appliance manufacturing	15.1	84.9	71.6	2.6	1.7	9.0
335221	Household cooking appliance manufacturing	4.5	95.5	64.3	25.5	1.2	4.5
335222	Household refrigerator and home freezer manufacturing	2.7	97.3	58.4	26.9	2.0	10.0
335224	Household laundry equipment manufacturing	3.2	96.8	75.5	8.8	0.6	12.0
335228	Other major household appliance manufacturing	37.6	62.4	40.1	14.4	0.0	7.9
335311	Power, distribution, and specialty transformer manufacturing	26.5	73.5	0.1	58.9	7.9	6.6
335312	Motor and generator manufacturing	63.5	36.5	0.7	13.6	5.1	17.1
335313	Switchgear and switchboard apparatus manufacturing	54.3	45.7	0.5	28.9	4.8	11.6
335314	Relay and industrial control manufacturing	70.2	29.8	0.0	8.1	7.9	13.9
335911	Storage battery manufacturing	55.1	44.9	25.8	6.4	1.5	11.2
335912	Primary battery manufacturing	4.7	95.3	79.4	0.0	2.4	13.5
335920	Communication and energy wire and cable manufacturing	83.7	16.3	0.0	1.2	1.4	13.7
335930	Wiring device manufacturing	81.7	18.3	0.0	2.6	0.8	14.9
335991	Carbon and graphite product manufacturing	81.0	19.0	0.0	0.0	0.1	18.9
335999	All other miscellaneous electrical equipment and component manufacturing	14.8	85.2	7.1	45.8	5.4	26.9
336111	Automobile manufacturing	0.0	100.0	48.0	45.8	1.7	4.5
336112	Light truck and utility vehicle manufacturing	0.0	100.0	58.1	31.7	1.7	8.5
336120	Heavy duty truck manufacturing	8.4	91.6	0.0	54.2	26.7	10.6
336211	Motor vehicle body manufacturing	51.0	49.0	0.4	35.7	2.2	10.8
336212	Truck trailer manufacturing	1.1	98.9	0.0	85.9	4.4	8.6
336213	Motor home manufacturing	1.2	98.8	91.3	3.8	0.0	3.7
336214	Travel trailer and camper manufacturing	11.8	88.2	67.4	10.9	3.8	6.1
336300	Motor vehicle parts manufacturing	79.1	20.9	4.1	0.2	2.7	14.0
336411	Aircraft manufacturing	1.5	98.5	0.7	35.6	27.7	34.5
336412	Aircraft engine and engine parts manufacturing	52.5	47.5	0.0	1.3	5.9	40.3
336413	Other aircraft parts and auxiliary equipment manufacturing	44.1	55.9	0.0	0.0	6.5	49.4
336414	Guided missile and space vehicle manufacturing	5.5	94.5	0.0	0.7	89.8	4.0
33641A	Propulsion units and parts for space vehicle and guided missiles	30.8	69.2	0.0	0.0	47.0	22.2
336500	Railroad rolling stock manufacturing	28.7	71.3	0.0	52.4	8.1	10.8
336611	Ship building and repairing	8.0	92.0	0.0	19.0	65.6	7.4
336612	Boat building	1.6	98.4	74.0	11.1	4.3	9.1
336991	Motorcycle, bicycle, and parts manufacturing	12.4	87.6	72.5	2.4	2.5	10.2
336992	Military armored vehicle, tank, and tank component manufacturing	4.3	95.7	0.0	0.0	64.4	31.4
336999	All other transportation equipment manufacturing	12.2	87.8	56.5	21.6	6.4	3.3
337110	Wood kitchen cabinet and countertop manufacturing	89.3	10.7	0.0	10.4	0.0	0.3
337121	Upholstered household furniture manufacturing	0.6	99.4	92.2	5.2	0.5	1.6
337122	Nonupholstered wood household furniture manufacturing	0.5	99.5	90.3	4.8	1.2	3.2

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
337127	Institutional furniture manufacturing	7.6	92.4	0.6	72.4	13.0	6.4
33712A	Metal and other household furniture manufacturing	6.4	93.6	84.1	5.1	1.9	2.4
337212	Custom architectural woodwork and millwork manufacturing	21.8	78.2	0.5	63.4	12.9	1.4
337215	Showcase, partition, shelving, and locker manufacturing	32.5	67.5	5.4	54.1	4.1	4.1
33721A	Office furniture manufacturing	84.2	15.8	15.0	0.0	0.0	0.8
337910	Mattress manufacturing	2.7	97.3	87.5	5.6	3.1	1.2
337920	Blind and shade manufacturing	3.3	96.7	79.2	14.8	1.9	0.8
339111	Laboratory apparatus and furniture manufacturing	2.4	97.6	3.0	77.4	11.4	5.8
339112	Surgical and medical instrument manufacturing	26.4	73.6	0.6	48.9	8.1	16.0
339113	Surgical appliance and supplies manufacturing	39.2	60.8	21.8	11.2	14.4	13.4
339114	Dental equipment and supplies manufacturing	52.9	47.1	0.0	26.6	4.8	15.7
339115	Ophthalmic goods manufacturing	2.4	97.6	85.6	0.0	0.1	11.8
339116	Dental laboratories	99.8	0.2	0.0	0.0	0.0	0.2
339910	Jewelry and silverware manufacturing	10.3	89.7	80.0	0.0	0.3	9.4
339920	Sporting and athletic goods manufacturing	5.7	94.3	70.3	10.5	6.1	7.3
339930	Doll, toy, and game manufacturing	1.8	98.2	93.9	0.0	1.0	3.3
339940	Office supplies (except paper) manufacturing	39.9	60.1	33.7	0.3	18.5	7.6
339950	Sign manufacturing	9.4	90.6	0.0	88.8	0.1	1.7
339991	Gasket, packing, and sealing device manufacturing	85.0	15.0	2.2	0.0	0.3	12.6
339992	Musical instrument manufacturing	8.1	91.9	62.2	13.9	7.4	8.4
339994	Broom, brush, and mop manufacturing	37.6	62.4	45.4	0.0	12.3	4.7
33999A	All other miscellaneous manufacturing	26.2	73.8	51.4	11.3	3.3	7.9
420000	Wholesale trade	41.9	58.1	35.8	10.2	4.1	8.0
481000	Air transportation	22.2	77.8	55.3	1.0	6.3	15.2
482000	Rail transportation	70.9	29.1	10.8	3.7	4.1	10.4
483000	Water transportation	18.7	81.3	39.8	0.1	8.4	33.1
484000	Truck transportation	55.3	44.7	25.6	7.8	4.6	6.8
485000	Transit and ground passenger transportation	30.5	69.5	52.0	0.0	17.5	0.0
486000	Pipeline transportation	88.7	11.3	5.9	0.0	2.6	2.8
48A000	Scenic and sightseeing transportation and support activities for transportation	79.2	20.8	6.1	0.0	1.1	13.6
491000	Postal service	80.9	19.1	11.9	0.0	6.8	0.4
492000	Couriers and messengers	86.9	13.1	2.3	0.0	2.0	8.8
493000	Warehousing and storage	90.3	9.7	0.7	0.0	7.7	1.4
4A0000	Retail trade	9.0	91.0	86.9	4.1	0.0	0.0
511110	Newspaper publishers	3.3	96.7	93.1	0.0	3.4	0.2
511120	Periodical publishers	26.7	73.3	64.5	0.0	4.9	3.9
511130	Book publishers	10.7	89.3	71.3	0.0	12.5	5.5
5111A0	Directory, mailing list, and other publishers	34.0	66.0	54.4	0.0	9.4	2.1
511200	Software publishers	16.0	84.0	9.0	57.1	7.6	10.3
512100	Motion picture and video industries	48.5	51.5	37.4	0.0	2.3	11.9
512200	Sound recording industries	33.5	66.5	60.8	0.0	2.0	3.7
515100	Radio and television broadcasting	75.7	24.3	24.3	0.0	0.0	0.0
515200	Cable and other subscription programming	98.8	1.2	0.0	0.0	1.2	0.0
516110	Internet publishing and broadcasting	100.0	0.0	0.0	0.0	0.0	0.0
517000	Telecommunications	43.9	56.1	45.3	1.7	8.0	1.1
518100	Internet service providers and web search portals	28.0	72.0	63.9	0.0	7.8	0.3

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
518200	Data processing, hosting, and related services	76.3	23.7	0.0	0.0	23.3	0.4
519100	Other information services	35.3	64.7	37.9	0.0	19.6	7.2
522A00	Nondepository credit intermediation and related activities	87.7	12.3	12.1	0.0	0.2	0.0
523000	Securities, commodity contracts, investments, and related activities	62.9	37.1	31.1	0.0	1.9	4.0
524100	Insurance carriers	39.6	60.4	57.9	0.0	0.3	2.2
524200	Insurance agencies, brokerages, and related activities	100.0	0.0	0.0	0.0	0.0	0.0
525000	Funds, trusts, and other financial vehicles	8.8	91.2	91.2	0.0	0.0	0.0
52A000	Monetary authorities and depository credit intermediation	54.3	45.7	40.2	0.0	1.8	3.7
531000	Real estate	58.7	41.3	30.3	8.5	2.5	0.1
532100	Automotive equipment rental and leasing	46.7	53.3	46.9	0.0	1.6	4.8
532230	Video tape and disc rental	0.0	100.0	100.0	0.0	0.0	0.0
532400	Commercial and industrial machinery and equipment rental and leasing	89.5	10.5	0.1	0.0	4.2	6.1
532A00	General and consumer goods rental except video tapes and discs	25.7	74.3	69.3	0.0	5.0	0.1
533000	Lessors of nonfinancial intangible assets	70.4	29.6	0.0	0.0	0.0	29.6
541100	Legal services	54.1	45.9	36.7	0.0	7.2	2.0
541200	Accounting, tax preparation, bookkeeping, and payroll services	78.7	21.3	12.3	0.0	8.5	0.5
541300	Architectural, engineering, and related services	64.3	35.7	0.0	16.2	16.6	2.9
541400	Specialized design services	87.3	12.7	7.6	0.0	5.0	0.0
541511	Custom computer programming services	3.4	96.6	0.0	82.2	13.0	1.4
541512	Computer systems design services	41.1	58.9	0.0	20.3	37.9	0.7
54151A	Other computer related services, including facilities management	74.1	25.9	0.0	0.0	21.1	4.8
541610	Management, scientific, and technical consulting services	86.2	13.8	0.0	0.0	11.7	2.1
5416A0	Environmental and other technical consulting services	69.3	30.7	0.0	0.0	30.6	0.0
541700	Scientific research and development services	48.9	51.1	10.0	0.0	40.2	0.9
541800	Advertising and related services	95.2	4.8	0.4	0.0	3.8	0.5
541920	Photographic services	28.7	71.3	70.2	0.0	0.0	1.1
541940	Veterinary services	4.0	96.0	83.0	0.0	13.0	0.0
5419A0	All other misc. professional, scientific, and technical services	94.1	5.9	0.0	0.0	5.9	0.0
550000	Management of companies and enterprises	92.1	7.9	0.0	0.0	0.0	7.9
561100	Office administrative services	84.6	15.4	0.0	0.0	15.4	0.0
561200	Facilities support services	44.7	55.3	0.0	0.0	55.3	0.0
561300	Employment services	93.8	6.2	0.5	0.0	5.7	0.0
561400	Business support services	85.9	14.1	7.7	0.0	6.4	0.0
561500	Travel arrangement and reservation services	53.7	46.3	32.1	0.0	10.1	4.2
561600	Investigation and security services	63.5	36.5	18.7	0.0	17.6	0.2
561700	Services to buildings and dwellings	79.9	20.1	7.8	0.0	12.2	0.0
561900	Other support services	79.4	20.6	1.5	0.0	18.9	0.3
562000	Waste management and remediation services	58.0	42.0	18.2	0.0	23.7	0.1
611100	Elementary and secondary schools	0.0	100.0	100.0	0.0	0.0	0.0
611A00	Junior colleges, colleges, universities, and professional schools	3.0	97.0	87.4	0.0	9.2	0.5
611B00	Other educational services	9.2	90.8	86.2	0.0	4.6	0.0
621600	Home health care services	0.0	100.0	100.0	0.0	0.0	0.0

Table 1. Percent use of commodities - Continued

Commodity	Title	Percent use for:					
		ID	FD	PC	CI	Govt	Exp
621A00	Offices of physicians, dentists, and other health practitioners	0.0	100.0	99.8	0.0	0.2	0.0
621B00	Medical and diagnostic labs and outpatient and other ambulatory care services	16.9	83.1	82.7	0.0	0.4	0.0
622000	Hospitals	0.1	99.9	99.7	0.0	0.1	0.0
623000	Nursing and residential care facilities	0.0	100.0	99.5	0.0	0.5	0.0
624200	Community food, housing, and other relief services, including rehabilitation services	0.0	100.0	99.8	0.0	0.2	0.0
624400	Child day care services	0.0	100.0	97.1	0.0	2.9	0.0
624A00	Individual and family services	0.0	100.0	98.2	0.0	1.8	0.0
711100	Performing arts companies	25.8	74.2	73.5	0.0	0.3	0.4
711200	Spectator sports	49.0	51.0	50.7	0.0	0.0	0.2
711500	Independent artists, writers, and performers	90.6	9.4	0.5	0.0	8.9	0.0
711A00	Promoters of performing arts and sports and agents for public figures	49.0	51.0	50.6	0.0	0.0	0.4
712000	Museums, historical sites, zoos, and parks	0.0	100.0	100.0	0.0	0.0	0.0
713940	Fitness and recreational sports centers	17.2	82.8	82.2	0.0	0.6	0.0
713950	Bowling centers	1.1	98.9	98.9	0.0	0.0	0.0
713A00	Amusement parks, arcades, and gambling industries	0.3	99.7	99.7	0.0	0.0	0.0
713B00	Other amusement and recreation industries	12.3	87.7	79.1	0.0	8.6	0.0
7211A0	Hotels and motels, including casino hotels	41.2	58.8	52.3	0.0	6.5	0.0
721A00	Other accommodations	0.9	99.1	99.1	0.0	0.0	0.0
722000	Food services and drinking places	18.4	81.6	78.9	0.0	2.6	0.1
811192	Car washes	17.9	82.1	82.0	0.0	0.1	0.0
8111A0	Automotive repair and maintenance, except car washes	21.3	78.7	76.9	0.0	1.8	0.0
811200	Electronic and precision equipment repair and maintenance	50.1	49.9	12.4	0.0	37.5	0.0
811300	Commercial and industrial machinery and equipment repair and maintenance	91.8	8.2	0.0	0.0	8.2	0.0
811400	Personal and household goods repair and maintenance	45.1	54.9	46.3	0.0	8.6	0.0
812100	Personal care services	1.6	98.4	98.3	0.0	0.0	0.0
812200	Death care services	0.0	100.0	100.0	0.0	0.0	0.0
812300	Dry-cleaning and laundry services	34.3	65.7	55.6	0.0	10.1	0.0
812900	Other personal services	7.4	92.6	89.8	0.0	2.9	0.0
813100	Religious organizations	0.0	100.0	100.0	0.0	0.0	0.0
813A00	Grantmaking, giving and social advocacy organizations	0.5	99.5	99.5	0.0	0.0	0.0
813B00	Civic, social, professional and similar organizations	51.3	48.7	48.5	0.0	0.0	0.2
814000	Private households	0.0	100.0	100.0	0.0	0.0	0.0
S00102	Other Federal Government enterprises	100.0	0.0	0.0	0.0	0.0	0.0
S00203	Other state and local government enterprises	17.7	82.3	76.6	0.0	5.7	0.0
S00300	Noncomparable imports	53.9	46.1	33.7	1.7	10.7	0.0
S00401	Scrap	78.7	21.3	0.0	0.0	0.0	21.3
S00402	Used and secondhand goods	5.9	94.1	85.2	0.0	3.7	5.3
S00500	General Federal defense government services	0.0	100.0	0.0	0.0	100.0	0.0
S00600	General Federal nondefense government services	0.0	100.0	0.0	0.0	100.0	0.0
S00700	General state and local government services	0.0	100.0	0.0	0.0	100.0	0.0
S00800	Owner-occupied dwellings	0.0	100.0	100.0	0.0	0.0	0.0

The relative proportions of commodity use calculated in Table 1 were employed to allocate commodity indexes to the aggregate final demand indexes. To accomplish this, BEA commodities were matched to PPI commodity indexes and the use of the PPI commodities for final demand was determined. As stated earlier, the weight of a PPI commodity index to a final demand index is determined by multiplying the commodity gross weight by the proportional use of the commodity in the specific segment of final demand for the aggregate index. For example, Table 1 indicates that 45.9 percent of legal services (541100) are consumed for final demand. Of the 45.9 percent of legal services consumed for final demand, 36.7 percent are consumed as personal consumption, 7.2 percent by government, and 2.0 percent are exported. PPI has one commodity index for legal services, WPU451101 (legal services). The PPI gross weight for legal services is \$178,315,037 (derived from Census revenue data, in thousands). Given the use values for legal services, the final demand indexes would be assigned the following weights: $\$178,315,037 * 0.367 = \$65,441,619$ of legal services would be assigned to traditional services for personal consumption, $\$178,315,037 * 0.072 = \$12,838,683$ traditional services for government, and $\$178,315,037 * 0.02 = \$3,566,301$ traditional services for export. Note that legal services are assigned to traditional services indexes since legal services are by PPI definition a traditional service. Following the methodology employed for legal services, each PPI 6-digit commodity index was analyzed to determine if it should be included in the final demand portion of the system, its relative weight in the system, and how it should be split across the categories of final demand.

Intermediate demand

The intermediate demand segment of the PPI experimental aggregation system tracks price change for goods, services, and construction products sold to businesses as inputs to production. In order to meet needs of different data users, the aggregation system includes two separate treatments of intermediate demand. The two treatments aggregate the identical set of intermediate demand commodity indexes; however, the aggregations are accomplished using two distinct approaches. The first approach organizes intermediate demand commodities (goods, services, and construction) by commodity type. The second approach organizes intermediate demand commodities into stages with the goal of developing a forward flow model of production and price change.

Intermediate demand by Commodity Type

The commodity type treatment of intermediate demand is similar in methodology to the treatment of final demand in the experimental aggregation system and to the PPI's current Stage of Processing System. Indexes track price change for intermediate demand commodities and are grouped by type of commodity. Commodity types include unprocessed goods, processed goods, traditional services, transportation services, and trade services. The indexes are constructed by aggregating 6-digit PPI commodity indexes. A commodity is included in an aggregate index if the commodity is consumed for intermediate demand.

As was the case with final demand, the relative proportions of commodity use calculated in Table 1 can be employed to allocate commodities to intermediate demand by commodity type indexes. To accomplish this, BEA commodities are matched to PPI commodity indexes and the use of the PPI commodities for intermediate demand is determined. The weight of a PPI commodity index in an intermediate demand index is then determined by multiplying the commodity gross weight by the proportional use of the commodity in intermediate demand for the aggregate index. For example, Table 1 indicates that 54.1 percent of legal services (541100) are consumed for intermediate demand. The 2002 Census where-ever-made weight for legal services is \$178,315,037 (in thousands). Multiplying the Census weight by the percent use for intermediate demand, the index for intermediate traditional services would be allocated $\$178,315,037 \times 0.541 = \$96,468,535$ of the Census weight for legal services. Again, legal services are included in the traditional services for intermediate demand since legal services are by PPI definition a traditional service. Following the methodology employed for legal services, each PPI 6-digit commodity index was analyzed to determine if it should be included in the intermediate demand portion of the system and its relative weight in the system. Note that in contrast to final demand, within intermediate demand by commodity type, commodity weight is not split among intermediate demand indexes. Commodities are assigned to only one intermediate demand aggregate based on commodity type.

The experimental aggregation system is based on 2002 IO data, however, for comparison purposes, 1997 IO data was analyzed to determine how commodity allocations would have differed if they were based on 1997 data. Appendix A compares the percent of each commodity's value consumed for intermediate versus final demand as indicated by the 1997 and 2002 IO data. In some cases, BEA publication structures changed between 1997 and 2002, making direct comparisons difficult. In cases where the publication structure did not change, the table directly compares consumption of each commodity at the 6 digit NAICS level. Values in the difference column for intermediate (final) demand are calculated by subtracting the 2002 percent value of a commodity's consumption for intermediate (final) demand from the 1997 value. Difference values are only calculated for commodities that are directly comparable between 1997 and 2002. Of the 322 commodities that were directly comparable across benchmark IOs, use for 33 shifted from intermediate to final demand or final to intermediate demand by more than 10 percentage points. The largest changes were seen in custom architectural woodwork and millwork manufacturing (337212), wood container and pallet manufacturing (321920), power boiler and heat exchanger manufacturing (332410), monetary authorities and depository credit intermediation (52A000), and greenhouse and nursery production (111400).

In most cases, changes to BEA's publication structure were made by either breaking out or collapsing detail for a specific type of commodity. Appendix A attempts to align the 1997 and 2002 structures in cases where BEA publication detail levels changed, allowing for some comparison between structures. Highlighted rows indicate areas where direct comparisons were not possible. Commodities for which the structures changed, but were similar, were placed adjacent to each other in the table for comparison purposes.

Intermediate demand by production flow

The second treatment of intermediate demand is based on production flow. Commodities are organized into sequential stages of production, such that commodities in one stage are used as inputs to produce commodities in the next stage. The stage based treatment of intermediate demand allows data users to study price transmission relationships between the intermediate stages of production and to final demand.

To construct the intermediate demand by production flow indexes, a four step procedure is followed. The procedure utilizes both BEA "Make of Commodities by Industries" and "Use of Commodities by Industry" data. (To obtain BEA Input-Output data, visit http://www.bea.gov/industry/index.htm#benchmark_io.)

1) Determine industry output

The first step in the procedure is to determine the output of each industry in the economy (both primary and secondary output). Output is determined using the "Make of Commodities by Industry" table.

2) Determine consumption of industry output

After determining the output of each industry, the next step is to identify where the output of each industry is consumed. For example, what portion of the output of an industry is consumed for final demand or intermediate demand, and which segment of final demand or specific industries consume the output. The "Use of Commodities by Industry" table is used to ascertain where output is consumed.

3) Assign industries to stages

The third step is to assign each industry in the economy to a production stage. The assignments should be made in such a way that the output of each stage is primarily consumed by the next stage in the system and industries in the final stage sell the majority of their output to final demand.

In practice, industries are assigned to stages of production with the goal of maximizing net forward flow within the system. Net forward flow is defined as: (forward shipments of the industry stage + inputs received from prior stages of process) – (backward shipments of the industry stage + inputs received from forward stages of process). A 2-step procedure was implemented to attempt to maximize net forward flow. In the first step, a set of rules was used to assign industries to stages. In the second step, the effects on net forward flow of moving

individual industries to stages that they were not originally assigned to was examined. In cases where there were significant gains to net forward flow, industries were moved to the appropriate stage.

To determine the best first-step assignment rules, a number of different sets of rules were examined. The rules used can be generally summarized as follows:

Assign industry to Stage 4 if: shipments sold to final demand \geq x percent of industry production

Assign industry to Stage 3 if: shipments sold to final demand and stage 4 \geq y percent of industry production; and shipments sold to final demand $<$ x percent of production

Assign industry to Stage 2 if: shipments sold to final demand, stage 4, and stage 3 \geq z percent of industry production; and shipments sold to final demand and stage 4 $<$ y percent of production; and shipments sold to final demand $<$ x percent

Assign industry to Stage 1: remainder of industries;

where x, y, and z represent cutoff variables.

Using the above set of rules both three and four stage systems can be created. (To generate a three stage system z is set to 0.)² A previously conducted 1997 data analysis, however, indicated that four stage systems generally outperform three stage systems, and, for this reason, three stage systems were not analyzed. In addition, systems containing more than four stages were not examined, as it was determined during a series of internal BLS discussions that systems with more than four stages would be overly complicated. It was felt that systems with greater than four stages would be difficult to develop and overly complex for analysis of data.

To analyze the merits of these different systems, diagnostic statistics were calculated based on the flow of inputs and shipments among different stages. The diagnostic statistics measure each system's forward flow, internal flow, backflow, next stage, skip, and net forward flow. Forward flow shows the percent of total shipments sold by industries to industries classified in forward stages of production (including to final demand). Internal flow indicates the percent of total shipments sold by industries to other industries classified within the same stage of production. Backflow specifies the percent of total shipments sold by industries to industries classified in earlier stages of production. Next stage indicates the percent of total shipments sold by industries to industries classified in the next forward stage of production (the next stage for stage 4 industries is final demand). Skip designates the percent of total shipments sold by industries to industries classified in forward stages of production other than to the next stage. Finally, net forward flow is defined as: (forward shipments of the industry stage + inputs received from prior stages of process) – (backward shipments of the industry stage + inputs

² For example, a four stage system might be developed where x = 80%, y = 65 %, and z = 60%. Under such a system, industries that sold at least 80 percent of their output to final demand would be categorized in stage 4. Industries selling at least 65 percent of their output to stage four industries and final demand, but less than 80 percent to final demand would be placed in stage 3. Industries selling more that 60 percent of their output to industries in stages 3 and 4 and to final demand, but less than 80 percent of their output to final demand and less than 65 percent of their output to final demand and stage 4 would be included in stage 2. The remaining industries would be assigned to stage 1.

received from forward stages of process). In general, net forward flow was considered the most important diagnostic statistic, as it takes into account both forward flow and backflow of shipments and inputs. In practice, however, minimizing skips and internal flow were also considered when selecting a system. Minimizing skip is important, as doing so results in a system with cleaner sequential forward flowing price transmission.

To help clarify these diagnostic statistics, the table below presents a generalized input output model of the economy. Within this hypothetical model, each industry is assigned to one of four stages. The output of an industry stage can be consumed either by other industries as inputs to production or by final demand. For example, the total output of stage 1 is $A+B+C+D+E$. A through D represents consumption by stages 1 through 4 as inputs to production, respectively, and E represents output produced by stage 1 that is sold to final demand (FD). The total inputs used by stage 1 are $A+F+K+P$, where A is produced by stage 1 industries, F by stage 2 industries, K by stage 3 industries, and P by stage 4 industries.

		Stage Using				
		1	2	3	4	FD
Stage Producing	1	A	B	C	D	E
	2	F	G	H	I	J
	3	K	L	M	N	O
	4	P	Q	R	S	T

The equations used to calculate the diagnostic statistics are:

$$\text{Forward flow} = B+C+D+E+H+I+J+N+O+T$$

$$\text{Internal flow} = A+G+M+S$$

$$\text{Backflow} = F+K+L+P+Q+R$$

$$\text{Next stage} = B+H+N+T$$

$$\text{Skip} = C+D+E+I+J+O$$

$$\text{Net forward flow} = [(B+C+D+E+H+I+J+N+O+T) + (B+C+H+D+I+N)] - [(F+K+L+P+Q+R) + (F+K+P+L+Q+R)]$$

Table 2 presents these diagnostic statistics for the four stage systems generated using the rules presented above.

Table 2. Initial rule diagnostic statistics

Cutoff x	Cutoff y	Cutoff z	% of Shipments					Net forward flow	# of Industries to Stage				% of Production to Stage			
			Internal Flow	Back Flow	Forward Flow (FF)	Next Stage FF	Skip FF		1	2	3	4	1	2	3	4
80	75	65	12.5	5.1	82.4	44.6	37.8	16,657,660	106	108	92	117	20.0	31.6	13.2	35.2
90	70	60	12.4	5.2	82.5	36.2	46.3	16,646,831	104	123	129	67	18.2	35.3	23.6	22.9
75	75	60	12.3	5.2	82.4	48.2	34.2	16,597,641	76	128	79	140	11.8	34.2	15.1	38.9
85	70	60	12.3	5.3	82.4	43.4	39.0	16,580,857	77	133	120	93	12.2	33.9	23.3	30.6
75	75	65	12.3	5.3	82.4	47.8	34.6	16,578,288	95	109	79	140	15.8	30.1	15.1	38.9
80	75	55	13.2	4.8	82.0	45.4	36.5	16,576,661	69	145	92	117	11.0	40.6	13.2	35.2
90	70	55	12.6	5.2	82.3	36.4	45.8	16,575,318	89	138	129	67	15.3	38.2	23.6	22.9
90	75	65	13.3	4.9	81.9	34.7	47.2	16,548,318	132	112	112	67	26.6	31.2	19.2	22.9
75	70	65	11.6	5.7	82.7	49.7	33.0	16,546,938	83	104	96	140	14.3	25.7	21.1	38.9
85	70	65	12.4	5.3	82.3	42.7	39.7	16,545,685	94	116	120	93	15.8	30.3	23.3	30.6
90	70	65	12.8	5.1	82.1	35.2	46.9	16,545,011	123	104	129	67	21.3	32.2	23.6	22.9
90	65	60	12.6	5.2	82.2	38.0	44.2	16,542,824	78	133	148	67	12.1	33.8	31.1	22.9
80	75	70	12.8	5.1	82.1	43.5	38.5	16,519,823	124	90	92	117	28.2	23.4	13.2	35.2
80	70	65	11.7	5.7	82.6	47.3	35.3	16,513,420	89	111	106	117	14.7	26.2	23.9	35.2
75	70	70	11.8	5.7	82.6	48.5	34.0	16,509,315	97	90	96	140	18.7	21.3	21.1	38.9
90	75	60	13.5	4.8	81.7	35.0	46.7	16,502,096	120	124	112	67	21.6	36.3	19.2	22.9
80	70	60	11.8	5.6	82.5	47.8	34.7	16,499,318	73	127	106	117	10.9	30.0	23.9	35.2
75	70	60	11.8	5.7	82.5	50.0	32.5	16,490,765	69	118	96	140	10.2	29.8	21.1	38.9
85	75	60	13.0	5.1	81.9	41.3	40.6	16,488,511	101	130	99	93	19.3	34.0	16.0	30.6
80	70	70	11.9	5.6	82.5	45.9	36.6	16,483,381	102	98	106	117	19.3	21.6	23.9	35.2
85	75	65	12.9	5.1	82.0	41.1	40.9	16,480,542	114	117	99	93	20.9	32.4	16.0	30.6
80	80	60	13.6	4.8	81.5	43.0	38.5	16,442,681	115	124	67	117	21.1	36.4	7.3	35.2
85	70	70	12.6	5.3	82.1	40.4	41.7	16,440,826	113	97	120	93	27.0	19.1	23.3	30.6
90	70	70	14.0	4.7	81.3	33.2	48.1	16,412,850	148	79	129	67	32.7	20.8	23.6	22.9
75	75	55	13.3	5.0	81.7	47.8	33.8	16,408,793	62	142	79	140	7.9	38.0	15.1	38.9
85	75	70	13.8	4.8	81.4	39.8	41.6	16,406,381	135	96	99	93	31.7	21.6	16.0	30.6
85	80	60	13.8	4.8	81.4	40.1	41.3	16,388,953	119	133	78	93	21.6	36.9	10.9	30.6

The best performing system in terms of net forward flow is the 80-75-60 system. In this system, industries sell 82.7 percent of their production to forward stages of production and only 5.2 percent of production to earlier stages of production. Of the forward shipments, 45.3 percent are sold to the next forward stage of production and 37.5 percent are sold to a forward stage of production other than the next stage. While systems generated using other sets of cutoffs do not perform as well as the 80-75-60 system in terms of net forward flow, some perform significantly better in terms of next stage and skip. In the 75-60-60 system, for example, 53.8 percent of forward shipments are sold to the next stage of production and only 27.6 percent to forward stages of production other than the next stage. In most cases, in fact, there appears to be a tradeoff between higher net forward flow and better next stage and skip. The 80-75-60 system, for example, exhibits 3.2 percent higher net forward flow than the 75-60-60 system, but 11 percent less next stage shipments.

In the next step of analysis, a subset of the systems from table 2 were analyzed in greater detail by examining the effects of moving individual industries to stages where they were not originally assigned. The subset chosen was the top 5 performing systems in terms of net forward flow, the top 2 performing systems in terms of next stage and skip, and the 80-70-60 system, which was chosen from the 1997 data analysis. Within these systems, each industry was analyzed to determine if, holding all else constant, net forward flow could be improved by moving it from its original stage allocation. After extensive analysis, it was decided to reassign industries in cases where the move would result in a net forward flow gain of more than \$5,000. This rule resulted in generating relatively high gains to net forward flow, while minimizing the number of industries moved from their original assignments. (Additional moves exhibited substantial diminishing returns to net forward flow.) The results of step 2 are presented in Table 3.

Table 3. Second-Step diagnostic statistics

Cutoff x	Cutoff y	Cutoff z	Version	# of industries moved	% of Shipments					Net forward flow	# of industries to stage				% of production to stage			
					Internal flow	Back flow	Forward flow	Next stage	Skip		1	2	3	4	1	2	3	4
80	75	60	1	0	12.1	5.2	82.7	45.3	37.5	16,729,940	91	123	92	117	17.2	34.4	13.2	35.2
80	75	60	2	14	11.3	5.0	83.7	40.8	42.9	17,104,424	91	120	96	116	26.3	24.7	19.7	29.3
80	75	65	1	0	12.5	5.1	82.4	44.6	37.8	16,657,660	106	108	92	117	20.0	31.6	13.2	35.2
80	75	65	2	13	11.5	5.0	83.5	40.2	43.2	17,060,728	104	108	95	116	27.7	23.4	19.6	29.3
90	70	60	1	0	12.4	5.2	82.5	36.2	46.3	16,646,831	104	123	129	67	18.2	35.3	23.6	22.9
90	70	60	2	12	11.6	5.1	83.3	37.3	46.0	16,965,454	104	120	131	68	27.2	24.6	22.9	25.2
75	75	60	1	0	12.3	5.2	82.4	48.2	34.2	16,597,641	76	128	79	140	11.8	34.2	15.1	38.9
75	75	60	2	15	10.7	5.7	83.7	42.6	41.0	16,885,987	77	122	87	137	22.9	21.2	24.2	31.8
85	70	60	1	0	12.3	5.3	82.4	43.4	39.0	16,580,857	77	133	120	93	12.2	33.9	23.3	30.6
85	70	60	2	14	10.9	5.3	83.8	40.1	43.6	17,039,283	78	129	122	94	22.9	26.5	23.0	27.6
80	70	60	1	0	11.8	5.6	82.5	47.8	34.7	16,499,318	73	127	106	117	10.9	30.0	23.9	35.2
80	70	60	2	11	10.8	5.6	83.6	46.4	37.2	16,890,286	76	122	107	118	22.3	21.7	20.2	35.7
75	65	65	1	0	12.2	5.7	82.2	52.4	29.8	16,370,027	53	102	128	140	5.5	23.9	31.7	38.9
75	65	65	2	17	10.7	5.7	83.6	50.5	33.1	16,848,881	60	96	126	141	16.7	18.4	25.8	39.1
75	60	60	1	0	13.3	5.3	81.4	53.8	27.6	16,207,798	31	101	151	140	2.5	20.1	38.5	38.9
75	60	60	2	16	10.9	5.7	83.4	51.0	32.5	16,790,193	41	93	146	143	17.1	14.7	28.2	39.9

Table 3 presents the same diagnostic statistics as Table 2, however, for each set of cutoff choices it shows the statistics before and after industries were moved according to the rule outlined above. The “Version” column indicates whether the diagnostic statistics are for the initial rules-based allocation decisions (version 1) or for the allocation decisions subsequent to step 2 (version 2). The “number of industries moved” column designates the quantity of industries moved from their original allocations.

Moving industries from their initial allocations improved net forward flow by an average of 2.5 percent across all systems. The largest gains were to the 75-60-60 and 75-65-65 systems, where net forward flow increased 3.6 and 2.9 percent, respectively. Internal flow also improved significantly from the initial to the second set of allocations. The average improvement of internal flow was -10.6 percent across all systems. The main disadvantage to the second stage moves is a general decrease in the next stage statistic across for almost all systems, which fell by an average of 6.0 percent. The largest declines were in the 75-75-60 and 80-75-60 systems, where next stage decreased 11.6 and 9.9 percent.

Subsequent to the second stage moves, the 80-75-60 system continues to exhibit the highest level of net forward flow. Within the 80-75-60 system, 83.7 percent of shipments are sold to forward stages of production, and only 5 percent are sold to earlier stages of production. This system therefore exhibits strong forward directional flow. The main disadvantages of the 80-75-60 system are relatively high levels of internal flow and skip and relatively low next stage shipments. Within the system, only 40.8 percent of shipments are sold to the next stage of production and 42.9 percent to forward stages of production other than the next stage. In contrast, the 75-65-65 and 75-60-60 systems exhibit relatively low levels of internal flow and skip and relatively high next stage shipments. For the 75-65-65 and 75-60-60 systems, 50.5 and 51.0 percent of shipments are sold to the next stage of production, respectively, and 33.1 and 32.5 percent of shipments are sold to forward stages of production other than the next stage. Compared to the 80-75-60 system, the 75-65-65 and 75-60-60 systems demonstrate 23.7 and 24.9 percent higher next stage shipments, respectively. The main disadvantage of the 75-65-65 and 75-60-60 systems is lower net forward flow in comparison to the 80-75-60 system. The 75-65-65 and 75-60-60 exhibit 1.5 and 1.8 percent lower net forward flow than the 80-75-60 system.

To continue the analysis, the scope of potential systems was narrowed to two systems. The 80-75-60 system was chosen for further analysis since it exhibited the highest levels of net forward flow across all systems in both the first and second stages of analysis. The 75-65-65 system was also chosen for further analysis since it exhibited relatively low levels of internal flow and skip as well as relatively high next stage shipments. Although the 75-60-60 system demonstrates slightly lower levels of skip and higher levels of next stage shipments than the 75-65-65 system, the 75-65-65 system was chosen since it possesses lower internal flow, higher forward flow, and higher net forward flow than the 75-60-60 system.

Comparison of the 80-75-60 system to the 75-65-65 system began with a detailed examination of the industries moved from their initial allocations within each system. Table 4 presents the initial allocations versus second step allocation for industries that were moved.

Table 4. Industries moved from their initial allocations

Industry	Title	80-75-60		75-65-65		same
		Original	New	Original	New	
1111B0	Grain farming	1	3	1	N/A	N
221100	Electric power generation, transmission, and distribution	2	1	3	2	N
230301	Nonresidential maintenance and repair	1	N/A	2	1	Y
31122A	Soybean and other oilseed processing	1	2	1	N/A	N
311513	Cheese manufacturing	2	3	3	N/A	Y
321100	Sawmills and wood preservation	1	2	2	N/A	Y
325211	Plastics material and resin manufacturing	1	N/A	1	2	N
325190	Other basic organic chemical manufacturing	1	3	1	3	Y
3259A0	All other chemical product and preparation manufacturing	1	2	2	N/A	Y
4A0000	Retail trade	4	3	4	N/A	N
491000	Postal service	1	N/A	2	1	Y
511200	Software publishers	3	N/A	4	3	Y
515100	Radio and television broadcasting	1	N/A	1	2	N
52A000	Monetary authorities and depository credit intermediation	2	1	2	1	Y
531000	Real estate	2	1	3	1	Y
541100	Legal services	2	1	2	1	Y
541200	Accounting, tax preparation, bookkeeping, and payroll services	1	N/A	2	1	Y
541800	Advertising and related services	1	N/A	2	1	Y
5419A0	All other miscellaneous professional, scientific, and technical services	1	N/A	2	1	Y
550000	Management of companies and enterprises	1	N/A	2	1	Y
561300	Employment services	1	N/A	2	1	Y
561600	Investigation and security services	2	1	2	N/A	N
621B00	Medical and diagnostic labs and outpatient and other ambulatory care services	4	3	4	N/A	N
8111A0	Automotive repair and maintenance, except car washes	3	4	4	N/A	Y
S00201	State and local government passenger transit	3	N/A	3	4	N
S00203	Other state and local government enterprises	2	N/A	3	4	N
	total number of reassignments	14		17		

Within the 80-75-60 system, 14 industries were reassigned from their initial allocations, whereas 17 industries were reassigned in the 75-65-65 system. Across both systems, a total of 26 industries were affected by the reassignments. After the reassignments, 16 of the 26 industries were placed in the same stage in both systems.

Since the level of skip increased significantly from the original allocations to the second stage allocations in the 80-75-60 system, the cause of this change was examined. For each industry that was moved, the change in skip was calculated from their step 1 allocation to their step 2 allocation. The statistic indicated that within 80-75-60 system the move of retail trade from stage 4 to stage 3 caused the vast majority of the increase in skip from step 1 to step 2. For this reason, it was decided to return retail trade to stage 4 in the 80-75-60 system. In addition, moving the medical and diagnostic labs and outpatient and other ambulatory care services industry from stage 4 to 3 generated a significant increase in skip. It was therefore decided to also return the industry for medical and diagnostic labs and outpatient and other ambulatory care services to stage 4.

To ensure that no moves seemed counterintuitive, the economic intuition of the moves was examined. The examination indicated that, for several industries, the initial placement seemed to make more economic sense than the second stage placement. The other basic organic chemicals manufacturing industry was initially assigned to stage 1 but moved to stage 3 in both systems. In 80-75-60 system the plastic resins and materials manufacturing industry is assigned to stage 1 and in the 75-65-65 system the plastic resins and material industry is assigned to stage 2. Organic chemicals, however, are key inputs to plastic resins and materials. The other basic organic chemicals manufacturing industry was therefore reassigned to its initial stage 1 allocation in both the 80-75-60 and

75-65-65 systems. The industry for grain farming was moved from stage 1 to stage 3 in the 80-75-65 system. The industries for other animal food manufacturing, flour milling and malt manufacturing, and wet corn milling are classified in stages 1, 3 and 2, respectively, and these three industries are all major purchasers of grain. It was therefore decided to return the grain farming industry back to its initial stage 1 allocation in the 80-75-60 system. Table 5 presents the statistical results of this set of reallocations.

Table 5. Third-step diagnostic statistics, initial and after changes

Cutoff x	Cutoff y	Cutoff z	Version	# of industries moved	% of Shipments					Net forward flow	# of industries to stage				% of production to stage			
					Internal flow	Back flow	Forward flow	Next stage	Skip		1	2	3	4	1	2	3	4
					80	75	60	1	0		12.1%	5.2%	82.7%	45.3%	37.5%	16,729,940	91	123
80	75	60	2	14	11.3%	5.0%	83.7%	40.8%	42.9%	17,104,424	91	120	96	116	26.3%	24.7%	19.7%	29.3%
80	75	60	3	10	11.8%	4.9%	83.3%	45.7%	37.6%	17,021,877	93	120	92	118	26.7%	24.7%	12.8%	35.7%
75	65	65	1	0	12.2%	5.7%	82.2%	52.4%	29.8%	16,370,027	53	102	128	140	5.5%	23.9%	31.7%	38.9%
75	65	65	2	17	10.7%	5.7%	83.6%	50.5%	33.1%	16,848,881	60	96	126	141	16.7%	18.4%	25.8%	39.1%
75	65	65	3	16	10.7%	5.7%	83.6%	50.4%	33.2%	16,830,414	61	96	125	141	17.0%	18.4%	25.5%	39.1%

In Table 5, the “Version” column identifies whether the diagnostic statistics are for the initial rules based allocations, the allocation decisions subsequent to step 2, or the allocation decisions made in step 3. For all versions, the “Number of industries moved” column identifies the number of industries moved from the initial step 1 allocations. In the 80-75-60 system, shifting from version 2 to version 3 resulted in a small decline in net forward flow (approximately 0.5 percent); however, the reallocations caused skip to fall by approximately 12.3 percent. The relatively large improvement in skip likely outweighs the small losses in net forward flow. Additionally, version 3 makes more intuitive sense in its placement of the industries for other basic organic chemical manufacturing, retail trade, and grain farming. The shift from version 2 to version 3 in the 75-65-65 system did not result in any substantial changes in the 75-65-65 system’s diagnostic statistics, as only one industry was reallocated from the second stage assignments. Version 3 does, however, make more intuitive sense in its placement of the other basic organic chemical manufacturing industry. For the reasons outlined above, version 3 is preferred to version 2 for both systems.

In many cases the 80-75-60 and 75-65-65 systems are similar in terms of industry assignments; however, there are some significant allocation differences between the systems. Of the 423 industries included in the BEA IO tables, the two systems assign 308 (73 percent) to the same stage and 115 (27 percent) to different stages. Table 6 presents the assignments that differ between the two systems.

Table 6. Industries assigned to different stages, 75-65-65 vs. 80-75-60

Industry	Title	75-65-65	80-75-60
111200	Vegetable and melon farming	4	3
1113A0	Fruit farming	3	2
114100	Fishing	3	2
212100	Coal mining	2	1
21311A	Support activities for other mining	1	2
221100	Electric power generation, transmission, and distribution	2	1
31122A	Soybean and other oilseed processing	1	2
311313	Beet sugar manufacturing	3	2
311410	Frozen food manufacturing	4	3
311930	Flavoring syrup and concentrate manufacturing	3	2
312130	Wineries	4	3
313100	Fiber, yarn, and thread mills	2	1
313210	Broadwoven fabric mills	3	2
313240	Knit fabric mills	3	2
314110	Carpet and rug mills	4	3
314910	Textile bag and canvas mills	3	2
314990	All other textile product mills	3	2
316900	Other leather and allied product manufacturing	4	3
321910	Wood windows and doors and millwork	3	2
321999	All other miscellaneous wood product manufacturing	3	2
322230	Stationery product manufacturing	4	3
322291	Sanitary paper product manufacturing	3	2

Table 6. Industries assigned to different stages, 75-65-65 vs. 80-75-60 – Continued

Industry	Title	75-65-65	80-75-60
322299	All other converted paper product manufacturing	3	2
323110	Printing	2	1
324191	Petroleum lubricating oil and grease manufacturing	3	2
325211	Plastics material and resin manufacturing	2	1
325220	Artificial and synthetic fibers and filaments manufacturing	2	1
325411	Medicinal and botanical manufacturing	3	2
325412	Pharmaceutical preparation manufacturing	4	3
325414	Biological product (except diagnostic) manufacturing	3	2
325610	Soap and cleaning compound manufacturing	3	2
326110	Plastics packaging materials and unlaminated film and sheet manufacturing	2	1
326121	Unlaminated plastics profile shape manufacturing	2	1
326130	Laminated plastics plate, sheet (except packaging), and shape manufacturing	2	1
326140	Polystyrene foam product manufacturing	3	2
326150	Urethane and other foam product (except polystyrene) manufacturing	3	2
326160	Plastics bottle manufacturing	3	2
32619A	Other plastics product manufacturing	3	2
327211	Flat glass manufacturing	2	1
327213	Glass container manufacturing	3	2
327215	Glass product manufacturing made of purchased glass	3	2
327390	Other concrete product manufacturing	3	2
327910	Abrasive product manufacturing	2	1
327999	Miscellaneous nonmetallic mineral products	3	2
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)	2	1
331490	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying	2	1
33221A	Cutlery, utensil, pot, and pan manufacturing	4	3
33221B	Handtool manufacturing	3	2
332320	Ornamental and architectural metal products manufacturing	3	2
332500	Hardware manufacturing	3	2
332710	Machine shops	2	1
332800	Coating, engraving, heat treating and allied activities	2	1
333295	Semiconductor machinery manufacturing	4	3
33329A	Other industrial machinery manufacturing	4	3
333319	Other commercial and service industry machinery manufacturing	4	3
33341A	Air purification and ventilation equipment manufacturing	3	2
333515	Cutting tool and machine tool accessory manufacturing	2	1
333911	Pump and pumping equipment manufacturing	4	3
333994	Industrial process furnace and oven manufacturing	4	3
33399A	Other general purpose machinery manufacturing	4	3
334220	Broadcast and wireless communications equipment	4	3
334300	Audio and video equipment manufacturing	4	3
334411	Electron tube manufacturing	3	2
334413	Semiconductor and related device manufacturing	3	2

Table 6. Industries assigned to different stages, 75-65-65 vs. 80-75-60 – Continued

Industry	Title	75-65-65	80-75-60
334417	Electronic connector manufacturing	3	2
334419	Other electronic component manufacturing	3	2
33441A	Electronic capacitor, resistor, coil, transformer, and other inductor manufacturing	3	2
334513	Industrial process variable instruments manufacturing	4	3
334613	Magnetic and optical recording media manufacturing	3	2
335312	Motor and generator manufacturing	3	2
335911	Storage battery manufacturing	3	2
335930	Wiring device manufacturing	3	2
335999	All other miscellaneous electrical equipment and component manufacturing	4	3
336500	Railroad rolling stock manufacturing	3	2
337212	Custom architectural woodwork and millwork manufacturing	4	3
33721A	Office furniture manufacturing	3	2
339950	Sign manufacturing	3	2
420000	Wholesale trade	3	2
481000	Air transportation	4	3
482000	Rail transportation	2	1
483000	Water transportation	4	3
484000	Truck transportation	3	2
492000	Couriers and messengers	2	1
493000	Warehousing and storage	2	1
5111A0	Directory, mailing list, and other publishers	2	1
512100	Motion picture and video industries	2	1
512200	Sound recording industries	3	2
515100	Radio and television broadcasting	2	1
517000	Telecommunications	3	2
518100	Internet service providers and web search portals	3	2
518200	Data processing, hosting, and related services	2	1
519100	Other information services	3	2
523000	Securities, commodity contracts, investments, and related activities	3	2
532100	Automotive equipment rental and leasing	3	2
532400	Commercial and industrial machinery and equipment rental and leasing	2	1
541300	Architectural, engineering, and related services	3	2
541400	Specialized design services	2	1
541512	Computer systems design services	3	2
54151A	Other computer related services, including facilities management	2	1
5416A0	Environmental and other technical consulting services	2	1
541700	Scientific research and development services	3	2
550000	Management of companies and enterprises	2	1
561100	Office administrative services	2	1
561200	Facilities support services	3	2
561400	Business support services	2	1
561600	Investigation and security services	2	1
561700	Services to buildings and dwellings	2	1
561900	Other support services	2	1

Table 6. Industries assigned to different stages, 75-65-65 vs. 80-75-60 – Continued

Industry	Title	75-65-65	80-75-60
811200	Electronic and precision equipment repair and maintenance	3	2
811400	Personal and household goods repair and maintenance	3	2
S00101	Federal electric utilities	3	2
S00102	Other Federal Government enterprises	2	1
S00201	State and local government passenger transit	4	3
S00202	State and local government electric utilities	3	2
S00203	Other state and local government enterprises	4	3

Table 6 shows that for each of the 115 industries assigned to different stages, the assignments differ by only one stage across systems. Rail transportation (482000), for example, is assigned to stage 2 by the 75-65-65 system and stage 1 by the 80-75-60 system. The final sets of industries assigned to the four stages are therefore relatively similar across the two systems, but do exhibit some differences. Mainly, 115 out of 423 industries are assigned one stage apart by the two systems. As the systems are relatively similar in industry assignments, the final choice of system was based on the diagnostic statistics in Table 5.

Version 3 of the 80-75-60 system has higher net forward flow than version 3 of the 75-65-65 system, but also has a lower percent of next stage shipments (higher percent of skip) than the 75-65-65 system. Again, higher net forward flow could only be achieved at the cost of a reduction in next stage shipments. The final 80-75-60 system demonstrates 1.1 percent higher net forward flow than the 75-65-65 system. The 80-75-60 system, however, also exhibits 9.3 percent less next stage shipments and 13.5 percent more skip than the 75-65-65 system. In the end, the 75-65-65 system was chosen, as it was decided that the cost to choosing the 75-65-65 system — a 1.1-percent reduction in net forward flow — was outweighed by the benefits of a 9.3-percent increase in next stage flow and a 13.5-percent reduction in skip. Table 7 presents the final industry assignments for version 3 of the 75-65-65 system.

Table 7. Final industry assignments

Stage 1	
Industry	Title
1111A0	Oilseed farming
1111B0	Grain farming
111920	Cotton farming
1119A0	Sugarcane and sugar beet farming
1119B0	All other crop farming
113300	Logging
113A00	Forest nurseries, forest products, and timber tracts
115000	Support activities for agriculture and forestry
211000	Oil and gas extraction
212210	Iron ore mining
212230	Copper, nickel, lead, and zinc mining
2122A0	Gold, silver, and other metal ore mining
212390	Other nonmetallic mineral mining and quarrying
21311A	Support activities for other mining

Table 7. Final industry assignments – Continued

Stage 1	
Industry	Title
230301	Nonresidential maintenance and repair
311119	Other animal food manufacturing
31122A	Soybean and other oilseed processing
322110	Pulp mills
322120	Paper mills
322130	Paperboard mills
323120	Support activities for printing
324199	All other petroleum and coal products manufacturing
325110	Petrochemical manufacturing
325120	Industrial gas manufacturing
325130	Synthetic dye and pigment manufacturing
325181	Alkalies and chlorine manufacturing
325182	Carbon black manufacturing
325188	All other basic inorganic chemical manufacturing
325190	Other basic organic chemical manufacturing
325310	Fertilizer manufacturing
325320	Pesticide and other agricultural chemical manufacturing
325520	Adhesive manufacturing
325910	Printing ink manufacturing
32712B	Clay and nonclay refractory manufacturing
327992	Ground or treated mineral and earth manufacturing
331110	Iron and steel mills and ferroalloy manufacturing
331200	Steel product manufacturing from purchased steel
331314	Secondary smelting and alloying of aluminum
33131A	Alumina refining and primary aluminum production
33131B	Aluminum product manufacturing from purchased aluminum
331411	Primary smelting and refining of copper
331420	Copper rolling, drawing, extruding and alloying
332600	Spring and wire product manufacturing
33461A	Software, audio, and video media reproducing
335991	Carbon and graphite product manufacturing
486000	Pipeline transportation
491000	Postal service
515200	Cable and other subscription programming
516110	Internet publishing and broadcasting
52A000	Monetary authorities and depository credit intermediation
531000	Real estate
533000	Lessors of nonfinancial intangible assets
541100	Legal services
541200	Accounting, tax preparation, bookkeeping, and payroll services
541610	Management, scientific, and technical consulting services
541800	Advertising and related services
5419A0	All other miscellaneous professional, scientific, and technical services
561300	Employment services

Table 7. Final industry assignments – Continued

Stage 1	
Industry	Title
711200	Spectator sports
711500	Independent artists, writers, and performers
811300	Commercial and industrial machinery and equipment repair and maintenance
Stage 2	
Industry	Title
112120	Dairy cattle and milk production
1121A0	Cattle ranching and farming
112300	Poultry and egg production
112A00	Animal production, except cattle and poultry and eggs
212100	Coal mining
212310	Stone mining and quarrying
212320	Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying
221100	Electric power generation, transmission, and distribution
221200	Natural gas distribution
311221	Wet corn milling
311225	Fats and oils refining and blending
31131A	Sugar cane mills and refining
313100	Fiber, yarn, and thread mills
313230	Nonwoven fabric mills
313310	Textile and fabric finishing mills
313320	Fabric coating mills
315210	Cut and sew apparel contractors
316100	Leather and hide tanning and finishing
321100	Sawmills and wood preservation
321219	Reconstituted wood product manufacturing
32121A	Veneer and plywood manufacturing
321920	Wood container and pallet manufacturing
322210	Paperboard container manufacturing
32222A	Coated and laminated paper, packaging paper and plastics film manufacturing
32222B	All other paper bag and coated and treated paper manufacturing
323110	Printing
324110	Petroleum refineries
325211	Plastics material and resin manufacturing
325212	Synthetic rubber manufacturing
325220	Artificial and synthetic fibers and filaments manufacturing
325510	Paint and coating manufacturing
3259A0	All other chemical product and preparation manufacturing
326110	Plastics packaging materials and unlaminated film and sheet manufacturing
326121	Unlaminated plastics profile shape manufacturing
326122	Plastics pipe and pipe fitting manufacturing
326130	Laminated plastics plate, sheet (except packaging), and shape manufacturing
326220	Rubber and plastics hoses and belting manufacturing
326290	Other rubber product manufacturing

Table 7. Final industry assignments – Continued

Stage 2	
Industry	Title
327211	Flat glass manufacturing
327212	Other pressed and blown glass and glassware manufacturing
327310	Cement manufacturing
3274A0	Lime and gypsum product manufacturing
327910	Abrasive product manufacturing
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)
331490	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying
331510	Ferrous metal foundries
331520	Nonferrous metal foundries
332114	Custom roll forming
33211A	All other forging, stamping, and sintering
33211B	Crown and closure manufacturing and metal stamping
332310	Plate work and fabricated structural product manufacturing
332430	Metal can, box, and other metal container (light gauge) manufacturing
332710	Machine shops
332720	Turned product and screw, nut, and bolt manufacturing
332800	Coating, engraving, heat treating and allied activities
33291A	Valve and fittings other than plumbing
332991	Ball and roller bearing manufacturing
332996	Fabricated pipe and pipe fitting manufacturing
33299C	Other fabricated metal manufacturing
333515	Cutting tool and machine tool accessory manufacturing
333612	Speed changer, industrial high-speed drive, and gear manufacturing
333613	Mechanical power transmission equipment manufacturing
33399B	Fluid power process machinery
334290	Other communications equipment manufacturing
334412	Bare printed circuit board manufacturing
334418	Printed circuit assembly (electronic assembly) manufacturing
334512	Automatic environmental control manufacturing
335314	Relay and industrial control manufacturing
335920	Communication and energy wire and cable manufacturing
339991	Gasket, packing, and sealing device manufacturing
482000	Rail transportation
48A000	Scenic and sightseeing transportation and support activities for transportation
492000	Couriers and messengers
493000	Warehousing and storage
511110	Newspaper publishers
511120	Periodical publishers
5111A0	Directory, mailing list, and other publishers
512100	Motion picture and video industries
515100	Radio and television broadcasting
518200	Data processing, hosting, and related services
522A00	Nondepository credit intermediation and related activities
524200	Insurance agencies, brokerages, and related activities

Table 7. Final industry assignments – Continued

Stage 2	
Industry	Title
532400	Commercial and industrial machinery and equipment rental and leasing
541400	Specialized design services
54151A	Other computer related services, including facilities management
5416A0	Environmental and other technical consulting services
550000	Management of companies and enterprises
561100	Office administrative services
561400	Business support services
561500	Travel arrangement and reservation services
561600	Investigation and security services
561700	Services to buildings and dwellings
561900	Other support services
562000	Waste management and remediation services
711A00	Promoters of performing arts and sports and agents for public figures
S00102	Other Federal Government enterprises
Stage 3	
Industry	Title
111335	Tree nut farming
1113A0	Fruit farming
111910	Tobacco farming
114100	Fishing
221300	Water, sewage and other systems
230302	Residential maintenance and repair
311210	Flour milling and malt manufacturing
311313	Beet sugar manufacturing
311320	Chocolate and confectionery manufacturing from cacao beans
311420	Fruit and vegetable canning, pickling, and drying
311513	Cheese manufacturing
311514	Dry, condensed, and evaporated dairy product manufacturing
31151A	Fluid milk and butter manufacturing
311520	Ice cream and frozen dessert manufacturing
311615	Poultry processing
31161A	Animal (except poultry) slaughtering, rendering, and processing
311700	Seafood product preparation and packaging
311920	Coffee and tea manufacturing
311930	Flavoring syrup and concentrate manufacturing
311940	Seasoning and dressing manufacturing
311990	All other food manufacturing
312140	Distilleries
313210	Broadwoven fabric mills
313220	Narrow fabric mills and schiffli machine embroidery
313240	Knit fabric mills
314910	Textile bag and canvas mills
314990	All other textile product mills

Table 7. Final industry assignments – Continued

Stage 3	
Industry	Title
32121B	Engineered wood member and truss manufacturing
321910	Wood windows and doors and millwork
321992	Prefabricated wood building manufacturing
321999	All other miscellaneous wood product manufacturing
322291	Sanitary paper product manufacturing
322299	All other converted paper product manufacturing
324121	Asphalt paving mixture and block manufacturing
324122	Asphalt shingle and coating materials manufacturing
324191	Petroleum lubricating oil and grease manufacturing
325411	Medicinal and botanical manufacturing
325413	In-vitro diagnostic substance manufacturing
325414	Biological product (except diagnostic) manufacturing
325610	Soap and cleaning compound manufacturing
326140	Polystyrene foam product manufacturing
326150	Urethane and other foam product (except polystyrene) manufacturing
326160	Plastics bottle manufacturing
32619A	Other plastics product manufacturing
326210	Tire manufacturing
32711A	Pottery, ceramics, and plumbing fixture manufacturing
32712A	Brick, tile, and other structural clay product manufacturing
327213	Glass container manufacturing
327215	Glass product manufacturing made of purchased glass
327320	Ready-mix concrete manufacturing
327330	Concrete pipe, brick, and block manufacturing
327390	Other concrete product manufacturing
327991	Cut stone and stone product manufacturing
327993	Mineral wool manufacturing
327999	Miscellaneous nonmetallic mineral products
33221B	Handtool manufacturing
332320	Ornamental and architectural metal products manufacturing
332410	Power boiler and heat exchanger manufacturing
332420	Metal tank (heavy gauge) manufacturing
332500	Hardware manufacturing
332913	Plumbing fixture fitting and trim manufacturing
333414	Heating equipment (except warm air furnaces) manufacturing
333415	Air conditioning, refrigeration, and warm air heating equipment manufacturing
33341A	Air purification and ventilation equipment manufacturing
333618	Other engine equipment manufacturing
333920	Material handling equipment manufacturing
334112	Computer storage device manufacturing
33411A	Computer terminals and other computer peripheral equipment manufacturing
334411	Electron tube manufacturing
334413	Semiconductor and related device manufacturing
334417	Electronic connector manufacturing

Table 7. Final industry assignments – Continued

Stage 3	
Industry	Title
334419	Other electronic component manufacturing
33441A	Electronic capacitor, resistor, coil, transformer, and other inductor manufacturing
334514	Totalizing fluid meters and counting devices manufacturing
334613	Magnetic and optical recording media manufacturing
335110	Electric lamp bulb and part manufacturing
335120	Lighting fixture manufacturing
335228	Other major household appliance manufacturing
335311	Power, distribution, and specialty transformer manufacturing
335312	Motor and generator manufacturing
335313	Switchgear and switchboard apparatus manufacturing
335911	Storage battery manufacturing
335930	Wiring device manufacturing
336211	Motor vehicle body manufacturing
336300	Motor vehicle parts manufacturing
336412	Aircraft engine and engine parts manufacturing
336413	Other aircraft parts and auxiliary equipment manufacturing
33641A	Propulsion units and parts for space vehicle and guided missiles
336500	Railroad rolling stock manufacturing
337110	Wood kitchen cabinet and countertop manufacturing
337215	Showcase, partition, shelving, and locker manufacturing
33721A	Office furniture manufacturing
339112	Surgical and medical instrument manufacturing
339113	Surgical appliance and supplies manufacturing
339114	Dental equipment and supplies manufacturing
339116	Dental laboratories
339940	Office supplies (except paper) manufacturing
339950	Sign manufacturing
339994	Broom, brush, and mop manufacturing
33999A	All other miscellaneous manufacturing
420000	Wholesale trade
484000	Truck transportation
485000	Transit and ground passenger transportation
511200	Software publishers
512200	Sound recording industries
517000	Telecommunications
518100	Internet service providers and web search portals
519100	Other information services
523000	Securities, commodity contracts, investments, and related activities
524100	Insurance carriers
532100	Automotive equipment rental and leasing
532A00	General and consumer goods rental except video tapes and discs
541300	Architectural, engineering, and related services
541512	Computer systems design services
541700	Scientific research and development services

Table 7. Final industry assignments – Continued

Stage 3	
Industry	Title
541920	Photographic services
561200	Facilities support services
711100	Performing arts companies
7211A0	Hotels and motels, including casino hotels
811200	Electronic and precision equipment repair and maintenance
811400	Personal and household goods repair and maintenance
812300	Dry-cleaning and laundry services
813B00	Civic, social, professional and similar organizations
S00101	Federal electric utilities
S00202	State and local government electric utilities
Stage 4	
Industry	Title
111200	Vegetable and melon farming
111400	Greenhouse, nursery, and floriculture production
114200	Hunting and trapping
213111	Drilling oil and gas wells
213112	Support activities for oil and gas operations
230101	Nonresidential commercial and health care structures
230102	Nonresidential manufacturing structures
230103	Other nonresidential structures
230201	Residential permanent site single- and multi-family structures
230202	Other residential structures
311111	Dog and cat food manufacturing
311230	Breakfast cereal manufacturing
311330	Confectionery manufacturing from purchased chocolate
311340	Nonchocolate confectionery manufacturing
311410	Frozen food manufacturing
311810	Bread and bakery product manufacturing
311820	Cookie, cracker, and pasta manufacturing
311830	Tortilla manufacturing
311910	Snack food manufacturing
312110	Soft drink and ice manufacturing
312120	Breweries
312130	Wineries
3122A0	Tobacco product manufacturing
314110	Carpet and rug mills
314120	Curtain and linen mills
315100	Apparel knitting mills
315220	Men's and boys' cut and sew apparel manufacturing
315230	Women's and girls' cut and sew apparel manufacturing
315290	Other cut and sew apparel manufacturing
315900	Apparel accessories and other apparel manufacturing
316200	Footwear manufacturing

Table 7. Final industry assignments – Continued

Stage 4	
Industry	Title
316900	Other leather and allied product manufacturing
321991	Manufactured home (mobile home) manufacturing
322230	Stationery product manufacturing
325412	Pharmaceutical preparation manufacturing
325620	Toilet preparation manufacturing
33221A	Cutlery, utensil, pot, and pan manufacturing
33299A	Ammunition manufacturing
33299B	Arms, ordnance, and accessories manufacturing
333111	Farm machinery and equipment manufacturing
333112	Lawn and garden equipment manufacturing
333120	Construction machinery manufacturing
333130	Mining and oil and gas field machinery manufacturing
333220	Plastics and rubber industry machinery manufacturing
333295	Semiconductor machinery manufacturing
33329A	Other industrial machinery manufacturing
333314	Optical instrument and lens manufacturing
333315	Photographic and photocopying equipment manufacturing
333319	Other commercial and service industry machinery manufacturing
33331A	Vending, commercial, industrial, and office machinery manufacturing
333511	Industrial mold manufacturing
333514	Special tool, die, jig, and fixture manufacturing
33351A	Metal cutting and forming machine tool manufacturing
33351B	Rolling mill and other metalworking machinery manufacturing
333611	Turbine and turbine generator set units manufacturing
333911	Pump and pumping equipment manufacturing
333912	Air and gas compressor manufacturing
333991	Power-driven handtool manufacturing
333993	Packaging machinery manufacturing
333994	Industrial process furnace and oven manufacturing
33399A	Other general purpose machinery manufacturing
334111	Electronic computer manufacturing
334210	Telephone apparatus manufacturing
334220	Broadcast and wireless communications equipment
334300	Audio and video equipment manufacturing
334510	Electromedical and electrotherapeutic apparatus manufacturing
334511	Search, detection, and navigation instruments manufacturing
334513	Industrial process variable instruments manufacturing
334515	Electricity and signal testing instruments manufacturing
334516	Analytical laboratory instrument manufacturing
334517	Irradiation apparatus manufacturing
33451A	Watch, clock, and other measuring and controlling device manufacturing
335210	Small electrical appliance manufacturing
335221	Household cooking appliance manufacturing
335222	Household refrigerator and home freezer manufacturing

Table 7. Final industry assignments – Continued

Stage 4	
Industry	Title
335224	Household laundry equipment manufacturing
335912	Primary battery manufacturing
335999	All other miscellaneous electrical equipment and component manufacturing
336111	Automobile manufacturing
336112	Light truck and utility vehicle manufacturing
336120	Heavy duty truck manufacturing
336212	Truck trailer manufacturing
336213	Motor home manufacturing
336214	Travel trailer and camper manufacturing
336411	Aircraft manufacturing
336414	Guided missile and space vehicle manufacturing
336611	Ship building and repairing
336612	Boat building
336991	Motorcycle, bicycle, and parts manufacturing
336992	Military armored vehicle, tank, and tank component manufacturing
336999	All other transportation equipment manufacturing
337121	Upholstered household furniture manufacturing
337122	Nonupholstered wood household furniture manufacturing
337127	Institutional furniture manufacturing
33712A	Metal and other household furniture manufacturing
337212	Custom architectural woodwork and millwork manufacturing
337910	Mattress manufacturing
337920	Blind and shade manufacturing
339111	Laboratory apparatus and furniture manufacturing
339115	Ophthalmic goods manufacturing
339910	Jewelry and silverware manufacturing
339920	Sporting and athletic goods manufacturing
339930	Doll, toy, and game manufacturing
339992	Musical instrument manufacturing
481000	Air transportation
483000	Water transportation
4A0000	Retail trade
511130	Book publishers
525000	Funds, trusts, and other financial vehicles
532230	Video tape and disc rental
541511	Custom computer programming services
541940	Veterinary services
611100	Elementary and secondary schools
611A00	Junior colleges, colleges, universities, and professional schools
611B00	Other educational services
621600	Home health care services
621A00	Offices of physicians, dentists, and other health practitioners
621B00	Medical and diagnostic labs and outpatient and other ambulatory care services
622000	Hospitals

Table 7. Final industry assignments – Continued

Stage 4	
Industry	Title
623000	Nursing and residential care facilities
624200	Community food, housing, and other relief services, including rehabilitation services
624400	Child day care services
624A00	Individual and family services
712000	Museums, historical sites, zoos, and parks
713940	Fitness and recreational sports centers
713950	Bowling centers
713A00	Amusement parks, arcades, and gambling industries
713B00	Other amusement and recreation industries
721A00	Other accommodations
722000	Food services and drinking places
811192	Car washes
8111A0	Automotive repair and maintenance, except car washes
812100	Personal care services
812200	Death care services
812900	Other personal services
813100	Religious organizations
813A00	Grantmaking, giving and social advocacy organizations
814000	Private households
S00201	State and local government passenger transit
S00203	Other state and local government enterprises
S00800	Owner-occupied dwellings

4) Allocate commodities to intermediate demand stages

Once industries have been assigned to stages of production, the fourth step is to develop weights for and allocate commodities to the intermediate demand indexes. The intermediate demand indexes do not track prices for the output of the industry stages, but instead track prices for the net inputs consumed by industries in each stage of production. For example, within a 4-stage system, the stage 4 intermediate demand index would track prices for net inputs consumed by industries classified in stage 4, as opposed to the output of stage 4 industries.

BEA “Use of Commodities by Industries” data were employed to determine the proportion of each commodity’s value that is consumed for final demand and by industries in each of the four stages of production. These proportions were then applied to the Census wherever-made value of shipments data (for goods) or revenue data (for services) to allocate commodities to and develop weights for stages. The relative use proportions of use are presented in Table 8. It should be noted that after applying the Table 8 proportions to the Census value, it was also necessary to multiply the value by a net input ratio that also is calculated from BEA use and make data. Application of the net input ratios eliminates multiple counting within the system.

Table 8. Percent use of commodities by intermediate demand, final demand, and components

Overall intermediate demand (ID), intermediate demand stages 1 through 4 (S1, S2, S3, and S4), overall final demand (FD), final demand components personal consumption (PC), capital investment (CI), Government purchases (Govt), exports (Exp)

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
1111A0	Oilseed farming	67.0	60.5	5.5	0.1	0.8	33.0	0.0	0.0	0.0	33.0
1111B0	Grain farming	78.4	23.3	26.4	12.3	16.5	21.6	2.1	0.0	0.5	19.0
111200	Vegetable and melon farming	24.1	0.0	0.0	10.0	14.1	75.9	69.2	0.0	1.5	5.2
111335	Tree nut farming	50.4	0.0	0.0	15.5	34.8	49.6	38.3	0.0	0.0	11.4
1113A0	Fruit farming	32.1	0.0	0.0	21.7	10.4	67.9	59.3	0.0	0.1	8.5
111400	Greenhouse, nursery, and floriculture production	19.4	1.9	0.7	1.1	15.7	80.6	75.4	0.0	2.5	2.7
111910	Tobacco farming	93.7	0.0	0.0	5.3	88.3	6.3	0.0	0.0	0.0	6.3
111920	Cotton farming	59.4	15.9	28.6	14.9	0.0	40.6	0.0	0.0	0.7	39.9
1119A0	Sugarcane and sugar beet farming	99.8	8.6	41.9	49.3	0.0	0.2	0.0	0.0	0.0	0.2
1119B0	All other crop farming	95.6	14.2	51.2	8.7	21.6	4.4	1.0	0.0	1.1	2.2
112120	Dairy cattle and milk production	99.9	0.0	0.7	99.3	0.0	0.1	0.0	0.0	0.0	0.1
1121A0	Cattle ranching and farming	99.4	0.3	34.2	64.8	0.1	0.6	0.2	0.0	0.0	0.4
112300	Poultry and egg production	85.6	0.0	14.1	67.5	4.0	14.4	12.8	0.0	0.5	1.1
112A00	Animal production, except cattle and poultry and eggs	80.3	2.9	10.0	64.8	2.6	19.7	15.0	0.0	0.4	4.2
113300	Logging	95.6	43.8	49.1	2.7	0.0	4.4	0.0	0.0	0.0	4.4
113A00	Forest nurseries, forest products, and timber tracts	98.2	57.0	32.1	7.0	2.2	1.8	0.0	0.0	0.0	1.8
114100	Fishing	60.6	0.7	0.0	32.7	27.2	39.4	19.4	0.0	0.6	19.4
114200	Hunting and trapping	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
115000	Support activities for agriculture and forestry	94.8	55.3	10.8	13.1	15.7	5.2	2.6	0.0	2.5	0.1
211000	Oil and gas extraction	99.2	2.2	94.7	0.8	1.5	0.8	0.0	0.0	0.0	0.8
212100	Coal mining	95.0	9.3	69.9	15.0	0.9	5.0	0.1	0.0	0.6	4.4
212210	Iron ore mining	92.6	91.6	0.0	1.0	0.0	7.4	0.0	0.0	0.0	7.4
212230	Copper, nickel, lead, and zinc mining	82.0	41.1	13.9	5.5	21.5	18.0	0.0	0.0	0.0	18.0
2122A0	Gold, silver, and other metal ore mining	58.0	22.9	17.8	14.9	2.4	42.0	0.0	1.2	0.1	40.8
212310	Stone mining and quarrying	99.5	17.1	13.6	11.7	57.2	0.5	0.0	0.0	0.0	0.5
212320	Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying	93.5	5.9	9.3	31.1	47.2	6.5	0.9	0.0	0.0	5.6
212390	Other nonmetallic mineral mining and quarrying	76.3	36.2	13.5	15.0	11.5	23.7	1.3	0.0	19.6	2.8
213111	Drilling oil and gas wells	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
213112	Support activities for oil and gas operations	10.0	9.4	0.1	0.0	0.5	90.0	0.0	90.0	0.0	0.0
21311A	Support activities for other mining	40.7	12.7	26.6	0.7	0.7	59.3	0.0	59.3	0.0	0.0
221100	Electric power generation, transmission, and distribution	53.2	13.3	9.2	10.9	19.7	46.8	42.6	0.0	4.1	0.2
221200	Natural gas distribution	49.2	13.8	12.4	9.4	13.6	50.8	41.3	0.0	9.4	0.0
221300	Water, sewage and other systems	26.8	5.2	2.5	5.1	14.0	73.2	59.4	0.0	13.7	0.1
230101	Nonresidential commercial and health care structures	0.0	0.0	0.0	0.0	0.0	100.0	0.0	85.9	14.1	0.0
230102	Nonresidential manufacturing structures	0.0	0.0	0.0	0.0	0.0	100.0	0.0	96.9	3.1	0.0
230103	Other nonresidential structures	0.0	0.0	0.0	0.0	0.0	100.0	0.0	35.0	65.0	0.0
230201	Residential permanent site single- and multi-family structures	0.0	0.0	0.0	0.0	0.0	100.0	0.0	98.0	2.0	0.0
230202	Other residential structures	1.0	0.0	0.0	0.0	1.0	99.0	0.0	95.5	3.5	0.0

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
230301	Nonresidential maintenance and repair	73.3	20.2	16.2	16.6	20.4	26.7	0.0	0.0	26.6	0.1
230302	Residential maintenance and repair	99.2	10.6	0.0	0.0	88.7	0.8	0.0	0.0	0.8	0.0
311111	Dog and cat food manufacturing	2.0	0.0	0.0	0.0	2.0	98.0	92.5	0.0	0.3	5.2
311119	Other animal food manufacturing	84.5	5.7	66.9	7.1	4.8	15.5	9.2	0.0	0.5	5.8
311210	Flour milling and malt manufacturing	70.2	4.3	3.3	5.8	56.7	29.8	18.9	0.0	0.4	10.5
311221	Wet corn milling	82.6	9.1	7.4	14.9	51.1	17.4	3.2	0.0	0.0	14.2
311225	Fats and oils refining and blending	62.8	8.0	17.8	10.9	26.1	37.2	33.9	0.0	0.6	2.7
31122A	Soybean and other oilseed processing	79.3	25.3	25.5	3.6	25.0	20.7	2.0	0.0	0.0	18.7
311230	Breakfast cereal manufacturing	3.3	0.0	0.0	0.0	3.2	96.7	90.5	0.0	1.7	4.6
311313	Beet sugar manufacturing	68.0	4.7	17.7	10.1	35.5	32.0	27.8	0.0	1.6	2.7
31131A	Sugar cane mills and refining	72.7	0.1	22.9	13.9	35.7	27.3	24.8	0.0	0.3	2.2
311320	Chocolate and confectionery manufacturing from cacao beans	62.8	0.0	0.0	24.2	38.6	37.2	30.7	0.0	0.0	6.5
311330	Confectionery manufacturing from purchased chocolate	3.6	0.0	0.0	0.0	3.6	96.4	93.3	0.0	0.1	2.9
311340	Nonchocolate confectionery manufacturing	10.4	0.0	0.2	0.5	9.6	89.6	83.6	0.0	2.3	3.7
311410	Frozen food manufacturing	19.7	0.0	0.0	2.6	17.1	80.3	76.1	0.0	1.0	3.1
311420	Fruit and vegetable canning, pickling, and drying	26.9	0.0	0.1	8.2	18.7	73.1	61.5	0.0	5.7	5.8
311513	Cheese manufacturing	55.9	0.0	0.2	22.2	33.5	44.1	42.2	0.0	0.7	1.2
311514	Dry, condensed, and evaporated dairy product manufacturing	39.1	0.2	0.2	23.1	15.6	60.9	44.6	0.0	7.6	8.6
31151A	Fluid milk and butter manufacturing	25.3	0.0	0.0	16.6	8.7	74.7	65.0	0.0	9.2	0.5
311520	Ice cream and frozen dessert manufacturing	60.5	0.0	0.1	5.7	54.7	39.5	30.9	0.0	7.2	1.4
311615	Poultry processing	33.9	0.0	0.0	14.8	19.0	66.1	61.4	0.0	0.5	4.2
31161A	Animal (except poultry) slaughtering, rendering, and processing	38.8	0.7	1.6	19.4	17.0	61.2	49.4	0.0	4.3	7.5
311700	Seafood product preparation and packaging	54.4	0.7	0.1	5.1	48.5	45.6	35.3	0.0	7.1	3.2
311810	Bread and bakery product manufacturing	10.3	0.0	0.0	0.6	9.6	89.7	84.3	0.0	4.0	1.5
311820	Cookie, cracker, and pasta manufacturing	12.8	0.0	0.0	1.2	11.7	87.2	84.7	0.0	1.3	1.2
311830	Tortilla manufacturing	2.6	0.0	0.0	0.3	2.3	97.4	95.0	0.0	2.1	0.2
311910	Snack food manufacturing	12.7	0.0	0.0	0.4	12.3	87.3	80.4	0.0	0.6	6.3
311920	Coffee and tea manufacturing	30.8	0.0	0.1	8.8	21.9	69.2	59.8	0.0	5.3	4.2
311930	Flavoring syrup and concentrate manufacturing	97.2	0.1	0.1	30.6	66.6	2.8	0.4	0.0	0.1	2.2
311940	Seasoning and dressing manufacturing	34.5	0.3	0.1	15.7	18.4	65.5	58.9	0.0	3.0	3.7
311990	All other food manufacturing	26.5	2.2	0.0	8.0	16.3	73.5	62.9	0.0	0.6	10.0
312110	Soft drink and ice manufacturing	14.2	0.0	0.1	0.4	13.8	85.8	84.6	0.0	0.4	0.8
312120	Breweries	6.2	0.0	0.1	0.4	5.8	93.8	91.9	0.0	0.5	1.3
312130	Wineries	21.0	0.0	0.0	0.6	20.4	79.0	75.8	0.0	0.0	3.1
312140	Distilleries	33.0	0.5	0.2	7.6	24.7	67.0	63.9	0.0	0.1	3.0
3122A0	Tobacco product manufacturing	5.4	0.0	0.0	0.0	5.4	94.6	88.7	0.0	0.4	5.4
313100	Fiber, yarn, and thread mills	90.3	0.7	12.4	28.8	48.4	9.7	1.7	0.0	0.5	7.5
313210	Broadwoven fabric mills	63.2	0.0	16.8	8.8	37.6	36.8	8.8	0.0	1.4	26.6
313220	Narrow fabric mills and schiffli machine embroidery	57.2	0.0	7.8	12.3	37.1	42.8	10.5	0.0	1.5	30.8
313230	Nonwoven fabric mills	83.5	12.8	13.5	20.1	37.0	16.5	3.4	0.1	1.2	11.8
313240	Knit fabric mills	87.3	0.0	24.6	1.8	60.9	12.7	0.1	0.0	0.0	12.6
313310	Textile and fabric finishing mills	95.7	0.0	10.4	35.7	49.6	4.3	4.1	0.0	0.0	0.2

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
313320	Fabric coating mills	76.0	6.6	16.6	19.1	33.8	24.0	0.3	0.0	4.5	19.3
314110	Carpet and rug mills	19.1	0.4	0.0	0.4	18.3	80.9	45.8	30.5	0.5	4.1
314120	Curtain and linen mills	17.0	0.1	0.0	4.8	12.1	83.0	77.4	0.0	2.2	3.4
314910	Textile bag and canvas mills	61.1	9.4	2.1	12.6	37.0	38.9	29.9	0.0	6.4	2.6
314990	All other textile product mills	58.4	3.3	3.0	23.1	29.0	41.6	26.9	0.0	4.3	10.4
315100	Apparel knitting mills	15.2	0.0	7.1	0.0	8.1	84.8	79.8	0.0	0.0	5.0
315210	Cut and sew apparel contractors	95.7	0.0	9.5	48.1	38.1	4.3	0.0	0.0	4.3	0.0
315220	Men's and boys' cut and sew apparel manufacturing	1.9	0.0	1.3	0.3	0.2	98.1	89.5	0.0	3.4	5.3
315230	Women's and girls' cut and sew apparel manufacturing	1.5	0.0	0.5	0.2	0.8	98.5	95.5	0.0	0.0	3.0
315290	Other cut and sew apparel manufacturing	8.4	0.0	1.0	3.0	4.4	91.6	86.3	0.0	1.1	4.2
315900	Apparel accessories and other apparel manufacturing	14.1	0.1	1.3	0.6	12.1	85.9	68.6	0.0	7.0	10.3
316100	Leather and hide tanning and finishing	73.5	0.0	3.9	33.6	36.1	26.5	0.0	0.0	0.4	26.1
316200	Footwear manufacturing	0.3	0.0	0.0	0.0	0.3	99.7	97.1	0.0	0.4	2.2
316900	Other leather and allied product manufacturing	19.7	1.5	8.2	8.0	2.0	80.3	72.0	0.0	1.9	6.4
321100	Sawmills and wood preservation	94.6	12.7	15.4	30.0	36.6	5.4	0.0	0.0	0.3	5.0
321219	Reconstituted wood product manufacturing	86.7	0.4	9.2	27.1	50.0	13.3	0.0	0.0	10.1	3.3
32121A	Veneer and plywood manufacturing	94.2	3.9	11.0	23.5	55.8	5.8	0.0	0.0	0.0	5.8
32121B	Engineered wood member and truss manufacturing	98.2	8.2	2.4	9.3	78.2	1.8	0.0	0.0	0.0	1.8
321910	Wood windows and doors and millwork	97.5	8.5	3.8	14.3	70.8	2.5	0.0	0.0	1.1	1.5
321920	Wood container and pallet manufacturing	67.3	7.8	5.7	35.2	18.7	32.7	13.8	0.0	16.8	2.1
321991	Manufactured home (mobile home) manufacturing	1.1	0.5	0.0	0.0	0.6	98.9	0.0	98.5	0.0	0.4
321992	Prefabricated wood building manufacturing	98.9	4.3	0.8	4.9	88.9	1.1	0.0	0.0	0.1	1.0
321999	All other miscellaneous wood product manufacturing	57.0	4.4	8.0	22.0	22.6	43.0	29.9	0.0	10.1	3.0
322110	Pulp mills	68.3	45.5	8.7	13.0	1.1	31.7	0.0	0.0	0.0	31.7
322120	Paper mills	64.5	0.8	50.7	5.5	7.5	35.5	18.3	0.0	9.6	7.6
322130	Paperboard mills	99.7	8.0	56.3	15.7	19.7	0.3	0.0	0.0	0.0	0.3
322210	Paperboard container manufacturing	94.0	6.7	13.4	32.3	41.7	6.0	1.2	0.0	1.6	3.2
32222A	Coated and laminated paper, packaging paper and plastics film manufacturing	75.7	4.5	24.5	18.3	28.4	24.3	9.1	0.0	2.2	13.1
32222B	All other paper bag and coated and treated paper manufacturing	77.5	6.6	8.6	37.7	24.5	22.5	1.2	0.0	13.4	7.9
322230	Stationery product manufacturing	18.5	0.5	7.0	5.4	5.6	81.5	9.9	0.0	64.7	6.9
322291	Sanitary paper product manufacturing	32.3	0.1	0.1	0.1	32.1	67.7	54.8	0.0	5.8	7.1
322299	All other converted paper product manufacturing	63.2	5.6	2.8	23.7	31.1	36.8	17.8	0.0	12.2	6.8
323110	Printing	75.0	7.0	25.5	22.6	19.9	25.0	3.2	0.0	19.6	2.1
323120	Support activities for printing	88.6	17.0	47.9	5.8	17.9	11.4	0.0	0.0	10.4	1.1
324110	Petroleum refineries	55.0	8.6	18.7	12.3	15.4	45.0	30.1	0.0	10.7	4.1
324121	Asphalt paving mixture and block manufacturing	84.9	8.5	0.7	3.9	71.8	15.1	0.0	0.0	14.4	0.7
324122	Asphalt shingle and coating materials manufacturing	97.9	11.9	1.2	7.1	77.7	2.1	0.0	0.0	0.0	2.1

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
324191	Petroleum lubricating oil and grease manufacturing	68.1	7.3	7.4	18.5	35.0	31.9	25.5	0.0	5.7	0.7
324199	All other petroleum and coal products manufacturing	57.0	22.2	34.3	0.4	0.1	43.0	15.7	0.0	0.1	27.2
325110	Petrochemical manufacturing	89.9	54.0	31.3	2.3	2.3	10.1	0.0	0.0	1.6	8.5
325120	Industrial gas manufacturing	85.0	24.7	17.4	14.7	28.1	15.0	2.1	0.0	10.3	2.6
325130	Synthetic dye and pigment manufacturing	74.8	14.7	40.6	13.6	5.9	25.2	0.0	0.0	5.2	20.0
325181	Alkalies and chlorine manufacturing	82.6	34.4	19.7	14.0	14.5	17.4	0.1	0.0	4.2	13.1
325182	Carbon black manufacturing	89.6	9.6	31.5	48.3	0.2	10.4	0.0	0.0	0.0	10.4
325188	All other basic inorganic chemical manufacturing	62.9	18.7	17.9	20.8	5.5	37.1	0.1	11.0	6.0	20.0
325190	Other basic organic chemical manufacturing	75.5	25.5	28.6	8.9	12.5	24.5	0.8	0.0	3.4	20.3
325211	Plastics material and resin manufacturing	77.5	1.9	39.0	32.9	3.6	22.5	0.0	0.0	0.0	22.5
325212	Synthetic rubber manufacturing	76.4	2.1	18.5	41.9	13.8	23.6	0.0	0.0	0.0	23.6
325220	Artificial and synthetic fibers and filaments manufacturing	88.9	0.2	33.2	24.5	31.0	11.1	0.0	0.0	0.0	11.1
325310	Fertilizer manufacturing	78.7	51.3	4.6	3.5	19.3	21.3	0.9	0.0	5.9	14.4
325320	Pesticide and other agricultural chemical manufacturing	55.1	34.6	4.2	6.1	10.2	44.9	27.0	0.0	7.2	10.7
325411	Medicinal and botanical manufacturing	100.0	5.5	0.0	15.0	79.5	0.0	0.0	0.0	0.0	0.0
325412	Pharmaceutical preparation manufacturing	19.3	0.0	0.3	0.6	18.5	80.7	66.4	0.0	6.6	7.6
325413	In-vitro diagnostic substance manufacturing	99.7	0.3	0.0	2.2	97.2	0.3	0.0	0.0	0.0	0.3
325414	Biological product (except diagnostic) manufacturing	83.8	2.2	3.6	30.2	47.8	16.2	0.0	0.0	2.8	13.4
325510	Paint and coating manufacturing	86.9	5.4	15.5	20.9	45.0	13.1	1.8	0.0	4.7	6.6
325520	Adhesive manufacturing	79.9	10.1	31.9	14.8	23.1	20.1	8.8	0.0	2.2	9.1
325610	Soap and cleaning compound manufacturing	31.7	1.8	8.2	15.5	6.3	68.3	54.3	0.0	7.5	6.4
325620	Toilet preparation manufacturing	6.9	0.2	0.2	1.1	5.4	93.1	84.5	0.0	0.8	7.9
325910	Printing ink manufacturing	88.4	6.1	74.8	6.6	0.8	11.6	0.0	0.0	0.9	10.7
3259A0	All other chemical product and preparation manufacturing	65.6	10.0	20.8	18.8	16.1	34.4	6.6	0.0	15.3	12.4
326110	Plastics packaging materials and unlaminated film and sheet manufacturing	82.6	4.0	15.2	37.9	25.5	17.4	7.2	0.0	1.9	8.3
326121	Unlaminated plastics profile shape manufacturing	95.5	7.6	13.6	47.6	26.6	4.5	0.0	0.0	0.0	4.5
326122	Plastics pipe and pipe fitting manufacturing	91.5	15.5	3.2	11.0	61.8	8.5	0.0	0.0	2.5	5.9
326130	Laminated plastics plate, sheet (except packaging), and shape manufacturing	99.2	2.6	10.4	52.3	33.8	0.8	0.0	0.0	0.0	0.8
326140	Polystyrene foam product manufacturing	89.8	3.3	5.7	19.5	61.4	10.2	7.2	0.0	2.9	0.1
326150	Urethane and other foam product (except polystyrene) manufacturing	92.9	2.0	2.6	24.1	64.2	7.1	6.4	0.4	0.2	0.1
326160	Plastics bottle manufacturing	96.2	6.6	4.4	18.5	66.6	3.8	0.0	0.0	0.0	3.8
32619A	Other plastics product manufacturing	79.8	4.8	4.6	23.2	47.3	20.2	8.9	0.0	3.9	7.4
326210	Tire manufacturing	50.1	2.9	4.3	12.5	30.3	49.9	34.1	0.0	5.4	10.5
326220	Rubber and plastics hoses and belting manufacturing	70.3	5.5	11.8	22.7	30.3	29.7	6.3	0.0	3.9	19.5

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
326290	Other rubber product manufacturing	73.4	1.0	13.9	21.0	37.4	26.6	5.4	0.8	13.7	6.7
32711A	Pottery, ceramics, and plumbing fixture manufacturing	49.3	0.8	1.2	9.0	38.3	50.7	39.3	0.0	1.8	9.7
32712A	Brick, tile, and other structural clay product manufacturing	99.0	3.4	0.6	9.8	85.2	1.0	0.0	0.0	0.0	1.0
32712B	Clay and nonclay refractory manufacturing	86.6	29.0	13.3	27.7	16.7	13.4	0.0	0.0	0.0	13.4
327211	Flat glass manufacturing	82.5	0.0	5.9	61.2	15.3	17.5	0.0	0.0	0.0	17.5
327212	Other pressed and blown glass and glassware manufacturing	66.8	1.5	5.1	32.2	28.0	33.2	21.0	0.0	3.0	9.1
327213	Glass container manufacturing	93.6	0.3	1.8	26.6	65.0	6.4	3.2	0.0	0.0	3.1
327215	Glass product manufacturing made of purchased glass	75.0	0.5	6.0	9.1	59.3	25.0	8.7	0.0	1.2	15.1
327310	Cement manufacturing	99.4	3.0	4.2	64.5	27.7	0.6	0.0	0.0	0.0	0.6
327320	Ready-mix concrete manufacturing	99.9	3.4	0.8	5.1	90.5	0.1	0.0	0.0	0.0	0.1
327330	Concrete pipe, brick, and block manufacturing	99.6	3.1	1.1	9.3	86.2	0.4	0.0	0.0	0.0	0.4
327390	Other concrete product manufacturing	98.3	2.7	5.2	17.3	73.1	1.7	0.3	0.0	0.4	1.0
3274A0	Lime and gypsum product manufacturing	97.0	12.6	3.2	18.8	62.4	3.0	0.5	0.0	0.9	1.6
327910	Abrasive product manufacturing	78.5	3.8	25.1	26.2	23.4	21.5	2.8	0.0	6.1	12.6
327991	Cut stone and stone product manufacturing	61.6	1.8	0.0	3.1	56.7	38.4	36.3	0.0	1.0	1.0
327992	Ground or treated mineral and earth manufacturing	87.4	22.0	40.8	10.2	14.5	12.6	5.3	0.0	0.0	7.2
327993	Mineral wool manufacturing	92.8	2.6	1.8	14.7	73.8	7.2	0.0	0.0	0.0	7.2
327999	Miscellaneous nonmetallic mineral products	89.2	3.7	2.9	25.0	57.5	10.8	0.0	0.0	0.1	10.7
331110	Iron and steel mills and ferroalloy manufacturing	94.8	15.5	26.4	33.4	19.6	5.2	0.0	0.0	0.0	5.1
331200	Steel product manufacturing from purchased steel	88.7	44.6	17.0	12.2	14.9	11.3	5.5	0.0	1.2	4.6
331314	Secondary smelting and alloying of aluminum	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33131A	Alumina refining and primary aluminum production	97.0	49.1	20.2	15.4	12.2	3.0	0.0	0.0	0.4	2.6
33131B	Aluminum product manufacturing from purchased aluminum	89.6	14.4	23.1	20.2	31.8	10.4	0.0	0.0	0.0	10.4
331411	Primary smelting and refining of copper	95.5	62.0	18.0	14.0	1.5	4.5	0.0	0.0	1.0	3.5
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)	90.2	8.2	16.2	48.6	17.2	9.8	0.0	0.0	0.0	9.8
331420	Copper rolling, drawing, extruding and alloying	89.6	19.8	31.2	28.4	10.2	10.4	0.0	0.0	0.3	10.1
331490	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying	78.6	6.9	28.4	28.0	15.3	21.4	0.4	0.0	0.3	20.7
331510	Ferrous metal foundries	97.8	2.1	16.9	51.8	27.1	2.2	0.0	0.0	0.0	2.2
331520	Nonferrous metal foundries	99.3	0.3	15.9	65.7	17.4	0.7	0.1	0.0	0.5	0.1
332114	Custom roll forming	99.9	1.0	13.9	65.2	19.8	0.1	0.0	0.0	0.0	0.1
33211A	All other forging, stamping, and sintering	99.9	1.5	16.3	39.7	42.4	0.1	0.0	0.0	0.0	0.0
33211B	Crown and closure manufacturing and metal stamping	91.7	2.7	13.8	40.6	34.6	8.3	3.1	0.0	2.7	2.5

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
33221A	Cutlery, utensil, pot, and pan manufacturing	19.3	0.1	2.4	3.4	13.5	80.7	70.5	0.0	2.9	7.3
33221B	Handtool manufacturing	52.7	4.1	7.6	16.4	24.5	47.3	16.6	2.8	17.6	10.3
332310	Plate work and fabricated structural product manufacturing	96.5	5.7	7.5	24.7	58.6	3.5	0.2	0.3	1.0	2.1
332320	Ornamental and architectural metal products manufacturing	96.7	4.0	7.3	17.8	67.6	3.3	0.0	1.1	0.9	1.3
332410	Power boiler and heat exchanger manufacturing	56.0	3.2	6.7	8.7	37.3	44.0	0.0	28.1	2.8	13.2
332420	Metal tank (heavy gauge) manufacturing	48.7	2.8	3.1	5.3	37.5	51.3	0.0	41.2	2.6	7.5
332430	Metal can, box, and other metal container (light gauge) manufacturing	94.6	1.7	18.2	32.6	42.1	5.4	0.3	1.2	1.0	3.0
332500	Hardware manufacturing	81.1	1.5	6.6	24.2	48.9	18.9	2.3	1.6	1.2	13.9
332600	Spring and wire product manufacturing	90.1	8.0	13.2	22.0	47.0	9.9	1.4	0.0	0.7	7.7
332710	Machine shops	95.8	8.3	22.7	34.3	30.4	4.2	0.0	0.0	3.7	0.5
332720	Turned product and screw, nut, and bolt manufacturing	93.4	2.5	15.7	42.1	33.1	6.6	0.9	0.0	0.5	5.2
332800	Coating, engraving, heat treating and allied activities	99.9	11.0	23.0	32.2	33.7	0.1	0.0	0.0	0.0	0.1
332913	Plumbing fixture fitting and trim manufacturing	96.9	4.5	1.6	12.5	78.3	3.1	0.0	0.0	0.0	3.1
33291A	Valve and fittings other than plumbing	76.1	11.7	8.6	16.8	38.9	23.9	0.0	7.3	1.6	15.1
332991	Ball and roller bearing manufacturing	84.8	6.1	17.3	41.3	20.0	15.2	0.0	0.0	2.5	12.7
332996	Fabricated pipe and pipe fitting manufacturing	88.4	3.7	15.8	17.1	51.9	11.6	0.0	10.7	0.8	0.0
33299A	Ammunition manufacturing	0.4	0.0	0.0	0.0	0.4	99.6	33.6	0.0	55.0	11.0
33299B	Arms, ordnance, and accessories manufacturing	3.5	0.0	0.4	2.6	0.5	96.5	41.3	0.0	44.7	10.5
33299C	Other fabricated metal manufacturing	73.2	7.2	11.5	22.5	31.9	26.8	7.6	2.0	2.4	14.9
333111	Farm machinery and equipment manufacturing	9.3	5.1	1.5	0.6	2.1	90.7	0.0	70.6	2.6	17.5
333112	Lawn and garden equipment manufacturing	11.4	0.5	2.6	2.9	5.4	88.6	10.9	76.5	0.8	0.5
333120	Construction machinery manufacturing	12.4	1.0	3.3	0.4	7.7	87.6	0.0	56.8	9.4	21.4
333130	Mining and oil and gas field machinery manufacturing	14.1	4.4	1.7	0.3	7.7	85.9	0.0	24.4	0.4	61.1
333220	Plastics and rubber industry machinery manufacturing	15.9	0.0	2.5	12.1	1.4	84.1	0.0	64.3	0.2	19.6
333295	Semiconductor machinery manufacturing	20.0	2.6	2.4	3.5	11.5	80.0	0.0	52.6	0.0	27.4
33329A	Other industrial machinery manufacturing	18.1	6.5	6.5	1.7	3.3	81.9	2.2	62.8	1.4	15.5
333314	Optical instrument and lens manufacturing	11.3	0.1	0.1	3.2	7.8	88.7	2.2	24.7	3.4	58.4
333315	Photographic and photocopying equipment manufacturing	4.8	0.7	1.4	0.5	2.2	95.2	31.3	31.2	15.0	17.7
333319	Other commercial and service industry machinery manufacturing	19.9	0.7	0.7	1.0	17.5	80.1	0.0	66.3	9.6	4.2
33331A	Vending, commercial, industrial, and office machinery manufacturing	13.2	1.4	4.8	3.3	3.7	86.8	5.5	48.2	19.3	13.7
333414	Heating equipment (except warm air furnaces) manufacturing	63.9	2.2	4.0	11.8	45.9	36.1	27.5	2.5	1.4	4.7
333415	Air conditioning, refrigeration, and warm air heating equipment manufacturing	60.1	7.6	1.2	12.9	38.5	39.9	3.9	18.6	4.0	13.3

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
33341A	Air purification and ventilation equipment manufacturing	45.1	4.9	7.6	15.3	17.3	54.9	0.0	44.8	1.1	9.0
333511	Industrial mold manufacturing	12.6	0.2	8.0	1.3	3.0	87.4	0.0	78.4	0.0	9.1
333514	Special tool, die, jig, and fixture manufacturing	14.0	1.0	6.6	2.6	3.9	86.0	0.0	81.4	0.2	4.4
333515	Cutting tool and machine tool accessory manufacturing	87.7	3.8	26.1	30.0	27.8	12.3	0.0	0.0	0.8	11.6
33351A	Metal cutting and forming machine tool manufacturing	13.8	0.0	6.2	1.4	6.2	86.2	0.6	50.8	7.2	27.5
33351B	Rolling mill and other metalworking machinery manufacturing	12.2	0.0	0.6	1.3	10.4	87.8	0.0	84.6	0.0	3.2
333611	Turbine and turbine generator set units manufacturing	16.8	0.0	14.0	1.0	1.8	83.2	0.0	54.9	4.5	23.8
333612	Speed changer, industrial high-speed drive, and gear manufacturing	85.7	3.0	5.8	37.0	39.9	14.3	0.0	0.0	0.1	14.2
333613	Mechanical power transmission equipment manufacturing	86.0	0.0	8.6	32.8	44.6	14.0	0.0	0.0	0.1	13.9
333618	Other engine equipment manufacturing	64.2	0.8	0.8	13.5	49.0	35.8	0.9	4.9	5.0	25.0
333911	Pump and pumping equipment manufacturing	21.6	3.2	1.4	0.9	16.1	78.4	0.0	49.5	11.2	17.7
333912	Air and gas compressor manufacturing	14.8	0.5	0.6	1.9	11.7	85.2	0.0	60.3	0.6	24.3
333920	Material handling equipment manufacturing	29.7	4.8	4.2	4.7	16.0	70.3	0.0	58.8	2.0	9.6
333991	Power-driven handtool manufacturing	6.4	0.8	0.5	0.6	4.4	93.6	28.4	52.7	2.9	9.6
333993	Packaging machinery manufacturing	19.3	0.0	0.0	1.1	18.1	80.7	0.0	68.6	0.2	12.0
333994	Industrial process furnace and oven manufacturing	15.2	0.0	5.5	0.0	9.7	84.8	0.0	38.9	0.0	45.9
33399A	Other general purpose machinery manufacturing	20.9	1.8	2.2	4.4	12.3	79.1	1.1	36.4	0.9	40.8
33399B	Fluid power process machinery	83.2	0.5	6.5	30.3	46.0	16.8	0.0	3.3	3.9	9.5
334111	Electronic computer manufacturing	3.2	0.0	0.0	0.2	2.9	96.8	19.1	56.9	8.1	12.6
334112	Computer storage device manufacturing	47.5	0.6	2.4	6.6	38.0	52.5	3.6	27.1	11.6	10.2
33411A	Computer terminals and other computer peripheral equipment manufacturing	30.1	3.2	9.4	5.8	11.8	69.9	14.4	35.4	7.9	12.2
334210	Telephone apparatus manufacturing	12.6	0.3	3.2	7.8	1.2	87.4	2.4	57.2	6.3	21.5
334220	Broadcast and wireless communications equipment	21.0	0.1	0.9	1.9	18.0	79.0	5.5	56.3	7.6	9.7
334290	Other communications equipment manufacturing	73.6	4.7	21.2	13.1	34.6	26.4	0.5	14.0	4.6	7.3
334300	Audio and video equipment manufacturing	10.0	0.1	0.3	0.7	8.9	90.0	77.3	3.2	0.5	9.0
334411	Electron tube manufacturing	48.5	0.0	0.9	15.4	32.2	51.5	0.0	0.0	8.0	43.5
334412	Bare printed circuit board manufacturing	79.2	2.3	17.4	31.6	27.9	20.8	0.0	0.0	0.2	20.6
334413	Semiconductor and related device manufacturing	62.2	3.2	11.6	20.3	27.2	37.8	0.0	0.0	3.0	34.7
334417	Electronic connector manufacturing	64.3	0.4	3.0	28.1	32.8	35.7	0.0	0.0	1.0	34.7
334418	Printed circuit assembly (electronic assembly) manufacturing	77.5	4.6	21.2	20.2	31.5	22.5	1.0	0.0	0.2	21.3
334419	Other electronic component manufacturing	75.8	0.8	8.7	25.6	40.6	24.2	2.0	0.0	2.9	19.3

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
33441A	Electronic capacitor, resistor, coil, transformer, and other inductor manufacturing	70.3	1.9	12.9	28.6	27.0	29.7	0.0	0.0	1.2	28.5
334510	Electromedical and electrotherapeutic apparatus manufacturing	11.5	0.0	0.0	0.5	11.0	88.5	6.5	57.2	5.3	19.6
334511	Search, detection, and navigation instruments manufacturing	14.3	0.0	0.0	1.1	13.2	85.7	0.1	33.7	43.6	8.3
334512	Automatic environmental control manufacturing	93.0	6.6	0.8	33.1	52.4	7.0	0.0	0.0	0.1	6.9
334513	Industrial process variable instruments manufacturing	19.5	6.0	5.0	4.3	4.3	80.5	0.0	36.2	4.4	39.8
334514	Totalizing fluid meters and counting devices manufacturing	68.2	3.9	2.8	3.4	58.0	31.8	0.0	22.0	4.7	5.1
334515	Electricity and signal testing instruments manufacturing	13.9	0.0	0.4	2.2	11.3	86.1	0.0	31.4	14.9	39.8
334516	Analytical laboratory instrument manufacturing	13.1	0.4	0.1	4.9	7.7	86.9	0.0	54.3	2.6	29.9
334517	Irradiation apparatus manufacturing	8.9	0.0	0.0	0.1	8.9	91.1	0.0	62.2	5.3	23.6
33451A	Watch, clock, and other measuring and controlling device manufacturing	16.8	0.0	0.7	2.2	13.9	83.2	30.1	26.4	9.1	17.6
334613	Magnetic and optical recording media manufacturing	63.8	9.8	4.4	25.4	24.3	36.2	10.8	3.5	6.2	15.7
33461A	Software, audio, and video media reproducing	92.8	15.8	40.7	25.4	10.9	7.2	0.0	0.0	3.0	4.3
335110	Electric lamp bulb and part manufacturing	30.4	0.8	2.5	13.4	13.7	69.6	28.8	0.0	28.9	11.9
335120	Lighting fixture manufacturing	72.0	4.3	3.3	5.8	58.6	28.0	13.7	4.3	5.5	4.5
335210	Small electrical appliance manufacturing	15.1	0.7	0.1	2.1	12.2	84.9	71.6	2.6	1.7	9.0
335221	Household cooking appliance manufacturing	4.5	0.0	0.9	2.3	1.2	95.5	64.3	25.5	1.2	4.5
335222	Household refrigerator and home freezer manufacturing	2.7	0.0	0.0	1.6	1.2	97.3	58.4	26.9	2.0	10.0
335224	Household laundry equipment manufacturing	3.2	0.0	0.0	2.6	0.6	96.8	75.5	8.8	0.6	12.0
335228	Other major household appliance manufacturing	37.6	0.1	0.0	1.6	35.9	62.4	40.1	14.4	0.0	7.9
335311	Power, distribution, and specialty transformer manufacturing	26.5	0.9	1.0	14.6	9.9	73.5	0.1	58.9	7.9	6.6
335312	Motor and generator manufacturing	63.5	1.7	4.1	24.2	33.5	36.5	0.7	13.6	5.1	17.1
335313	Switchgear and switchboard apparatus manufacturing	54.3	4.5	3.9	13.3	32.6	45.7	0.5	28.9	4.8	11.6
335314	Relay and industrial control manufacturing	70.2	5.7	15.7	25.1	23.7	29.8	0.0	8.1	7.9	13.9
335911	Storage battery manufacturing	55.1	3.4	4.3	8.3	39.2	44.9	25.8	6.4	1.5	11.2
335912	Primary battery manufacturing	4.7	0.1	0.1	2.7	1.8	95.3	79.4	0.0	2.4	13.5
335920	Communication and energy wire and cable manufacturing	83.7	5.6	9.7	29.1	39.1	16.3	0.0	1.2	1.4	13.7
335930	Wiring device manufacturing	81.7	2.9	1.8	19.1	57.8	18.3	0.0	2.6	0.8	14.9
335991	Carbon and graphite product manufacturing	81.0	44.6	6.1	21.3	9.1	19.0	0.0	0.0	0.1	18.9
335999	All other miscellaneous electrical equipment and component manufacturing	14.8	0.1	1.1	2.9	10.6	85.2	7.1	45.8	5.4	26.9
336111	Automobile manufacturing	0.0	0.0	0.0	0.0	0.0	100.0	48.0	45.8	1.7	4.5

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
336112	Light truck and utility vehicle manufacturing	0.0	0.0	0.0	0.0	0.0	100.0	58.1	31.7	1.7	8.5
336120	Heavy duty truck manufacturing	8.4	0.0	0.0	2.3	6.1	91.6	0.0	54.2	26.7	10.6
336211	Motor vehicle body manufacturing	51.0	0.0	0.0	4.2	46.8	49.0	0.4	35.7	2.2	10.8
336212	Truck trailer manufacturing	1.1	0.0	0.0	0.0	1.1	98.9	0.0	85.9	4.4	8.6
336213	Motor home manufacturing	1.2	0.0	0.0	0.0	1.2	98.8	91.3	3.8	0.0	3.7
336214	Travel trailer and camper manufacturing	11.8	0.3	4.3	0.5	6.7	88.2	67.4	10.9	3.8	6.1
336300	Motor vehicle parts manufacturing	79.1	1.6	2.2	14.9	60.3	20.9	4.1	0.2	2.7	14.0
336411	Aircraft manufacturing	1.5	0.0	0.2	0.0	1.3	98.5	0.7	35.6	27.7	34.5
336412	Aircraft engine and engine parts manufacturing	52.5	0.0	0.0	21.9	30.5	47.5	0.0	1.3	5.9	40.3
336413	Other aircraft parts and auxiliary equipment manufacturing	44.1	0.0	0.5	5.0	38.7	55.9	0.0	0.0	6.5	49.4
336414	Guided missile and space vehicle manufacturing	5.5	0.0	0.0	1.5	4.0	94.5	0.0	0.7	89.8	4.0
33641A	Propulsion units and parts for space vehicle and guided missiles	30.8	0.0	0.0	8.2	22.6	69.2	0.0	0.0	47.0	22.2
336500	Railroad rolling stock manufacturing	28.7	0.0	17.5	9.2	2.1	71.3	0.0	52.4	8.1	10.8
336611	Ship building and repairing	8.0	0.0	0.3	0.9	6.8	92.0	0.0	19.0	65.6	7.4
336612	Boat building	1.6	0.0	0.0	0.0	1.6	98.4	74.0	11.1	4.3	9.1
336991	Motorcycle, bicycle, and parts manufacturing	12.4	0.0	0.0	2.1	10.3	87.6	72.5	2.4	2.5	10.2
336992	Military armored vehicle, tank, and tank component manufacturing	4.3	0.0	0.0	0.2	4.1	95.7	0.0	0.0	64.4	31.4
336999	All other transportation equipment manufacturing	12.2	0.0	0.5	3.1	8.5	87.8	56.5	21.6	6.4	3.3
337110	Wood kitchen cabinet and countertop manufacturing	89.3	1.6	1.0	8.1	78.7	10.7	0.0	10.4	0.0	0.3
337121	Upholstered household furniture manufacturing	0.6	0.0	0.0	0.0	0.6	99.4	92.2	5.2	0.5	1.6
337122	Nonupholstered wood household furniture manufacturing	0.5	0.0	0.0	0.0	0.5	99.5	90.3	4.8	1.2	3.2
337127	Institutional furniture manufacturing	7.6	0.1	0.1	0.1	7.4	92.4	0.6	72.4	13.0	6.4
33712A	Metal and other household furniture manufacturing	6.4	0.0	0.2	2.5	3.7	93.6	84.1	5.1	1.9	2.4
337212	Custom architectural woodwork and millwork manufacturing	21.8	0.0	0.1	0.0	21.7	78.2	0.5	63.4	12.9	1.4
337215	Showcase, partition, shelving, and locker manufacturing	32.5	1.7	0.5	8.2	22.1	67.5	5.4	54.1	4.1	4.1
33721A	Office furniture manufacturing	84.2	0.0	0.2	4.6	79.5	15.8	15.0	0.0	0.0	0.8
337910	Mattress manufacturing	2.7	0.0	0.0	0.0	2.7	97.3	87.5	5.6	3.1	1.2
337920	Blind and shade manufacturing	3.3	0.0	0.2	0.2	2.9	96.7	79.2	14.8	1.9	0.8
339111	Laboratory apparatus and furniture manufacturing	2.4	0.0	0.0	0.2	2.2	97.6	3.0	77.4	11.4	5.8
339112	Surgical and medical instrument manufacturing	26.4	0.0	0.0	6.4	20.0	73.6	0.6	48.9	8.1	16.0
339113	Surgical appliance and supplies manufacturing	39.2	0.1	2.3	5.9	31.0	60.8	21.8	11.2	14.4	13.4
339114	Dental equipment and supplies manufacturing	52.9	0.0	0.0	7.9	45.1	47.1	0.0	26.6	4.8	15.7

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
339115	Ophthalmic goods manufacturing	2.4	0.2	0.1	1.6	0.6	97.6	85.6	0.0	0.1	11.8
339116	Dental laboratories	99.8	0.0	0.0	0.6	99.2	0.2	0.0	0.0	0.0	0.2
339910	Jewelry and silverware manufacturing	10.3	0.0	0.2	2.1	8.0	89.7	80.0	0.0	0.3	9.4
339920	Sporting and athletic goods manufacturing	5.7	0.0	0.1	0.1	5.4	94.3	70.3	10.5	6.1	7.3
339930	Doll, toy, and game manufacturing	1.8	0.0	0.0	0.0	1.8	98.2	93.9	0.0	1.0	3.3
339940	Office supplies (except paper) manufacturing	39.9	5.8	8.0	11.4	14.7	60.1	33.7	0.3	18.5	7.6
339950	Sign manufacturing	9.4	0.5	0.4	4.9	3.7	90.6	0.0	88.8	0.1	1.7
339991	Gasket, packing, and sealing device manufacturing	85.0	9.2	17.9	28.2	29.8	15.0	2.2	0.0	0.3	12.6
339992	Musical instrument manufacturing	8.1	0.2	0.9	2.4	4.7	91.9	62.2	13.9	7.4	8.4
339994	Broom, brush, and mop manufacturing	37.6	1.6	6.6	10.8	18.7	62.4	45.4	0.0	12.3	4.7
33999A	All other miscellaneous manufacturing	26.2	0.6	1.2	7.8	16.6	73.8	51.4	11.3	3.3	7.9
420000	Wholesale trade	41.9	3.8	6.9	12.8	18.4	58.1	35.8	10.2	4.1	8.0
481000	Air transportation	22.2	4.4	5.5	6.6	5.6	77.8	55.3	1.0	6.3	15.2
482000	Rail transportation	70.9	13.6	29.7	15.5	12.1	29.1	10.8	3.7	4.1	10.4
483000	Water transportation	18.7	3.3	3.3	9.2	2.8	81.3	39.8	0.1	8.4	33.1
484000	Truck transportation	55.3	6.2	9.5	18.2	21.4	44.7	25.6	7.8	4.6	6.8
485000	Transit and ground passenger transportation	30.5	6.7	8.6	7.2	8.1	69.5	52.0	0.0	17.5	0.0
486000	Pipeline transportation	88.7	2.5	77.8	3.4	5.0	11.3	5.9	0.0	2.6	2.8
48A000	Scenic and sightseeing transportation and support activities for transportation	79.2	2.9	17.3	22.9	36.2	20.8	6.1	0.0	1.1	13.6
491000	Postal service	80.9	5.9	14.8	29.4	30.8	19.1	11.9	0.0	6.8	0.4
492000	Couriers and messengers	86.9	5.9	19.4	42.2	19.4	13.1	2.3	0.0	2.0	8.8
493000	Warehousing and storage	90.3	4.0	16.2	33.3	36.8	9.7	0.7	0.0	7.7	1.4
4A0000	Retail trade	9.0	0.6	0.3	1.0	7.0	91.0	86.9	4.1	0.0	0.0
511110	Newspaper publishers	3.3	0.1	0.7	0.3	2.2	96.7	93.1	0.0	3.4	0.2
511120	Periodical publishers	26.7	3.8	4.2	7.6	11.0	73.3	64.5	0.0	4.9	3.9
511130	Book publishers	10.7	4.9	0.8	1.4	3.6	89.3	71.3	0.0	12.5	5.5
5111A0	Directory, mailing list, and other publishers	34.0	6.7	12.5	2.1	12.8	66.0	54.4	0.0	9.4	2.1
511200	Software publishers	16.0	0.2	0.9	4.5	10.6	84.0	9.0	57.1	7.6	10.3
512100	Motion picture and video industries	48.5	7.3	22.5	15.3	3.4	51.5	37.4	0.0	2.3	11.9
512200	Sound recording industries	33.5	3.0	3.7	20.5	6.3	66.5	60.8	0.0	2.0	3.7
515100	Radio and television broadcasting	75.7	1.1	73.9	0.6	0.0	24.3	24.3	0.0	0.0	0.0
515200	Cable and other subscription programming	98.8	31.4	0.5	59.6	7.3	1.2	0.0	0.0	1.2	0.0
516110	Internet publishing and broadcasting	100.0	20.0	23.1	18.3	38.5	0.0	0.0	0.0	0.0	0.0
517000	Telecommunications	43.9	4.0	7.5	23.4	9.0	56.1	45.3	1.7	8.0	1.1
518100	Internet service providers and web search portals	28.0	3.8	7.3	9.1	8.0	72.0	63.9	0.0	7.8	0.3
518200	Data processing, hosting, and related services	76.3	10.0	20.1	25.0	21.1	23.7	0.0	0.0	23.3	0.4
519100	Other information services	35.3	2.8	24.6	4.4	3.4	64.7	37.9	0.0	19.6	7.2
522A00	Nondepository credit intermediation and related activities	87.7	16.2	10.6	10.4	50.6	12.3	12.1	0.0	0.2	0.0
523000	Securities, commodity contracts, investments, and related activities	62.9	12.8	6.7	14.9	28.5	37.1	31.1	0.0	1.9	4.0
524100	Insurance carriers	39.6	4.6	3.4	12.8	18.7	60.4	57.9	0.0	0.3	2.2
524200	Insurance agencies, brokerages, and related activities	100.0	0.3	25.3	71.5	3.0	0.0	0.0	0.0	0.0	0.0

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
525000	Funds, trusts, and other financial vehicles	8.8	0.0	1.7	7.0	0.1	91.2	91.2	0.0	0.0	0.0
52A000	Monetary authorities and depository credit intermediation	54.3	14.9	10.6	12.4	16.4	45.7	40.2	0.0	1.8	3.7
531000	Real estate	58.7	10.9	7.1	9.3	31.3	41.3	30.3	8.5	2.5	0.1
532100	Automotive equipment rental and leasing	46.7	5.3	12.4	14.8	14.1	53.3	46.9	0.0	1.6	4.8
532230	Video tape and disc rental	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
532400	Commercial and industrial machinery and equipment rental and leasing	89.5	10.7	20.6	16.2	42.0	10.5	0.1	0.0	4.2	6.1
532A00	General and consumer goods rental except video tapes and discs	25.7	1.9	13.9	4.9	5.0	74.3	69.3	0.0	5.0	0.1
533000	Lessors of nonfinancial intangible assets	70.4	18.7	18.1	15.2	18.5	29.6	0.0	0.0	0.0	29.6
541100	Legal services	54.1	8.9	13.4	13.5	18.4	45.9	36.7	0.0	7.2	2.0
541200	Accounting, tax preparation, bookkeeping, and payroll services	78.7	11.6	17.7	23.3	26.1	21.3	12.3	0.0	8.5	0.5
541300	Architectural, engineering, and related services	64.3	9.3	4.6	14.5	36.0	35.7	0.0	16.2	16.6	2.9
541400	Specialized design services	87.3	13.1	12.8	32.2	29.2	12.7	7.6	0.0	5.0	0.0
541511	Custom computer programming services	3.4	0.9	0.7	0.2	1.5	96.6	0.0	82.2	13.0	1.4
541512	Computer systems design services	41.1	4.2	13.5	12.0	11.4	58.9	0.0	20.3	37.9	0.7
54151A	Other computer related services, including facilities management	74.1	10.7	19.6	23.1	20.8	25.9	0.0	0.0	21.1	4.8
541610	Management, scientific, and technical consulting services	86.2	8.4	21.5	28.0	28.3	13.8	0.0	0.0	11.7	2.1
5416A0	Environmental and other technical consulting services	69.3	9.8	15.7	21.4	22.4	30.7	0.0	0.0	30.6	0.0
541700	Scientific research and development services	48.9	5.6	11.5	16.0	15.8	51.1	10.0	0.0	40.2	0.9
541800	Advertising and related services	95.2	9.5	25.8	28.9	31.1	4.8	0.4	0.0	3.8	0.5
541920	Photographic services	28.7	13.0	4.2	3.8	7.7	71.3	70.2	0.0	0.0	1.1
541940	Veterinary services	4.0	0.3	2.0	0.2	1.6	96.0	83.0	0.0	13.0	0.0
5419A0	All other miscellaneous professional, scientific, and technical services	94.1	14.6	24.7	32.8	22.0	5.9	0.0	0.0	5.9	0.0
550000	Management of companies and enterprises	92.1	10.1	15.3	31.9	34.9	7.9	0.0	0.0	0.0	7.9
561100	Office administrative services	84.6	10.5	18.8	26.2	29.2	15.4	0.0	0.0	15.4	0.0
561200	Facilities support services	44.7	7.4	7.9	12.6	16.8	55.3	0.0	0.0	55.3	0.0
561300	Employment services	93.8	12.6	18.8	29.9	32.6	6.2	0.5	0.0	5.7	0.0
561400	Business support services	85.9	15.0	18.4	24.8	27.7	14.1	7.7	0.0	6.4	0.0
561500	Travel arrangement and reservation services	53.7	7.3	15.9	13.6	16.9	46.3	32.1	0.0	10.1	4.2
561600	Investigation and security services	63.5	12.5	11.7	18.4	20.9	36.5	18.7	0.0	17.6	0.2
561700	Services to buildings and dwellings	79.9	17.3	12.3	20.0	30.3	20.1	7.8	0.0	12.2	0.0
561900	Other support services	79.4	7.9	14.3	26.2	31.1	20.6	1.5	0.0	18.9	0.3
562000	Waste management and remediation services	58.0	19.3	13.6	9.7	15.4	42.0	18.2	0.0	23.7	0.1
611100	Elementary and secondary schools	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
611A00	Junior colleges, colleges, universities, and professional schools	3.0	0.3	0.4	0.9	1.3	97.0	87.4	0.0	9.2	0.5
611B00	Other educational services	9.2	0.1	0.9	2.5	5.6	90.8	86.2	0.0	4.6	0.0
621600	Home health care services	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
621A00	Offices of physicians, dentists, and other health practitioners	0.0	0.0	0.0	0.0	0.0	100.0	99.8	0.0	0.2	0.0
621B00	Medical and diagnostic labs and outpatient and other ambulatory care services	16.9	0.0	0.1	0.0	16.8	83.1	82.7	0.0	0.4	0.0
622000	Hospitals	0.1	0.0	0.0	0.0	0.1	99.9	99.7	0.0	0.1	0.0
623000	Nursing and residential care facilities	0.0	0.0	0.0	0.0	0.0	100.0	99.5	0.0	0.5	0.0
624200	Community food, housing, and other relief services, including rehabilitation services	0.0	0.0	0.0	0.0	0.0	100.0	99.8	0.0	0.2	0.0
624400	Child day care services	0.0	0.0	0.0	0.0	0.0	100.0	97.1	0.0	2.9	0.0
624A00	Individual and family services	0.0	0.0	0.0	0.0	0.0	100.0	98.2	0.0	1.8	0.0
711100	Performing arts companies	25.8	2.9	10.4	2.0	10.5	74.2	73.5	0.0	0.3	0.4
711200	Spectator sports	49.0	19.7	23.1	2.9	3.4	51.0	50.7	0.0	0.0	0.2
711500	Independent artists, writers, and performers	90.6	23.5	21.2	28.5	17.4	9.4	0.5	0.0	8.9	0.0
711A00	Promoters of performing arts and sports and agents for public figures	49.0	17.1	15.8	9.8	6.4	51.0	50.6	0.0	0.0	0.4
712000	Museums, historical sites, zoos, and parks	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
713940	Fitness and recreational sports centers	17.2	3.5	4.1	5.1	4.5	82.8	82.2	0.0	0.6	0.0
713950	Bowling centers	1.1	0.6	0.1	0.0	0.4	98.9	98.9	0.0	0.0	0.0
713A00	Amusement parks, arcades, and gambling industries	0.3	0.0	0.1	0.0	0.2	99.7	99.7	0.0	0.0	0.0
713B00	Other amusement and recreation industries	12.3	2.3	4.4	2.2	3.3	87.7	79.1	0.0	8.6	0.0
7211A0	Hotels and motels, including casino hotels	41.2	9.2	11.1	11.5	9.3	58.8	52.3	0.0	6.5	0.0
721A00	Other accommodations	0.9	0.3	0.3	0.3	0.1	99.1	99.1	0.0	0.0	0.0
722000	Food services and drinking places	18.4	3.9	4.3	4.2	6.0	81.6	78.9	0.0	2.6	0.1
811192	Car washes	17.9	2.6	4.7	5.5	5.2	82.1	82.0	0.0	0.1	0.0
8111A0	Automotive repair and maintenance, except car washes	21.3	3.4	5.0	5.4	7.4	78.7	76.9	0.0	1.8	0.0
811200	Electronic and precision equipment repair and maintenance	50.1	6.2	10.7	14.8	18.4	49.9	12.4	0.0	37.5	0.0
811300	Commercial and industrial machinery and equipment repair and maintenance	91.8	14.5	22.7	20.3	34.3	8.2	0.0	0.0	8.2	0.0
811400	Personal and household goods repair and maintenance	45.1	8.0	11.5	10.6	14.9	54.9	46.3	0.0	8.6	0.0
812100	Personal care services	1.6	0.0	0.0	0.0	1.6	98.4	98.3	0.0	0.0	0.0
812200	Death care services	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
812300	Dry-cleaning and laundry services	34.3	1.6	4.6	8.1	19.9	65.7	55.6	0.0	10.1	0.0
812900	Other personal services	7.4	1.1	0.9	4.1	1.2	92.6	89.8	0.0	2.9	0.0
813100	Religious organizations	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
813A00	Grantmaking, giving and social advocacy organizations	0.5	0.0	0.0	0.0	0.4	99.5	99.5	0.0	0.0	0.0
813B00	Civic, social, professional and similar organizations	51.3	6.4	9.6	7.6	27.7	48.7	48.5	0.0	0.0	0.2
814000	Private households	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
S00102	Other Federal Government enterprises	100.0	11.7	52.8	35.1	0.4	0.0	0.0	0.0	0.0	0.0
S00203	Other state and local government enterprises	17.7	2.5	1.9	3.7	9.6	82.3	76.6	0.0	5.7	0.0
S00300	Noncomparable imports	53.9	4.8	6.1	26.0	17.0	46.1	33.7	1.7	10.7	0.0
S00401	Scrap	78.7	60.5	13.6	3.2	1.4	21.3	0.0	0.0	0.0	21.3
S00402	Used and secondhand goods	5.9	0.0	1.3	0.9	3.6	94.1	85.2	0.0	3.7	5.3

Table 8. Percent use of commodities by intermediate demand, final demand, and components – Continued

Commodity	Title	Percent use by									
		ID	S1	S2	S3	S4	FD	PC	CI	Govt	Exp
S00500	General Federal defense government services	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
S00600	General Federal nondefense government services	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
S00700	General state and local government services	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
S00800	Owner-occupied dwellings	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0

As a final step of analysis, the 1997 BEA data were used to generate a 4-stage system using the 75-65-65 cutoff rules. The results of the 1997 industry allocations for the 75-65-65 system were compared to those for 2002. This comparison gives some indication as to how allocations based on a strict set of rules may change between BEA benchmark IO tables. Of the 322 comparable industries across 1997 and 2002 BEA structures, 54 industries changed stages between benchmark IOs. Of these 54 industries, however, 51 moved only one stage and three moved two stages. Appendix B presents the comparable industries that changed stages between benchmark IOs. For areas in which the 1997 and 2002 IOs are not comparable, Appendix C attempts to align the structures to allow for some comparison of industry allocations for the 75-65-65 system between the 1997 and 2002 IOs. Sixteen areas in which there appears to be substantial changes were highlighted in the table.

The 1997 to 2002 comparison of the 75-65-65 system indicates that, while industry allocations would change somewhat between the benchmark IOs, most industries would remain in the same stage whether the system was constructed with either 1997 or 2002 IO data. In addition, for industries that would change stages, almost all changes would be by a single stage.

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
1111A0	Oilseed farming	0.67	0.33	1111A0	Oilseed farming	0.64	0.36	0.03	-0.03
1111B0	Grain farming	0.78	0.22	1111B0	Grain farming	0.78	0.22	0.01	-0.01
111200	Vegetable and melon farming	0.24	0.76	111200	Vegetable and melon farming	0.33	0.67	-0.09	0.09
111335	Tree nut farming	0.50	0.50	111335	Tree nut farming	0.52	0.48	-0.02	0.02
1113A0	Fruit farming	0.32	0.68	1113A0	Fruit farming	0.45	0.55	-0.13	0.13
111400	Greenhouse, nursery, and floriculture production	0.19	0.81	111400	Greenhouse and nursery production	0.40	0.60	-0.21	0.21
111910	Tobacco farming	0.94	0.06	111910	Tobacco farming	0.95	0.05	-0.01	0.01
111920	Cotton farming	0.59	0.41	111920	Cotton farming	0.64	0.36	-0.05	0.05
1119A0	Sugarcane and sugar beet farming	1.00	0.00	1119A0	Sugarcane and sugar beet farming	1.00	0.00	0.00	0.00
1119B0	All other crop farming	0.96	0.04	1119B0	All other crop farming	0.96	0.04	0.00	0.00
112120	Dairy cattle and milk production	1.00	0.00	112100	Cattle ranching and farming	0.99	0.01		
1121A0	Cattle ranching and farming	0.99	0.01						
112300	Poultry and egg production	0.86	0.14	112300	Poultry and egg production	0.87	0.13	-0.01	0.01
112A00	Animal production, except cattle and poultry and eggs	0.80	0.20	112A00	Animal production, except cattle and poultry and eggs	0.86	0.14	-0.06	0.06
113300	Logging	0.96	0.04	113300	Logging	0.92	0.08	0.04	-0.04
113A00	Forest nurseries, forest products, and timber tracts	0.98	0.02	113A00	Forest nurseries, forest products, and timber tracts	0.98	0.02	0.00	0.00
114100	Fishing	0.61	0.39	114100	Fishing	0.59	0.41	0.01	-0.01
114200	Hunting and trapping	0.00	1.00	114200	Hunting and trapping	0.12	0.88	-0.12	0.12
115000	Support activities for agriculture and forestry	0.95	0.05	115000	Agriculture and forestry support activities	0.97	0.03	-0.02	0.02
211000	Oil and gas extraction	0.99	0.01	211000	Oil and gas extraction	0.99	0.01	0.00	0.00
212100	Coal mining	0.95	0.05	212100	Coal mining	0.90	0.10	0.05	-0.05
212210	Iron ore mining	0.93	0.07	212210	Iron ore mining	0.92	0.08	0.00	0.00
212230	Copper, nickel, lead, and zinc mining	0.82	0.18	212230	Copper, nickel, lead, and zinc mining	0.87	0.13	-0.05	0.05
2122A0	Gold, silver, and other metal ore mining	0.58	0.42	2122A0	Gold, silver, and other metal ore mining	0.39	0.61	0.19	-0.19
212310	Stone mining and quarrying	1.00	0.00	212310	Stone mining and quarrying	0.97	0.03	0.03	-0.03

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
212320	Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying	0.93	0.07	212320	Sand, gravel, clay, and refractory mining	0.91	0.09	0.03	-0.03
212390	Other nonmetallic mineral mining and quarrying	0.76	0.24	212390	Other nonmetallic mineral mining	0.82	0.18	-0.05	0.05
213111	Drilling oil and gas wells	0.00	1.00	213111	Drilling oil and gas wells	0.00	1.00	0.00	0.00
213112	Support activities for oil and gas operations	0.10	0.90	213112	Support activities for oil and gas operations	0.14	0.86	-0.04	0.04
21311A	Support activities for other mining	0.41	0.59	21311A	Support activities for other mining	0.42	0.58	-0.01	0.01
221100	Electric power generation, transmission, and distribution	0.53	0.47	221100	Power generation and supply	0.49	0.51	0.04	-0.04
221200	Natural gas distribution	0.49	0.51	221200	Natural gas distribution	0.43	0.57	0.07	-0.07
221300	Water, sewage and other systems	0.27	0.73	221300	Water, sewage and other systems	0.28	0.72	-0.01	0.01
230101	Nonresidential commercial and health care structures	0.00	1.00	230220	Commercial and institutional buildings	0.00	1.00	0.00	0.00
230102	Nonresidential manufacturing structures	0.00	1.00	230210	Manufacturing and industrial buildings	0.00	1.00	0.00	0.00
230201	Residential permanent site single- and multi-family structures	0.00	1.00	230120	New multifamily housing structures, nonfarm	0.00	1.00		
230202	Other residential structures	0.01	0.99	230130	New residential additions and alterations, nonfarm	0.00	1.00		
				230140	New farm housing units and additions and alterations	0.00	1.00		
				230110	New residential 1-unit structures, nonfarm	0.00	1.00		
230103	Other nonresidential structures	0.00	1.00	230230	Highway, street, bridge, and tunnel construction	0.00	1.00		
				230240	Water, sewer, and pipeline construction	0.00	1.00		
230302	Residential maintenance and repair	0.99	0.01	230310	Maintenance and repair of farm and nonfarm residential structures	0.34	0.66		

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
230301	Nonresidential maintenance and repair	0.73	0.27	230320	Maintenance and repair of nonresidential buildings	0.84	0.16		
				230330	Maintenance and repair of highways, streets, bridges, and tunnels	0.00	1.00		
				230250	Other new construction	0.00	1.00		
				230340	Other maintenance and repair construction	0.68	0.32		
311111	Dog and cat food manufacturing	0.02	0.98	311111	Dog and cat food manufacturing	0.02	0.98	0.00	0.00
311119	Other animal food manufacturing	0.84	0.16	311119	Other animal food manufacturing	0.93	0.07	-0.09	0.09
311210	Flour milling and malt manufacturing	0.70	0.30	311211	Flour milling	0.82	0.18		
				311213	Malt manufacturing	0.95	0.05		
				311212	Rice milling	0.24	0.76		
311221	Wet corn milling	0.83	0.17	311221	Wet corn milling	0.72	0.28	0.10	-0.10
311225	Fats and oils refining and blending	0.63	0.37	311225	Fats and oils refining and blending	0.61	0.39	0.02	-0.02
31122A	Soybean and other oilseed processing	0.79	0.21	311222	Soybean processing	0.80	0.20		
				311223	Other oilseed processing	0.74	0.26		
311313	Beet sugar manufacturing	0.68	0.32	311310	Sugar manufacturing	0.73	0.27		
31131A	Sugar cane mills and refining	0.73	0.27						
311320	Chocolate and confectionery manufacturing from cacao beans	0.63	0.37	311320	Confectionery manufacturing from cacao beans	0.71	0.29	-0.08	0.08
311330	Confectionery manufacturing from purchased chocolate	0.04	0.96	311330	Confectionery manufacturing from purchased chocolate	0.03	0.97	0.01	-0.01
311340	Nonchocolate confectionery manufacturing	0.10	0.90	311340	Nonchocolate confectionery manufacturing	0.18	0.82	-0.08	0.08
311410	Frozen food manufacturing	0.20	0.80	311410	Frozen food manufacturing	0.23	0.77	-0.03	0.03
311420	Fruit and vegetable canning, pickling, and drying	0.27	0.73	311420	Fruit and vegetable canning and drying	0.28	0.72	-0.01	0.01
311513	Cheese manufacturing	0.56	0.44	311513	Cheese manufacturing	0.56	0.44	0.00	0.00
311514	Dry, condensed, and evaporated dairy product manufacturing	0.39	0.61	311514	Dry, condensed, and evaporated dairy products	0.43	0.57	-0.04	0.04
31151A	Fluid milk and butter manufacturing	0.25	0.75	311511	Fluid milk manufacturing	0.29	0.71		
				311512	Creamery butter manufacturing	0.49	0.51		

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
311520	Ice cream and frozen dessert manufacturing	0.60	0.40	311520	Ice cream and frozen dessert manufacturing	0.57	0.43	0.04	-0.04
311615	Poultry processing	0.34	0.66	311615	Poultry processing	0.33	0.67	0.01	-0.01
31161A	Animal (except poultry) slaughtering, rendering, and processing	0.39	0.61	311611	Animal, except poultry, slaughtering	0.47	0.53		
				311612	Meat processed from carcasses	0.27	0.73		
				311613	Rendering and meat byproduct processing	0.85	0.15		
311700	Seafood product preparation and packaging	0.54	0.46	311700	Seafood product preparation and packaging	0.55	0.45	-0.01	0.01
311810	Bread and bakery product manufacturing	0.10	0.90	311813	Frozen cakes and other pastries manufacturing	0.01	0.99		
				31181A	Bread and bakery product, except frozen, manufacturing	0.34	0.66		
311820	Cookie, cracker, and pasta manufacturing	0.13	0.87	311821	Cookie and cracker manufacturing	0.16	0.84		
				311822	Mixes and dough made from purchased flour	0.14	0.86		
				311823	Dry pasta manufacturing	0.12	0.88		
311830	Tortilla manufacturing	0.03	0.97	311830	Tortilla manufacturing	0.06	0.94	-0.03	0.03
311910	Snack food manufacturing	0.13	0.87	311911	Roasted nuts and peanut butter manufacturing	0.18	0.82		
				311919	Other snack food manufacturing	0.10	0.90		
311920	Coffee and tea manufacturing	0.31	0.69	311920	Coffee and tea manufacturing	0.37	0.63	-0.06	0.06
311930	Flavoring syrup and concentrate manufacturing	0.97	0.03	311930	Flavoring syrup and concentrate manufacturing	0.96	0.04	0.01	-0.01
311940	Seasoning and dressing manufacturing	0.34	0.66	311941	Mayonnaise, dressing, and sauce manufacturing	0.36	0.64		
				311942	Spice and extract manufacturing	0.34	0.66		
311990	All other food manufacturing	0.27	0.73	311990	All other food manufacturing	0.16	0.84	0.10	-0.10
312110	Soft drink and ice manufacturing	0.14	0.86	312110	Soft drink and ice manufacturing	0.14	0.86	0.00	0.00
312120	Breweries	0.06	0.94	312120	Breweries	0.15	0.85	-0.09	0.09
312130	Wineries	0.21	0.79	312130	Wineries	0.22	0.78	-0.01	0.01
312140	Distilleries	0.33	0.67	312140	Distilleries	0.34	0.66	-0.01	0.01

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
3122A0	Tobacco product manufacturing	0.05	0.95	312210	Tobacco stemming and redrying	0.72	0.28		
				312221	Cigarette manufacturing	0.00	1.00		
				312229	Other tobacco product manufacturing	0.13	0.87		
313100	Fiber, yarn, and thread mills	0.90	0.10	313100	Fiber, yarn, and thread mills	0.94	0.06	-0.03	0.03
313210	Broadwoven fabric mills	0.63	0.37	313210	Broadwoven fabric mills	0.81	0.19	-0.17	0.17
313220	Narrow fabric mills and schiffli machine embroidery	0.57	0.43	313220	Narrow fabric mills and schiffli embroidery	0.74	0.26	-0.17	0.17
313230	Nonwoven fabric mills	0.84	0.16	313230	Nonwoven fabric mills	0.77	0.23	0.06	-0.06
313240	Knit fabric mills	0.87	0.13	313240	Knit fabric mills	0.93	0.07	-0.06	0.06
313310	Textile and fabric finishing mills	0.96	0.04	313310	Textile and fabric finishing mills	1.00	0.00	-0.04	0.04
313320	Fabric coating mills	0.76	0.24	313320	Fabric coating mills	0.77	0.23	-0.01	0.01
314110	Carpet and rug mills	0.19	0.81	314110	Carpet and rug mills	0.20	0.80	-0.01	0.01
314120	Curtain and linen mills	0.17	0.83	314120	Curtain and linen mills	0.16	0.84	0.01	-0.01
314910	Textile bag and canvas mills	0.61	0.39	314910	Textile bag and canvas mills	0.65	0.35	-0.04	0.04
314990	All other textile product mills	0.58	0.42	314992	Tire cord and tire fabric mills	0.91	0.09		
				31499A	Other miscellaneous textile product mills	0.53	0.47		
315100	Apparel knitting mills	0.15	0.85	315111	Sheer hosiery mills	0.19	0.81		
				315119	Other hosiery and sock mills	0.00	1.00		
315210	Cut and sew apparel contractors	0.96	0.04	315200	Cut and sew apparel manufacturing	0.08	0.92		
315220	Men's and boys' cut and sew apparel manufacturing	0.02	0.98						
315230	Women's and girls' cut and sew apparel manufacturing	0.01	0.99						
315290	Other cut and sew apparel manufacturing	0.08	0.92						
315900	Apparel accessories and other apparel manufacturing	0.14	0.86	315900	Accessories and other apparel manufacturing	0.11	0.89	0.03	-0.03
316100	Leather and hide tanning and finishing	0.74	0.26	316100	Leather and hide tanning and finishing	0.83	0.17	-0.09	0.09
316200	Footwear manufacturing	0.00	1.00	316200	Footwear manufacturing	0.00	1.00	0.00	0.00

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
316900	Other leather and allied product manufacturing	0.20	0.80	316900	Other leather product manufacturing	0.26	0.74	-0.06	0.06
321100	Sawmills and wood preservation	0.95	0.05	321113 321114	Sawmills Wood preservation	0.92 0.98	0.08 0.02		
321219	Reconstituted wood product manufacturing	0.87	0.13	321219	Reconstituted wood product manufacturing	0.94	0.06	-0.07	0.07
32121A	Veneer and plywood manufacturing	0.94	0.06	32121A	Veneer and plywood manufacturing	0.91	0.09	0.03	-0.03
32121B	Engineered wood member and truss manufacturing	0.98	0.02	32121B	Engineered wood member and truss manufacturing	0.94	0.06	0.04	-0.04
321910	Wood windows and doors and millwork	0.97	0.03	321911 321912 321918	Wood windows and door manufacturing Cut stock, resawing lumber, and planing Other millwork, including flooring	0.95 0.98 0.93	0.05 0.02 0.07		
321920	Wood container and pallet manufacturing	0.67	0.33	321920	Wood container and pallet manufacturing	0.91	0.09	-0.24	0.24
321991	Manufactured home (mobile home) manufacturing	0.01	0.99	321991	Manufactured home, mobile home, manufacturing	0.00	1.00	0.01	-0.01
321992	Prefabricated wood building manufacturing	0.99	0.01	321992	Prefabricated wood building manufacturing	0.96	0.04	0.03	-0.03
321999	All other miscellaneous wood product manufacturing	0.57	0.43	321999	Miscellaneous wood product manufacturing	0.73	0.27	-0.16	0.16
322110	Pulp mills	0.68	0.32	322110	Pulp mills	0.67	0.33	0.01	-0.01
322120 322130	Paper mills Paperboard mills	0.65 1.00	0.35 0.00	3221A0	Paper and paperboard mills	0.80	0.20		
322210	Paperboard container manufacturing	0.94	0.06	322210	Paperboard container manufacturing	0.95	0.05	-0.01	0.01
32222A	Coated and laminated paper, packaging paper and plastics film manufacturing	0.76	0.24	32222A 322225	Coated and laminated paper and packaging materials Flexible packaging foil manufacturing	0.80 1.00	0.20 0		
32222B	All other paper bag and coated and treated paper manufacturing	0.77	0.23	32222B 322226	Coated and uncoated paper bag manufacturing Surface-coated paperboard manufacturing	0.85 0.79	0.15 0.21		

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
322230	Stationery product manufacturing	0.19	0.81	322231	Die-cut paper office supplies manufacturing	0.74	0.26		
				322232	Envelope manufacturing	0.63	0.37		
				322233	Stationery and related product manufacturing	0.52	0.48		
322291	Sanitary paper product manufacturing	0.32	0.68	322291	Sanitary paper product manufacturing	0.27	0.73	0.06	-0.06
322299	All other converted paper product manufacturing	0.63	0.37	322299	All other converted paper product manufacturing	0.56	0.44	0.08	-0.08
323110	Printing	0.75	0.25	323116	Manifold business forms printing	0.71	0.29		
				323117	Books printing	0.95	0.05		
				323118	Blankbook and looseleaf binder manufacturing	0.59	0.41		
				32311A	Commercial printing	0.88	0.12		
323120	Support activities for printing	0.89	0.11	323121	Tradebinding and related work	0.78	0.22		
				323122	Prepress services	0.94	0.06		
324110	Petroleum refineries	0.55	0.45	324110	Petroleum refineries	0.51	0.49	0.04	-0.04
324121	Asphalt paving mixture and block manufacturing	0.85	0.15	324121	Asphalt paving mixture and block manufacturing	0.97	0.03	-0.12	0.12
324122	Asphalt shingle and coating materials manufacturing	0.98	0.02	324122	Asphalt shingle and coating materials manufacturing	0.94	0.06	0.04	-0.04
324191	Petroleum lubricating oil and grease manufacturing	0.68	0.32	324191	Petroleum lubricating oil and grease manufacturing	0.67	0.33	0.01	-0.01
324199	All other petroleum and coal products manufacturing	0.57	0.43	324199	All other petroleum and coal products manufacturing	0.60	0.40	-0.03	0.03
325110	Petrochemical manufacturing	0.90	0.10	325110	Petrochemical manufacturing	0.91	0.09	-0.01	0.01
325120	Industrial gas manufacturing	0.85	0.15	325120	Industrial gas manufacturing	0.85	0.15	0.00	0.00
325130	Synthetic dye and pigment manufacturing	0.75	0.25	325130	Synthetic dye and pigment manufacturing	0.79	0.21	-0.04	0.04
325181	Alkalies and chlorine manufacturing	0.83	0.17	325180	Other basic inorganic chemical manufacturing	0.70	0.30		
325182	Carbon black manufacturing	0.90	0.10						
325188	All other basic inorganic chemical manufacturing	0.63	0.37						

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
325190	Other basic organic chemical manufacturing	0.76	0.24	325190	Other basic organic chemical manufacturing	0.77	0.23	-0.01	0.01
325211	Plastics material and resin manufacturing	0.77	0.23	325211	Plastics material and resin manufacturing	0.80	0.20	-0.03	0.03
325212	Synthetic rubber manufacturing	0.76	0.24	325212	Synthetic rubber manufacturing	0.81	0.19	-0.05	0.05
325220	Artificial and synthetic fibers and filaments manufacturing	0.89	0.11	325221	Cellulosic organic fiber manufacturing	0.70	0.30		
				325222	Noncellulosic organic fiber manufacturing	0.91	0.09		
325310	Fertilizer manufacturing	0.79	0.21	325311	Nitrogenous fertilizer manufacturing	0.96	0.04		
				325312	Phosphatic fertilizer manufacturing	0.68	0.32		
325320	Pesticide and other agricultural chemical manufacturing	0.55	0.45	325320	Pesticide and other agricultural chemical manufacturing	0.74	0.26	-0.19	0.19
325411	Medicinal and botanical manufacturing	1.00	0.00	325400	Pharmaceutical and medicine manufacturing	0.29	0.71		
325412	Pharmaceutical preparation manufacturing	0.19	0.81						
325413	In-vitro diagnostic substance manufacturing	1.00	0.00						
325414	Biological product (except diagnostic) manufacturing	0.84	0.16						
325510	Paint and coating manufacturing	0.87	0.13	325510	Paint and coating manufacturing	0.88	0.12	-0.01	0.01
325520	Adhesive manufacturing	0.80	0.20	325520	Adhesive manufacturing	0.85	0.15	-0.05	0.05
325610	Soap and cleaning compound manufacturing	0.32	0.68	325611	Soap and other detergent manufacturing	0.18	0.82		
				325612	Polish and other sanitation good manufacturing	0.27	0.73		
				325613	Surface active agent manufacturing	0.80	0.20		
325620	Toilet preparation manufacturing	0.07	0.93	325620	Toilet preparation manufacturing	0.08	0.92	-0.01	0.01
325910	Printing ink manufacturing	0.88	0.12	325910	Printing ink manufacturing	0.92	0.08	-0.03	0.03

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
3259A0	All other chemical product and preparation manufacturing	0.66	0.34	325920	Explosives manufacturing	0.79	0.21		
				325991	Custom compounding of purchased resins	1.00	0.00		
				325992	Photographic film and chemical manufacturing	0.53	0.47		
				325998	Other miscellaneous chemical product manufacturing	0.76	0.24		
326110	Plastics packaging materials and unlaminated film and sheet manufacturing	0.83	0.17	326110	Plastics packaging materials, film and sheet	0.80	0.20	0.02	-0.02
326121	Unlaminated plastics profile shape manufacturing	0.95	0.05	326120	Plastics pipe, fittings, and profile shapes	0.90	0.10		
326122	Plastics pipe and pipe fitting manufacturing	0.92	0.08						
326130	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.99	0.01	326130	Laminated plastics plate, sheet, and shapes	1.00	0.00	-0.01	0.01
326140	Polystyrene foam product manufacturing	0.90	0.10	3261A0	Foam product manufacturing	0.93	0.07		
326150	Urethane and other foam product (except polystyrene) manufacturing	0.93	0.07						
326160	Plastics bottle manufacturing	0.96	0.04	326160	Plastics bottle manufacturing	0.97	0.03	-0.01	0.01
32619A	Other plastics product manufacturing	0.80	0.20	326192	Resilient floor covering manufacturing	0.90	0.10		
				32619A	Plastics plumbing fixtures and all other plastics products	0.85	0.15		
326210	Tire manufacturing	0.50	0.50	326210	Tire manufacturing	0.55	0.45	-0.05	0.05
326220	Rubber and plastics hoses and belting manufacturing	0.70	0.30	326220	Rubber and plastics hose and belting manufacturing	0.79	0.21	-0.09	0.09
326290	Other rubber product manufacturing	0.73	0.27	326290	Other rubber product manufacturing	0.76	0.24	-0.03	0.03

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
32711A	Pottery, ceramics, and plumbing fixture manufacturing	0.49	0.51	327111	Vitreous china plumbing fixture manufacturing	0.94	0.06		
				327112	Vitreous china and earthenware articles manufacturing	0.13	0.87		
				327113	Porcelain electrical supply manufacturing	0.91	0.09		
32712A	Brick, tile, and other structural clay product manufacturing	0.99	0.01	327121	Brick and structural clay tile manufacturing	0.96	0.04		
				327122	Ceramic wall and floor tile manufacturing	0.83	0.17		
32712B	Clay and nonclay refractory manufacturing	0.87	0.13	327125	Nonclay refractory manufacturing	0.85	0.15		
				32712A	Clay refractory and other structural clay products	0.90	0.10		
327211	Flat glass manufacturing	0.82	0.18	32721A	Glass and glass products, except glass containers	0.78	0.22		
327212	Other pressed and blown glass and glassware manufacturing	0.67	0.33						
327215	Glass product manufacturing made of purchased glass	0.75	0.25						
327213	Glass container manufacturing	0.94	0.06	327213	Glass container manufacturing	0.94	0.06	0.00	0.00
327310	Cement manufacturing	0.99	0.01	327310	Cement manufacturing	0.99	0.01	0.01	-0.01
327320	Ready-mix concrete manufacturing	1.00	0.00	327320	Ready-mix concrete manufacturing	0.99	0.01	0.01	-0.01
327330	Concrete pipe, brick, and block manufacturing	1.00	0.00	327331	Concrete block and brick manufacturing	0.98	0.02		
				327332	Concrete pipe manufacturing	0.99	0.01		
327390	Other concrete product manufacturing	0.98	0.02	327390	Other concrete product manufacturing	0.98	0.02	0.01	-0.01
3274A0	Lime and gypsum product manufacturing	0.97	0.03	327410	Lime manufacturing	0.99	0.01		
				327420	Gypsum product manufacturing	0.97	0.03		
327910	Abrasive product manufacturing	0.78	0.22	327910	Abrasive product manufacturing	0.84	0.16	-0.06	0.06
327991	Cut stone and stone product manufacturing	0.62	0.38	327991	Cut stone and stone product manufacturing	0.60	0.40	0.01	-0.01

Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
327992	Ground or treated mineral and earth manufacturing	0.87	0.13	327992	Ground or treated minerals and earths manufacturing	0.87	0.13	0.01	-0.01
327993	Mineral wool manufacturing	0.93	0.07	327993	Mineral wool manufacturing	0.91	0.09	0.02	-0.02
327999	Miscellaneous nonmetallic mineral products	0.89	0.11	327999	Miscellaneous nonmetallic mineral products	0.92	0.08	-0.03	0.03
331110	Iron and steel mills and ferroalloy manufacturing	0.95	0.05	331111	Iron and steel mills	0.95	0.05		
				331112	Ferroalloy and related product manufacturing	0.94	0.06		
331200	Steel product manufacturing from purchased steel	0.89	0.11	331222	Steel wire drawing	0.88	0.12	0.01	-0.01
331314	Secondary smelting and alloying of aluminum	1.00	0.00						
33131A	Alumina refining and primary aluminum production	0.97	0.03	331311	Alumina refining	0.81	0.19		
				331312	Primary aluminum production	0.96	0.04		
33131B	Aluminum product manufacturing from purchased aluminum	0.90	0.10	331315	Aluminum sheet, plate, and foil manufacturing	0.88	0.12		
				331319	Other aluminum rolling and drawing	0.94	0.06		
331411	Primary smelting and refining of copper	0.95	0.05	331411	Primary smelting and refining of copper	0.90	0.10	0.05	-0.05
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)	0.90	0.10	331419	Primary nonferrous metal, except copper and aluminum	0.86	0.14	0.04	-0.04
331420	Copper rolling, drawing, extruding and alloying	0.90	0.10	331421	Copper rolling, drawing, and extruding	0.91	0.09	-0.02	0.02
331490	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying	0.79	0.21	331491	Nonferrous metal, except copper and aluminum, shaping	0.85	0.15		
				331492	Secondary processing of other nonferrous	0.91	0.09		
331510	Ferrous metal foundries	0.98	0.02	331510	Ferrous metal foundries	0.97	0.03	0.01	-0.01
331520	Nonferrous metal foundries	0.99	0.01	33152A	Aluminum foundries	1.00	0.00	0.00	0.00
				332111	Iron and steel forging	1.00	0.00		
				332112	Nonferrous forging	0.98	0.02		

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
332114	Custom roll forming	1.00	0.00	332114	Custom roll forming	0.99	0.01	0.01	-0.01
33211A	All other forging, stamping, and sintering	1.00	0.00	33211A	All other forging and stamping	0.92	0.08	0.08	-0.08
33211B	Crown and closure manufacturing and metal stamping	0.92	0.08						
33221A	Cutlery, utensil, pot, and pan manufacturing	0.19	0.81	332211	Cutlery and flatware, except precious, manufacturing	0.18	0.82	0.01	-0.01
33221B	Handtool manufacturing	0.53	0.47	332212	Hand and edge tool manufacturing	0.55	0.45		
				332213	Saw blade and handsaw manufacturing	0.55	0.45		
				332214	Kitchen utensil, pot, and pan manufacturing	0.27	0.73		
332310	Plate work and fabricated structural product manufacturing	0.96	0.04	332311	Prefabricated metal buildings and components	0.88	0.12		
				332312	Fabricated structural metal manufacturing	0.96	0.04		
				332313	Plate work manufacturing	0.96	0.04		
332320	Ornamental and architectural metal products manufacturing	0.97	0.03	332321	Metal window and door manufacturing	0.96	0.04		
				332322	Sheet metal work manufacturing	0.96	0.04		
				332323	Ornamental and architectural metal work manufacturing	0.93	0.07		
332410	Power boiler and heat exchanger manufacturing	0.56	0.44	332410	Power boiler and heat exchanger manufacturing	0.32	0.68	0.24	-0.24
332420	Metal tank (heavy gauge) manufacturing	0.49	0.51	332420	Metal tank, heavy gauge, manufacturing	0.36	0.64	0.13	-0.13
332430	Metal can, box, and other metal container (light gauge) manufacturing	0.95	0.05	332430	Metal can, box, and other container manufacturing	0.92	0.08	0.03	-0.03
332500	Hardware manufacturing	0.81	0.19	332500	Hardware manufacturing	0.81	0.19	0.00	0.00
332600	Spring and wire product manufacturing	0.90	0.10	332600	Spring and wire product manufacturing	0.89	0.11	0.01	-0.01
332710	Machine shops	0.96	0.04	332710	Machine shops	0.99	0.01	-0.03	0.03

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
332720	Turned product and screw, nut, and bolt manufacturing	0.93	0.07	332720	Turned product and screw, nut, and bolt manufacturing	0.93	0.07	0.01	-0.01
332800	Coating, engraving, heat treating and allied activities	1.00	0.00	332811	Metal heat treating	1.00	0.00		
				332812	Metal coating and nonprecious engraving	1.00	0.00		
				332813	Electroplating, anodizing, and coloring metal	1.00	0.00		
332913	Plumbing fixture fitting and trim manufacturing	0.97	0.03	332910	Metal valve manufacturing	0.80	0.20		
33291A	Valve and fittings other than plumbing	0.76	0.24						
332991	Ball and roller bearing manufacturing	0.85	0.15	332991	Ball and roller bearing manufacturing	0.88	0.12	-0.03	0.03
332996	Fabricated pipe and pipe fitting manufacturing	0.88	0.12	332996	Fabricated pipe and pipe fitting manufacturing	0.85	0.15	0.03	-0.03
				332997	Industrial pattern manufacturing	0.98	0.02		
				332998	Enameled iron and metal sanitary ware manufacturing	0.94	0.06		
33299C	Other fabricated metal manufacturing	0.73	0.27	332999	Miscellaneous fabricated metal product manufacturing	0.67	0.33		
33299A	Ammunition manufacturing	0.00	1.00	33299A	Ammunition manufacturing	0.03	0.97	-0.02	0.02
33299B	Arms, ordnance, and accessories manufacturing	0.03	0.97	332994	Small arms manufacturing	0.10	0.90		
				332995	Other ordnance and accessories manufacturing	0.00	1.00		
333111	Farm machinery and equipment manufacturing	0.09	0.91	333111	Farm machinery and equipment manufacturing	0.09	0.91	0.01	-0.01
333112	Lawn and garden equipment manufacturing	0.11	0.89	333112	Lawn and garden equipment manufacturing	0.12	0.88	0.00	0.00
333120	Construction machinery manufacturing	0.12	0.88	333120	Construction machinery manufacturing	0.14	0.86	-0.02	0.02
333130	Mining and oil and gas field machinery manufacturing	0.14	0.86	333131	Mining machinery and equipment manufacturing	0.12	0.88		
				333132	Oil and gas field machinery and equipment	0.08	0.92		

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
				333210	Sawmill and woodworking machinery	0.01	0.99		
333220	Plastics and rubber industry machinery manufacturing	0.16	0.84	333220	Plastics and rubber industry machinery	0.20	0.80	-0.04	0.04
				333291	Paper industry machinery manufacturing	0.21	0.79		
				333292	Textile machinery manufacturing	0.16	0.84		
				333293	Printing machinery and equipment manufacturing	0.23	0.77		
				333294	Food product machinery manufacturing	0.10	0.90		
333295	Semiconductor machinery manufacturing	0.20	0.80	333295	Semiconductor machinery manufacturing	0.14	0.86	0.06	-0.06
33329A	Other industrial machinery manufacturing	0.18	0.82	333298	All other industrial machinery manufacturing	0.13	0.87	0.05	-0.05
				333313	Office machinery manufacturing	0.09	0.91		
333314	Optical instrument and lens manufacturing	0.11	0.89	333314	Optical instrument and lens manufacturing	0.04	0.96	0.08	-0.08
333315	Photographic and photocopying equipment manufacturing	0.05	0.95	333315	Photographic and photocopying equipment manufacturing	0.11	0.89	-0.06	0.06
333319	Other commercial and service industry machinery manufacturing	0.20	0.80	333319	Other commercial and service industry machinery manufacturing	0.27	0.73	-0.07	0.07
33331A	Vending, commercial, industrial, and office machinery manufacturing	0.13	0.87	33331A	Automatic vending, commercial laundry and drycleaning machinery	0.20	0.80	-0.06	0.06
33341A	Air purification and ventilation equipment manufacturing	0.45	0.55	333411	Air purification equipment manufacturing	0.41	0.59		
				333412	Industrial and commercial fan and blower manufacturing	0.57	0.43		
333414	Heating equipment (except warm air furnaces) manufacturing	0.64	0.36	333414	Heating equipment, except warm air furnaces	0.70	0.30	-0.06	0.06
333415	Air conditioning, refrigeration, and warm air heating equipment manufacturing	0.60	0.40	333415	AC, refrigeration, and forced air heating	0.59	0.41	0.01	-0.01
333511	Industrial mold manufacturing	0.13	0.87	333511	Industrial mold manufacturing	0.13	0.87	0.00	0.00

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
				333512	Metal cutting machine tool manufacturing	0.08	0.92		
				333513	Metal forming machine tool manufacturing	0.15	0.85		
333514	Special tool, die, jig, and fixture manufacturing	0.14	0.86	333514	Special tool, die, jig, and fixture manufacturing	0.16	0.84	-0.02	0.02
333515	Cutting tool and machine tool accessory manufacturing	0.88	0.12	333515	Cutting tool and machine tool accessory manufacturing	0.86	0.14	0.02	-0.02
33351A	Metal cutting and forming machine tool manufacturing	0.14	0.86	33351A	Rolling mill and other metalworking machinery	0.14	0.86		
33351B	Rolling mill and other metalworking machinery manufacturing	0.12	0.88						
333611	Turbine and turbine generator set units manufacturing	0.17	0.83	333611	Turbine and turbine generator set units manufacturing	0.07	0.93	0.10	-0.10
333612	Speed changer, industrial high-speed drive, and gear manufacturing	0.86	0.14	33361A	Speed changers and mechanical power transmission equipment	0.77	0.23		
333613	Mechanical power transmission equipment manufacturing	0.86	0.14						
333618	Other engine equipment manufacturing	0.64	0.36	333618	Other engine equipment manufacturing	0.61	0.39	0.03	-0.03
333911	Pump and pumping equipment manufacturing	0.22	0.78	333911	Pump and pumping equipment manufacturing	0.30	0.70	-0.08	0.08
333912	Air and gas compressor manufacturing	0.15	0.85	333912	Air and gas compressor manufacturing	0.14	0.86	0.01	-0.01
				333913	Measuring and dispensing pump manufacturing	0.00	1.00		
333920	Material handling equipment manufacturing	0.30	0.70	333921	Elevator and moving stairway manufacturing	0.89	0.11		
				333922	Conveyor and conveying equipment manufacturing	0.11	0.89		
				333923	Overhead cranes, hoists, and monorail systems	0.27	0.73		
				333924	Industrial truck, trailer, and stacker manufacturing	0.17	0.83		
333991	Power-driven handtool manufacturing	0.06	0.94	333991	Power-driven handtool manufacturing	0.10	0.90	-0.03	0.03

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
				333992	Welding and soldering equipment manufacturing	0.27	0.73		
333993	Packaging machinery manufacturing	0.19	0.81	333993	Packaging machinery manufacturing	0.16	0.84	0.03	-0.03
333994	Industrial process furnace and oven manufacturing	0.15	0.85	333994	Industrial process furnace and oven manufacturing	0.08	0.92	0.07	-0.07
33399A	Other general purpose machinery manufacturing	0.21	0.79	33399A	Scales, balances, and miscellaneous general purpose machinery	0.22	0.78		
33399B	Fluid power process machinery	0.83	0.17	333995	Fluid power cylinder and actuator manufacturing	0.90	0.10		
				333996	Fluid power pump and motor manufacturing	0.79	0.21		
334111	Electronic computer manufacturing	0.03	0.97	334111	Electronic computer manufacturing	0.09	0.91	-0.06	0.06
334112	Computer storage device manufacturing	0.48	0.52	334112	Computer storage device manufacturing	0.42	0.58	0.06	-0.06
33411A	Computer terminals and other computer peripheral equipment manufacturing	0.30	0.70	334113	Computer terminal manufacturing	0.46	0.54		
				334119	Other computer peripheral equipment manufacturing	0.31	0.69		
334210	Telephone apparatus manufacturing	0.13	0.87	334210	Telephone apparatus manufacturing	0.09	0.91	0.04	-0.04
334220	Broadcast and wireless communications equipment	0.21	0.79	334220	Broadcast and wireless communications equipment	0.22	0.78	-0.01	0.01
334290	Other communications equipment manufacturing	0.74	0.26	334290	Other communications equipment manufacturing	0.64	0.36	0.10	-0.10
334300	Audio and video equipment manufacturing	0.10	0.90	334300	Audio and video equipment manufacturing	0.13	0.87	-0.03	0.03
334411	Electron tube manufacturing	0.49	0.51	334411	Electron tube manufacturing	0.58	0.42	-0.10	0.10

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
334412	Bare printed circuit board manufacturing	0.79	0.21	33441A	All other electronic component manufacturing	0.72	0.28		
334417	Electronic connector manufacturing	0.64	0.36						
334418	Printed circuit assembly (electronic assembly) manufacturing	0.77	0.23						
334419	Other electronic component manufacturing	0.76	0.24						
33441A	Electronic capacitor, resistor, coil, transformer, and other inductor manufacturing	0.70	0.30						
334413	Semiconductor and related device manufacturing	0.62	0.38	334413	Semiconductors and related device manufacturing	0.73	0.27	-0.11	0.11
334510	Electromedical and electrotherapeutic apparatus manufacturing	0.11	0.89	334510	Electromedical apparatus manufacturing	0.12	0.88	0.00	0.00
334511	Search, detection, and navigation instruments manufacturing	0.14	0.86	334511	Search, detection, and navigation instruments	0.15	0.85	-0.01	0.01
334512	Automatic environmental control manufacturing	0.93	0.07	334512	Automatic environmental control manufacturing	0.93	0.07	0.00	0.00
334513	Industrial process variable instruments manufacturing	0.20	0.80	334513	Industrial process variable instruments	0.21	0.79	-0.01	0.01
334514	Totalizing fluid meters and counting devices manufacturing	0.68	0.32	334514	Totalizing fluid meters and counting devices	0.63	0.37	0.05	-0.05
334515	Electricity and signal testing instruments manufacturing	0.14	0.86	334515	Electricity and signal testing instruments	0.12	0.88	0.02	-0.02
334516	Analytical laboratory instrument manufacturing	0.13	0.87	334516	Analytical laboratory instrument manufacturing	0.15	0.85	-0.02	0.02
334517	Irradiation apparatus manufacturing	0.09	0.91	334517	Irradiation apparatus manufacturing	0.12	0.88	-0.03	0.03
33451A	Watch, clock, and other measuring and controlling device manufacturing	0.17	0.83	33451A	Watch, clock, and other measuring and controlling device manufacturing	0.20	0.80	-0.04	0.04
334613	Magnetic and optical recording media manufacturing	0.64	0.36	334613	Magnetic and optical recording media manufacturing	0.58	0.42	0.05	-0.06
33461A	Software, audio, and video media reproducing	0.93	0.07	334611	Software reproducing	0.93	0.07		
				334612	Audio and video media reproduction	0.89	0.11		

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
335110	Electric lamp bulb and part manufacturing	0.30	0.70	335110	Electric lamp bulb and part manufacturing	0.38	0.62	-0.07	0.07
335120	Lighting fixture manufacturing	0.72	0.28	335120	Lighting fixture manufacturing	0.68	0.32	0.04	-0.04
335210	Small electrical appliance manufacturing	0.15	0.85	335211	Electric housewares and household fan manufacturing	0.15	0.85		
				335212	Household vacuum cleaner manufacturing	0.08	0.92		
335221	Household cooking appliance manufacturing	0.04	0.96	335221	Household cooking appliance manufacturing	0.10	0.90	-0.06	0.06
335222	Household refrigerator and home freezer manufacturing	0.03	0.97	335222	Household refrigerator and home freezer manufacturing	0.08	0.92	-0.05	0.05
335224	Household laundry equipment manufacturing	0.03	0.97	335224	Household laundry equipment manufacturing	0.04	0.96	0.00	0.00
335228	Other major household appliance manufacturing	0.38	0.62	335228	Other major household appliance manufacturing	0.56	0.44	-0.19	0.19
335311	Power, distribution, and specialty transformer manufacturing	0.26	0.74	335311	Electric power and specialty transformer manufacturing	0.38	0.62	-0.11	0.11
335312	Motor and generator manufacturing	0.63	0.37	335312	Motor and generator manufacturing	0.68	0.32	-0.04	0.04
335313	Switchgear and switchboard apparatus manufacturing	0.54	0.46	335313	Switchgear and switchboard apparatus manufacturing	0.67	0.33	-0.13	0.13
335314	Relay and industrial control manufacturing	0.70	0.30	335314	Relay and industrial control manufacturing	0.75	0.25	-0.04	0.04
335911	Storage battery manufacturing	0.55	0.45	335911	Storage battery manufacturing	0.44	0.56	0.11	-0.11
335912	Primary battery manufacturing	0.05	0.95	335912	Primary battery manufacturing	0.05	0.95	0.00	0.00
335920	Communication and energy wire and cable manufacturing	0.84	0.16	335921	Fiber optic cable manufacturing	0.71	0.29		
				335929	Other communication and energy wire manufacturing	0.83	0.17		
335930	Wiring device manufacturing	0.82	0.18	335930	Wiring device manufacturing	0.83	0.17	-0.01	0.01
335991	Carbon and graphite product manufacturing	0.81	0.19	335991	Carbon and graphite product manufacturing	0.82	0.18	-0.01	0.01
335999	All other miscellaneous electrical equipment and component manufacturing	0.15	0.85	335999	Miscellaneous electrical equipment manufacturing	0.23	0.77	-0.08	0.08

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
336111	Automobile manufacturing	0.00	1.00	336110	Automobile and light truck manufacturing	0.00	1.00		
336112	Light truck and utility vehicle manufacturing	0.00	1.00						
336120	Heavy duty truck manufacturing	0.08	0.92	336120	Heavy duty truck manufacturing	0.05	0.95	0.04	-0.04
336211	Motor vehicle body manufacturing	0.51	0.49	336211	Motor vehicle body manufacturing	0.47	0.53	0.04	-0.04
336212	Truck trailer manufacturing	0.01	0.99	336212	Truck trailer manufacturing	0.01	0.99	0.00	0.00
336213	Motor home manufacturing	0.01	0.99	336213	Motor home manufacturing	0.02	0.98	0.00	0.00
336214	Travel trailer and camper manufacturing	0.12	0.88	336214	Travel trailer and camper manufacturing	0.13	0.87	-0.01	0.01
336300	Motor vehicle parts manufacturing	0.79	0.21	336300	Motor vehicle parts manufacturing	0.79	0.21	0.00	0.00
336411	Aircraft manufacturing	0.01	0.99	336411	Aircraft manufacturing	0.03	0.97	-0.01	0.01
336412	Aircraft engine and engine parts manufacturing	0.52	0.48	336412	Aircraft engine and engine parts manufacturing	0.54	0.46	-0.02	0.02
336413	Other aircraft parts and auxiliary equipment manufacturing	0.44	0.56	336413	Other aircraft parts and equipment	0.44	0.56	0.00	0.00
336414	Guided missile and space vehicle manufacturing	0.05	0.95	336414	Guided missile and space vehicle manufacturing	0.10	0.90	-0.04	0.04
33641A	Propulsion units and parts for space vehicle and guided missiles	0.31	0.69	33641A	Propulsion units and parts for space vehicles and guided missiles	0.34	0.66	-0.04	0.04
336500	Railroad rolling stock manufacturing	0.29	0.71	336500	Railroad rolling stock manufacturing	0.26	0.74	0.03	-0.03
336611	Ship building and repairing	0.08	0.92	336611	Ship building and repairing	0.08	0.92	0.00	0.00
336612	Boat building	0.02	0.98	336612	Boat building	0.02	0.98	0.00	0.00
336991	Motorcycle, bicycle, and parts manufacturing	0.12	0.88	336991	Motorcycle, bicycle, and parts manufacturing	0.17	0.83	-0.05	0.05
336992	Military armored vehicle, tank, and tank component manufacturing	0.04	0.96	336992	Military armored vehicles and tank parts manufacturing	0.00	1.00	0.04	-0.04
336999	All other transportation equipment manufacturing	0.12	0.88	336999	All other transportation equipment manufacturing	0.12	0.88	0.00	0.00
337110	Wood kitchen cabinet and countertop manufacturing	0.89	0.11	337110	Wood kitchen cabinet and countertop manufacturing	0.93	0.07	-0.03	0.03
337121	Upholstered household furniture manufacturing	0.01	0.99	337121	Upholstered household furniture manufacturing	0.01	0.99	0.00	0.00

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
337122	Nonupholstered wood household furniture manufacturing	0.00	1.00	337122	Nonupholstered wood household furniture manufacturing	0.01	0.99	0.00	0.00
337127	Institutional furniture manufacturing	0.08	0.92	337127	Institutional furniture manufacturing	0.05	0.95	0.02	-0.03
33712A	Metal and other household furniture manufacturing	0.06	0.94	337124	Metal household furniture manufacturing	0.01	0.99		
				33712A	Other household and institutional furniture	0.56	0.44		
337212	Custom architectural woodwork and millwork manufacturing	0.22	0.78	337212	Custom architectural woodwork and millwork	0.89	0.11	-0.68	0.67
337215	Showcase, partition, shelving, and locker manufacturing	0.32	0.68	337215	Showcases, partitions, shelving, and lockers	0.16	0.84	0.17	-0.16
33721A	Office furniture manufacturing	0.84	0.16	337211	Wood office furniture manufacturing	0.01	0.99		
				337214	Office furniture, except wood, manufacturing	0.01	0.99		
337910	Mattress manufacturing	0.03	0.97	337910	Mattress manufacturing	0.00	1.00	0.02	-0.03
337920	Blind and shade manufacturing	0.03	0.97	337920	Blind and shade manufacturing	0.01	0.99	0.03	-0.02
339111	Laboratory apparatus and furniture manufacturing	0.02	0.98	339111	Laboratory apparatus and furniture manufacturing	0.01	0.99	0.01	-0.01
339112	Surgical and medical instrument manufacturing	0.26	0.74	339112	Surgical and medical instrument manufacturing	0.30	0.70	-0.04	0.04
339113	Surgical appliance and supplies manufacturing	0.39	0.61	339113	Surgical appliance and supplies manufacturing	0.33	0.67	0.06	-0.06
339114	Dental equipment and supplies manufacturing	0.53	0.47	339114	Dental equipment and supplies manufacturing	0.50	0.50	0.03	-0.03
339115	Ophthalmic goods manufacturing	0.02	0.98	339115	Ophthalmic goods manufacturing	0.03	0.97	0.00	0.00
339116	Dental laboratories	1.00	0.00	339116	Dental laboratories	1.00	0.00	0.00	0.00
339910	Jewelry and silverware manufacturing	0.10	0.90	339910	Jewelry and silverware manufacturing	0.13	0.87	-0.02	0.02
339920	Sporting and athletic goods manufacturing	0.06	0.94	339920	Sporting and athletic goods manufacturing	0.08	0.92	-0.02	0.02
339930	Doll, toy, and game manufacturing	0.02	0.98	339930	Doll, toy, and game manufacturing	0.02	0.98	-0.01	0.01
339940	Office supplies (except paper) manufacturing	0.40	0.60	339940	Office supplies, except paper, manufacturing	0.45	0.55	-0.05	0.05

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
339950	Sign manufacturing	0.09	0.91	339950	Sign manufacturing	0.10	0.90	0.00	0.00
339991	Gasket, packing, and sealing device manufacturing	0.85	0.15	339991	Gasket, packing, and sealing device manufacturing	0.85	0.15	0.00	0.00
339992	Musical instrument manufacturing	0.08	0.92	339992	Musical instrument manufacturing	0.09	0.91	-0.01	0.01
339994	Broom, brush, and mop manufacturing	0.38	0.62	339994	Broom, brush, and mop manufacturing	0.46	0.54	-0.08	0.08
33999A	All other miscellaneous manufacturing	0.26	0.74	339995	Burial casket manufacturing	1.00	0.00		
				33999A	Buttons, pins, and all other miscellaneous manufacturing	0.31	0.69		
420000	Wholesale trade	0.42	0.58	420000	Wholesale trade	0.48	0.52	-0.06	0.06
481000	Air transportation	0.22	0.78	481000	Air transportation	0.34	0.66	-0.12	0.12
482000	Rail transportation	0.71	0.29	482000	Rail transportation	0.69	0.31	0.02	-0.02
483000	Water transportation	0.19	0.81	483000	Water transportation	0.28	0.72	-0.09	0.09
484000	Truck transportation	0.55	0.45	484000	Truck transportation	0.65	0.35	-0.10	0.10
485000	Transit and ground passenger transportation	0.31	0.69	485000	Transit and ground passenger transportation	0.33	0.67	-0.02	0.02
486000	Pipeline transportation	0.89	0.11	486000	Pipeline transportation	0.96	0.04	-0.07	0.07
48A000	Scenic and sightseeing transportation and support activities for transportation	0.79	0.21	48A000	Scenic and sightseeing transportation and support activities for transportation	0.77	0.23	0.02	-0.02
491000	Postal service	0.81	0.19	491000	Postal service	0.78	0.22	0.03	-0.03
492000	Couriers and messengers	0.87	0.13	492000	Couriers and messengers	0.97	0.03	-0.10	0.10
493000	Warehousing and storage	0.90	0.10	493000	Warehousing and storage	0.93	0.07	-0.03	0.03
4A0000	Retail trade	0.09	0.91	4A0000	Retail trade	0.11	0.89	-0.02	0.02
511110	Newspaper publishers	0.03	0.97	511110	Newspaper publishers	0.06	0.94	-0.03	0.03
511120	Periodical publishers	0.27	0.73	511120	Periodical publishers	0.35	0.65	-0.08	0.08
511130	Book publishers	0.11	0.89	511130	Book publishers	0.24	0.76	-0.14	0.14
5111A0	Directory, mailing list, and other publishers	0.34	0.66	5111A0	Database, directory, and other publishers	0.44	0.56	-0.10	0.10
511200	Software publishers	0.16	0.84	511200	Software publishers	0.15	0.85	0.01	-0.01
512100	Motion picture and video industries	0.48	0.52	512100	Motion picture and video industries	0.68	0.32	-0.19	0.19
512200	Sound recording industries	0.33	0.67	512200	Sound recording industries	0.31	0.69	0.02	-0.02

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
515100	Radio and television broadcasting	0.76	0.24	513100	Radio and television broadcasting	0.73	0.27	0.03	-0.03
515200	Cable and other subscription programming	0.99	0.01	513200	Cable networks and program distribution	0.23	0.77		
516110	Internet publishing and broadcasting	1.00	0.00						
517000	Telecommunications	0.44	0.56	513300	Telecommunications	0.51	0.49	-0.07	0.07
518100	Internet service providers and web search portals	0.28	0.72	514100	Information services	0.55	0.45		
519100	Other information services	0.35	0.65						
518200	Data processing, hosting, and related services	0.76	0.24	514200	Data processing services	0.83	0.17	-0.07	0.07
522A00	Nondepository credit intermediation and related activities	0.88	0.12	522A00	Nondepository credit intermediation and related activities	0.95	0.05	-0.08	0.08
523000	Securities, commodity contracts, investments, and related activities	0.63	0.37	523000	Securities, commodity contracts, investments	0.63	0.37	0.00	0.00
524100	Insurance carriers	0.40	0.60	524100	Insurance carriers	0.33	0.67	0.07	-0.07
524200	Insurance agencies, brokerages, and related activities	1.00	0.00	524200	Insurance agencies, brokerages, and related	1.00	0.00	0.00	0.00
525000	Funds, trusts, and other financial vehicles	0.09	0.91	525000	Funds, trusts, and other financial vehicles	0.04	0.96	0.05	-0.05
52A000	Monetary authorities and depository credit intermediation	0.54	0.46	52A000	Monetary authorities and depository credit intermediation	0.32	0.68	0.23	-0.23
531000	Real estate	0.59	0.41	531000	Real estate	0.60	0.40	-0.01	0.01
532100	Automotive equipment rental and leasing	0.47	0.53	532100	Automotive equipment rental and leasing	0.46	0.54	0.00	0.00
532230	Video tape and disc rental	0.00	1.00	532230	Video tape and disc rental	0.00	1.00	0.00	0.00
532400	Commercial and industrial machinery and equipment rental and leasing	0.90	0.10	532400	Machinery and equipment rental and leasing	0.90	0.10	-0.01	0.01
532A00	General and consumer goods rental except video tapes and discs	0.26	0.74	532A00	General and consumer goods rental except video tapes and discs	0.41	0.59	-0.15	0.15
533000	Lessors of nonfinancial intangible assets	0.70	0.30	533000	Lessors of nonfinancial intangible assets	0.71	0.29	0.00	0.00
541100	Legal services	0.54	0.46	541100	Legal services	0.58	0.42	-0.04	0.04

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
541200	Accounting, tax preparation, bookkeeping, and payroll services	0.79	0.21	541200	Accounting and bookkeeping services	0.86	0.14	-0.07	0.07
541300	Architectural, engineering, and related services	0.64	0.36	541300	Architectural and engineering services	0.75	0.25	-0.11	0.11
541400	Specialized design services	0.87	0.13	541400	Specialized design services	0.85	0.15	0.02	-0.02
541511	Custom computer programming services	0.03	0.97	541511	Custom computer programming services	0.04	0.96	-0.01	0.01
541512	Computer systems design services	0.41	0.59	541512	Computer systems design services	0.53	0.47	-0.12	0.12
54151A	Other computer related services, including facilities management	0.74	0.26	54151A	Other computer related services, including facilities management	0.72	0.28	0.02	-0.02
541610	Management, scientific, and technical consulting services	0.86	0.14	541610	Management consulting services	0.86	0.14	0.01	-0.01
5416A0	Environmental and other technical consulting services	0.69	0.31	5416A0	Environmental and other technical consulting services	0.89	0.11	-0.20	0.20
541700	Scientific research and development services	0.49	0.51	541700	Scientific research and development services	0.51	0.49	-0.02	0.02
541800	Advertising and related services	0.95	0.05	541800	Advertising and related services	0.97	0.03	-0.02	0.02
541920	Photographic services	0.29	0.71	541920	Photographic services	0.33	0.67	-0.04	0.04
541940	Veterinary services	0.04	0.96	541940	Veterinary services	0.12	0.88	-0.08	0.08
5419A0	All other miscellaneous professional, scientific, and technical services	0.94	0.06	5419A0	All other miscellaneous professional and technical services	0.98	0.02	-0.04	0.04
550000	Management of companies and enterprises	0.92	0.08	550000	Management of companies and enterprises	0.93	0.07	-0.01	0.01
561100	Office administrative services	0.85	0.15	561100	Office administrative services	0.88	0.12	-0.04	0.04
561200	Facilities support services	0.45	0.55	561200	Facilities support services	0.32	0.68	0.13	-0.13
561300	Employment services	0.94	0.06	561300	Employment services	0.93	0.07	0.01	-0.01
561400	Business support services	0.86	0.14	561400	Business support services	0.91	0.09	-0.05	0.05
561500	Travel arrangement and reservation services	0.54	0.46	561500	Travel arrangement and reservation services	0.68	0.32	-0.14	0.14
561600	Investigation and security services	0.63	0.37	561600	Investigation and security services	0.72	0.28	-0.09	0.09
561700	Services to buildings and dwellings	0.80	0.20	561700	Services to buildings and dwellings	0.80	0.20	0.00	0.00
561900	Other support services	0.79	0.21	561900	Other support services	0.94	0.06	-0.15	0.15

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
562000	Waste management and remediation services	0.58	0.42	562000	Waste management and remediation services	0.69	0.31	-0.11	0.11
611100	Elementary and secondary schools	0.00	1.00	611100	Elementary and secondary schools	0.00	1.00	0.00	0.00
611A00	Junior colleges, colleges, universities, and professional schools	0.03	0.97	611A00	Colleges, universities, and junior colleges	0.07	0.93	-0.04	0.04
611B00	Other educational services	0.09	0.91	611B00	Other educational services	0.09	0.91	0.01	-0.01
621600	Home health care services	0.00	1.00	621600	Home health care services	0.00	1.00	0.00	0.00
621A00	Offices of physicians, dentists, and other health practitioners	0.00	1.00	621A00	Offices of physicians, dentists, and other health practitioners	0.00	1.00	0.00	0.00
621B00	Medical and diagnostic labs and outpatient and other ambulatory care services	0.17	0.83	621B00	Other ambulatory health care services	0.07	0.93	0.10	-0.10
622000	Hospitals	0.00	1.00	622000	Hospitals	0.00	1.00	0.00	0.00
623000	Nursing and residential care facilities	0.00	1.00	623000	Nursing and residential care facilities	0.00	1.00	0.00	0.00
624200	Community food, housing, and other relief services, including rehabilitation services	0.00	1.00						
624400	Child day care services	0.00	1.00	624400	Child day care services	0.00	1.00	0.00	0.00
624A00	Individual and family services	0.00	1.00	624A00	Social assistance, except child day care services	0.00	1.00	0.00	0.00
711100	Performing arts companies	0.26	0.74	711100	Performing arts companies	0.35	0.65	-0.09	0.09
711200	Spectator sports	0.49	0.51	711200	Spectator sports	0.47	0.53	0.02	-0.02
711500	Independent artists, writers, and performers	0.91	0.09	711500	Independent artists, writers, and performers	0.96	0.04	-0.06	0.06
711A00	Promoters of performing arts and sports and agents for public figures	0.49	0.51	711A00	Promoters of performing arts and sports and agents for public figures	0.51	0.49	-0.02	0.02
712000	Museums, historical sites, zoos, and parks	0.00	1.00	712000	Museums, historical sites, zoos, and parks	0.00	1.00	0.00	0.00
713940	Fitness and recreational sports centers	0.17	0.83	713940	Fitness and recreational sports centers	0.18	0.82	0.00	0.00
713950	Bowling centers	0.01	0.99	713950	Bowling centers	0.01	0.99	0.00	0.00
713A00	Amusement parks, arcades, and gambling industries	0.00	1.00	713A00	Other amusement, gambling, and recreation industries	0.03	0.97	-0.03	0.03
7211A0	Hotels and motels, including casino hotels	0.41	0.59	7211A0	Hotels and motels, including casino hotels	0.34	0.66	0.07	-0.07
721A00	Other accommodations	0.01	0.99	721A00	Other accommodations	0.02	0.98	-0.01	0.01

Appendix A. Comparison of 1997 and 2002 final demand and intermediate demand allocations - Continued

2002	Title	ID	FD	1997	Title	ID	FD	ID Difference	FD Difference
713B00	Other amusement and recreation industries	0.12	0.88						
722000	Food services and drinking places	0.18	0.82	722000	Food services and drinking places	0.16	0.84	0.02	-0.02
811192	Car washes	0.18	0.82	811192	Car washes	0.21	0.79	-0.03	0.03
8111A0	Automotive repair and maintenance, except car washes	0.21	0.79	8111A0	Automotive repair and maintenance, except car washes	0.26	0.74	-0.05	0.05
811200	Electronic and precision equipment repair and maintenance	0.50	0.50	811200	Electronic equipment repair and maintenance	0.70	0.30	-0.20	0.20
811300	Commercial and industrial machinery and equipment repair and maintenance	0.92	0.08	811300	Commercial machinery repair and maintenance	0.95	0.05	-0.03	0.03
811400	Personal and household goods repair and maintenance	0.45	0.55	811400	Household goods repair and maintenance	0.53	0.47	-0.08	0.08
812100	Personal care services	0.02	0.98	812100	Personal care services	0.02	0.98	0.00	0.00
812200	Death care services	0.00	1.00	812200	Death care services	0.00	1.00	0.00	0.00
812300	Dry-cleaning and laundry services	0.34	0.66	812300	Drycleaning and laundry services	0.33	0.67	0.01	-0.01
812900	Other personal services	0.07	0.93	812900	Other personal services	0.09	0.91	-0.02	0.02
813100	Religious organizations	0.00	1.00	813100	Religious organizations	0.00	1.00	0.00	0.00
813A00	Grantmaking, giving and social advocacy organizations	0.01	0.99	813A00	Grantmaking and giving and social advocacy organizations	0.00	1.00	0.01	-0.01
813B00	Civic, social, professional and similar organizations	0.51	0.49	813B00	Civic, social, professional and similar organizations	0.43	0.57	0.09	-0.09
814000	Private households	0.00	1.00	814000	Private households	0.00	1.00	0.00	0.00
S00102	Other Federal Government enterprises	1.00	0.00	S00102	Other Federal Government enterprises	1.00	0.00	0.00	0.00
S00203	Other state and local government enterprises	0.18	0.82	S00203	Other State and local government enterprises	0.29	0.71	-0.11	0.11
S00300	Noncomparable imports	0.54	0.46	S00300	Noncomparable imports	0.54	0.46	0.00	0.00
S00401	Scrap	0.79	0.21	S00401	Scrap	0.87	0.13	-0.09	0.09
S00402	Used and secondhand goods	0.06	0.94	S00402	Used and secondhand goods	0.04	0.96	0.02	-0.02
S00800	Owner-occupied dwellings	0.00	1.00	S00800	Owner-occupied dwellings	0.00	1.00	0.00	0.00

Note: Highlighted rows indicate areas where direct comparisons were not possible due to changes in BEA publication structures between 1997 and 2002.

Appendix B. Differences between 2002 and 1997 IO allocations (75-65-65) for comparable industries

Industry	Title	Stage	
		2002	1997
111200	Vegetable and melon farming	4	3
111400	Greenhouse, nursery, and floriculture production	4	2
316900	Other leather and allied product manufacturing	4	3
333319	Other commercial and service industry machinery manufacturing	4	3
333911	Pump and pumping equipment manufacturing	4	3
335999	All other miscellaneous electrical equipment and component manufacturing	4	3
337212	Custom architectural woodwork and millwork manufacturing	4	3
481000	Air transportation	4	3
483000	Water transportation	4	3
511130	Book publishers	4	3
S00203	Other state and local government enterprises	4	3
111910	Tobacco farming	3	2
311990	All other food manufacturing	3	4
314910	Textile bag and canvas mills	3	2
321999	All other miscellaneous wood product manufacturing	3	2
324191	Petroleum lubricating oil and grease manufacturing	3	2
326160	Plastics bottle manufacturing	3	2
327213	Glass container manufacturing	3	2
327390	Other concrete product manufacturing	3	2
327999	Miscellaneous nonmetallic mineral products	3	2
332500	Hardware manufacturing	3	2
334413	Semiconductor and related device manufacturing	3	2
334613	Magnetic and optical recording media manufacturing	3	2
335312	Motor and generator manufacturing	3	2
337215	Showcase, partition, shelving, and locker manufacturing	3	4
511200	Software publishers	3	4
517000	Telecommunications	3	2
532100	Automotive equipment rental and leasing	3	2
541300	Architectural, engineering, and related services	3	2
541700	Scientific research and development services	3	2
811200	Electronic and precision equipment repair and maintenance	3	2
811400	Personal and household goods repair and maintenance	3	2
221100	Electric power generation, transmission, and distribution	2	3
221200	Natural gas distribution	2	3
311225	Fats and oils refining and blending	2	3
321219	Reconstituted wood product manufacturing	2	3
325211	Plastics material and resin manufacturing	2	1
325212	Synthetic rubber manufacturing	2	1
326130	Laminated plastics plate, sheet (except packaging), and shape manufacturing	2	1
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)	2	1
332114	Custom roll forming	2	1

Appendix B. Differences between 2002 and 1997 IO allocations (75-65-65) for comparable industries - Continued

Industry	Title	Stage	
		2002	1997
333515	Cutting tool and machine tool accessory manufacturing	2	1
334290	Other communications equipment manufacturing	2	3
493000	Warehousing and storage	2	1
512100	Motion picture and video industries	2	1
518200	Data processing, hosting, and related services	2	1
532400	Commercial and industrial machinery and equipment rental and leasing	2	1
5416A0	Environmental and other technical consulting services	2	1
550000	Management of companies and enterprises	2	1
711A00	Promoters of performing arts and sports and agents for public figures	2	1
2122A0	Gold, silver, and other metal ore mining	1	2
486000	Pipeline transportation	1	2
515200	Cable and other subscription programming	1	3
52A000	Monetary authorities and depository credit intermediation	1	3

Note: the highlighted areas indicate industries where assignments changed by more than one sequential stage between the 2002 and 1997 allocations.

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
112120	Dairy cattle and milk production	2	112100	Cattle ranching and farming	2
1121A0	Cattle ranching and farming	2			
230201	Residential permanent site single- and multi-family structures	4	230120	New multifamily housing structures, nonfarm	4
230202	Other residential structures	4	230130	New residential additions and alterations, nonfarm	4
			230140	New farm housing units and additions and alterations	4
			230110	New residential 1-unit structures, nonfarm	4
230103	Other nonresidential structures	4	230230	Highway, street, bridge, and tunnel construction	4
			230240	Water, sewer, and pipeline construction	4
230301	Nonresidential maintenance and repair	1	230320	Maintenance and repair of nonresidential buildings	2
			230330	Maintenance and repair of highways, streets, bridges, and tunnels	4
			230250	Other new construction	4
			230340	Other maintenance and repair construction	2
230302	Residential maintenance and repair	3	230310	Maintenance and repair of farm and nonfarm residential structures	3
311210	Flour milling and malt manufacturing	3	311211	Flour milling	2
			311213	Malt manufacturing	3
			311212	Rice milling	4
31122A	Soybean and other oilseed processing	1	311222	Soybean processing	2
			311223	Other oilseed processing	2
311313	Beet sugar manufacturing	3	311310	Sugar manufacturing	2
31131A	Sugar cane mills and refining	2			

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries - Continued

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
31151A	Fluid milk and butter manufacturing	3	311511	Fluid milk manufacturing	3
			311512	Creamery butter manufacturing	3
31161A	Animal (except poultry) slaughtering, rendering, and processing	3	311611	Animal, except poultry, slaughtering	3
			311612	Meat processed from carcasses	4
			311613	Rendering and meat byproduct processing	1
311810	Bread and bakery product manufacturing	4	311813	Frozen cakes and other pastries manufacturing	4
			31181A	Bread and bakery product, except frozen, manufacturing	3
311820	Cookie, cracker, and pasta manufacturing	4	311821	Cookie and cracker manufacturing	4
			311822	Mixes and dough made from purchased flour	4
			311823	Dry pasta manufacturing	4
311910	Snack food manufacturing	4	311911	Roasted nuts and peanut butter manufacturing	4
			311919	Other snack food manufacturing	4
311940	Seasoning and dressing manufacturing	3	311941	Mayonnaise, dressing, and sauce manufacturing	3
			311942	Spice and extract manufacturing	3
3122A0	Tobacco product manufacturing	4	312210	Tobacco stemming and redrying	3
			312221	Cigarette manufacturing	4
			312229	Other tobacco product manufacturing	4
314990	All other textile product mills	3	314992	Tire cord and tire fabric mills	2
			31499A	Other miscellaneous textile product mills	3
315100	Apparel knitting mills	4	315111	Sheer hosiery mills	4
			315119	Other hosiery and sock mills	4
315210	Cut and sew apparel contractors	2	315200	Cut and sew apparel manufacturing	4
315220	Men's and boys' cut and sew apparel manufacturing	4			
315230	Women's and girls' cut and sew apparel manufacturing	4			
315290	Other cut and sew apparel manufacturing	4			
321100	Sawmills and wood preservation	2	321113	Sawmills	1
			321114	Wood preservation	2

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries - Continued

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
321910	Wood windows and doors and millwork	3	321911	Wood windows and door manufacturing	3
			321912	Cut stock, resawing lumber, and planing	2
			321918	Other millwork, including flooring	3
322120	Paper mills	1	3221A0	Paper and paperboard mills	1
322130	Paperboard mills	1			
32222A	Coated and laminated paper, packaging paper and plastics film manufacturing	2	32222A	Coated and laminated paper and packaging materials	2
			322225	Flexible packaging foil manufacturing	2
32222B	All other paper bag and coated and treated paper manufacturing	2	32222B	Coated and uncoated paper bag manufacturing	2
			322226	Surface-coated paperboard manufacturing	2
322230	Stationery product manufacturing	4	322231	Die-cut paper office supplies manufacturing	2
			322232	Envelope manufacturing	2
			322233	Stationery and related product manufacturing	3
323110	Printing	2	323116	Manifold business forms printing	2
			323117	Books printing	2
			323118	Blankbook and looseleaf binder manufacturing	2
			32311A	Commercial printing	1
323120	Support activities for printing	1	323121	Tradebinding and related work	1
			323122	Prepress services	1
325181	Alkalies and chlorine manufacturing	1	325180	Other basic inorganic chemical manufacturing	1
325182	Carbon black manufacturing	1			
325188	All other basic inorganic chemical manufacturing	1			
325220	Artificial and synthetic fibers and filaments manufacturing	2	325221	Cellulosic organic fiber manufacturing	2
			325222	Noncellulosic organic fiber manufacturing	1
325310	Fertilizer manufacturing	1	325311	Nitrogenous fertilizer manufacturing	1
			325312	Phosphatic fertilizer manufacturing	1

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries - Continued

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
325411	Medicinal and botanical manufacturing	3	325400	Pharmaceutical and medicine manufacturing	3
325412	Pharmaceutical preparation manufacturing	4			
325413	In-vitro diagnostic substance manufacturing	3			
325414	Biological product (except diagnostic) manufacturing	3			
325610	Soap and cleaning compound manufacturing	3	325611	Soap and other detergent manufacturing	4
			325612	Polish and other sanitation good manufacturing	3
			325613	Surface active agent manufacturing	2
3259A0	All other chemical product and preparation manufacturing	2	325920	Explosives manufacturing	1
			325991	Custom compounding of purchased resins	1
			325992	Photographic film and chemical manufacturing	2
			325998	Other miscellaneous chemical product manufacturing	1
326121	Unlaminated plastics profile shape manufacturing	2	326120	Plastics pipe, fittings, and profile shapes	2
326122	Plastics pipe and pipe fitting manufacturing	2			
326140	Polystyrene foam product manufacturing	3	3261A0	Foam product manufacturing	3
326150	Urethane and other foam product (except polystyrene) manufacturing	3			
32619A	Other plastics product manufacturing	3	326192	Resilient floor covering manufacturing	3
			32619A	Plastics plumbing fixtures and all other plastics products	2
32711A	Pottery, ceramics, and plumbing fixture manufacturing	3	327111	Vitreous china plumbing fixture manufacturing	3
			327112	Vitreous china and earthenware articles manufacturing	4
			327113	Porcelain electrical supply manufacturing	2
32712A	Brick, tile, and other structural clay product manufacturing	3	327121	Brick and structural clay tile manufacturing	3
			327122	Ceramic wall and floor tile manufacturing	3

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries - Continued

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
32712B	Clay and nonclay refractory manufacturing	1	327125 32712A	Nonclay refractory manufacturing Clay refractory and other structural clay products	3
327211	Flat glass manufacturing	2	32721A	Glass and glass products, except glass containers	2
327212	Other pressed and blown glass and glassware manufacturing	2			
327215	Glass product manufacturing made of purchased glass	3			
327330	Concrete pipe, brick, and block manufacturing	3	327331 327332	Concrete block and brick manufacturing Concrete pipe manufacturing	3 3
3274A0	Lime and gypsum product manufacturing	2	327410 327420	Lime manufacturing Gypsum product manufacturing	1 3
331110	Iron and steel mills and ferroalloy manufacturing	1	331111	Iron and steel mills	1
			331112	Ferroalloy and related product manufacturing	1
331314	Secondary smelting and alloying of aluminum	1			
33131A	Alumina refining and primary aluminum production	1	331311	Alumina refining	1
			331312	Primary aluminum production	1
33131B	Aluminum product manufacturing from purchased aluminum	1	331315	Aluminum sheet, plate, and foil manufacturing	1
			331319	Other aluminum rolling and drawing	1
331490	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloying	2	331491	Nonferrous metal, except copper and aluminum, shaping	1
			331492	Secondary processing of other nonferrous	1
			332111 332112	Iron and steel forging Nonferrous forging	2 2
33211B	Crown and closure manufacturing and metal stamping	2			

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries - Continued

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
33221B	Handtool manufacturing	3	332212	Hand and edge tool manufacturing	3
			332213	Saw blade and handsaw manufacturing	3
			332214	Kitchen utensil, pot, and pan manufacturing	3
332310	Plate work and fabricated structural product manufacturing	2	332311	Prefabricated metal buildings and components	3
			332312	Fabricated structural metal manufacturing	2
			332313	Plate work manufacturing	2
332320	Ornamental and architectural metal products manufacturing	3	332321	Metal window and door manufacturing	3
			332322	Sheet metal work manufacturing	2
			332323	Ornamental and architectural metal work manufacturing	3
332800	Coating, engraving, heat treating and allied activities	2	332811	Metal heat treating	1
			332812	Metal coating and nonprecious engraving	1
			332813	Electroplating, anodizing, and coloring metal	1
332913	Plumbing fixture fitting and trim manufacturing	3	332910	Metal valve manufacturing	3
33291A	Valve and fittings other than plumbing	2			
			332997	Industrial pattern manufacturing	1
			332998	Enameled iron and metal sanitary ware manufacturing	3
33299C	Other fabricated metal manufacturing	2	332999	Miscellaneous fabricated metal product manufacturing	2
33299B	Arms, ordnance, and accessories manufacturing	4	332994	Small arms manufacturing	4
			332995	Other ordnance and accessories manufacturing	4
333130	Mining and oil and gas field machinery manufacturing	4	333131	Mining machinery and equipment manufacturing	4
			333132	Oil and gas field machinery and equipment	4
			333210	Sawmill and woodworking machinery	4
			333291	Paper industry machinery manufacturing	4

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries - Continued

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
			333292	Textile machinery manufacturing	4
			333293	Printing machinery and equipment manufacturing	4
			333294	Food product machinery manufacturing	4
			333313	Office machinery manufacturing	4
33341A	Air purification and ventilation equipment manufacturing	3	333411	Air purification equipment manufacturing	3
			333412	Industrial and commercial fan and blower manufacturing	3
			333512	Metal cutting machine tool manufacturing	4
			333513	Metal forming machine tool manufacturing	4
33351A	Metal cutting and forming machine tool manufacturing	4	33351A	Rolling mill and other metalworking machinery	4
33351B	Rolling mill and other metalworking machinery manufacturing	4			
333612	Speed changer, industrial high-speed drive, and gear manufacturing	2	33361A	Speed changers and mechanical power transmission equipment	3
333613	Mechanical power transmission equipment manufacturing	2			
			333913	Measuring and dispensing pump manufacturing	4
333920	Material handling equipment manufacturing	3	333921	Elevator and moving stairway manufacturing	3
			333922	Conveyor and conveying equipment manufacturing	4
			333923	Overhead cranes, hoists, and monorail systems	3
			333924	Industrial truck, trailer, and stacker manufacturing	4
			333992	Welding and soldering equipment manufacturing	3
33399A	Other general purpose machinery manufacturing	4	33399A	Scales, balances, and miscellaneous general purpose machinery	4

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries - Continued

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
33399B	Fluid power process machinery	2	333995	Fluid power cylinder and actuator manufacturing	3
			333996	Fluid power pump and motor manufacturing	3
33411A	Computer terminals and other computer peripheral equipment manufacturing	3	334113	Computer terminal manufacturing	3
			334119	Other computer peripheral equipment manufacturing	3
334412	Bare printed circuit board manufacturing	2	33441A	All other electronic component manufacturing	3
334417	Electronic connector manufacturing	3			
334418	Printed circuit assembly (electronic assembly) manufacturing	2			
334419	Other electronic component manufacturing	3			
33441A	Electronic capacitor, resistor, coil, transformer, and other inductor manufacturing	3			
33461A	Software, audio, and video media reproducing	1	334611	Software reproducing	2
			334612	Audio and video media reproduction	1
335210	Small electrical appliance manufacturing	4	335211	Electric housewares and household fan manufacturing	4
			335212	Household vacuum cleaner manufacturing	4
335920	Communication and energy wire and cable manufacturing	2	335921	Fiber optic cable manufacturing	2
			335929	Other communication and energy wire manufacturing	2
336111	Automobile manufacturing	4	336110	Automobile and light truck manufacturing	4
336112	Light truck and utility vehicle manufacturing	4			
33712A	Metal and other household furniture manufacturing	4	337124	Metal household furniture manufacturing	4
			33712A	Other household and institutional furniture	3
33721A	Office furniture manufacturing	3	337211	Wood office furniture manufacturing	4
			337214	Office furniture, except wood, manufacturing	4

Appendix C. Differences between 2002 and 1997 IO allocations (75-65-65) for non-comparable industries - Continued

2002			1997		
Industry	Title	Stage	Industry	Title	Stage
33999A	All other miscellaneous manufacturing	3	339995 33999A	Burial casket manufacturing Buttons, pins, and all other miscellaneous manufacturing	3 3
515200	Cable and other subscription programming	1	513200	Cable networks and program distribution	3
516110	Internet publishing and broadcasting	1			
518100	Internet service providers and web search portals	3	514100	Information services	2
519100	Other information services	3			
624200	Community food, housing, and other relief services, including rehabilitation services	4			
713B00	Other amusement and recreation industries	4			

Note: the highlighted areas indicate industries where assignments changes between the 2002 and 1997 allocations were significant.