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## Online Technical Appendix

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### **Abstract**

This technical appendix discusses the definitions and conceptual framework and describes the data sources and the detailed calculations used to measure the size and structure of the U.S. information economy in 2002. Furthermore, it discusses the details of an information-intensity based classification of occupations into information and physical (material/non-information) categories to analyze the growth of information employment and wages in various product and service industries of the U.S. economy.

### **A.1 Introduction**

This technical appendix provides a description of the detailed calculations that were carried out to measure the size and structure of the U.S. information economy in 2002. The summary results are presented in Apte et al. (2012). For comparisons, Apte et al. (2012) also present the measures for 1967, originally reported by Porat (1977), and for 1992 and 1997, first presented by Apte and Nath (2007) and then by Apte et al. (2008). Additionally, they also include measures of the U.S.

information economy for 2007, based on less precise calculations using aggregate data.<sup>1</sup>

To measure the size and structure of the information economy in the U.S., we closely follow the conceptual framework and methodology developed by Porat (1977). However, due to changes in industrial and occupational classifications over the years and depending on the availability of data, we have made necessary modifications that are consistent with the conceptual framework of Porat (1977). Furthermore, to analyze the recent trends in the U.S. labor market with regards to employment and wages of information workers, we adopt a classification scheme for various occupations based on information intensity of the occupations. This methodology has been previously used by Apte et al. (2008).

The rest of this appendix is organized as follows. Section 2 describes the concepts and definitions used in the main article (Apte et al., 2012) as well as in this appendix. A list of the data sources is included in Section 3. The fourth section provides a detailed description of the calculations of various figures presented in the tables in the main article as well as this appendix. It also discusses the assumptions that have been made to obtain the results. The last section includes concluding remarks.

## **A.2 Concepts and Definitions**

This section discusses various concepts and definitions that are used to measure the size and structure of the U.S. information economy.

### **A.2.1 Concepts and Definitions Developed and Used by Porat (1977)**

#### *Information Economy*

As Porat (1977) discusses, an economy consists of two domains. The first is involved in transforming matter and energy from one form into

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<sup>1</sup>The BEA prepares benchmark input-output (I-O) accounts for years ending in 2 and 7, which are based on detailed data from the quinquennial economic censuses that are conducted by the Bureau of the Census. There is no current announcement about the release of detailed benchmark I-O tables for 2007.

another and the second is involved in the transformation of information from one pattern into another. These two domains are interlinked and inseparable. As much as the manipulation of matter and energy requires informational inputs, the production, processing, and distribution of information also require material inputs. Formally, in order to understand the concept of information economy we need to answer two questions: What is information? And what is an information activity? As Porat states, “Information is data that have been organized and communicated. The information activity includes all the resources consumed in producing, processing and distributing information goods and services.”<sup>2</sup>

However, the operational definition of information, used by Porat (1977) and adopted in this study, includes the workers, machinery, goods and services that are employed in processing, manipulating, and transmitting information. To clarify the concept and to develop a methodology for measuring the information economy, Porat (1977) makes a distinction between information in a market and a nonmarket context by dividing the information economy into two sectors, namely the Primary Information Sector (PRIS) and the Secondary Information Sector (SIS).

#### *The Primary Information Sector*

The PRIS is defined as one that includes all industries that produce information goods and services in established markets. “Conceptually, the good or service must intrinsically convey information or be directly useful in producing, processing, or distributing information to be accounted in the primary sector.”<sup>3</sup> This sector provides the technical infrastructure for a variety of information processing and transmission activities. It also offers information for sale as a commodity. According to the typology developed by Porat (1977), this sector includes eight major types of industries: (i) the knowledge production and inventive industries (e.g., Scientific Research and Development Services, Legal Services); (ii) information distribution and communication industries (e.g., Educational Institutions, Radio and Television Broadcasting);

<sup>2</sup>Porat (1977), vol. 1, p. 2.

<sup>3</sup>Porat (1977), vol. 1, p. 25.

(iii) search and coordination industries, including all market information and advertising vendors (e.g., Insurance Agencies and Brokerage, Advertising); (iv) risk management industries including components of finance and insurance (e.g., Insurance Carriers, Banks); (v) information processing and transmission services, both electronic and non-electronic (e.g., Printing, Telecommunications); (vi) information goods industries, including information machines (e.g., Computers, Stationary Products); (vii) selected government activities that have direct market analogs in the primary information sector — including the postal service and education, and (viii) support facilities such as office and education buildings (e.g., Office Furniture, Construction of Office, School, Communications).<sup>4</sup> In Section 4, we include a list of detailed industries within each type.

#### *The Secondary Information Sector*

“The secondary information sector includes all the information services produced for internal consumption by government and non-information firms.”<sup>5</sup> It includes most of the public bureaucracy and all of the private bureaucracy. The costs of informational tasks such as organizing firms, maintaining and regulating markets, developing and transmitting prices, monitoring the firm’s behavior and making and enforcing rules, are included in SIS.

The *public bureaucracy* comprises the informational functions of the Federal, State, and local governments. These functions include numerous planning, coordinating, deciding, monitoring, regulating, and evaluating activities, intended to serve the private economy. Thus, these are an information overhead cost to the private economy. Those portions of the public bureaucracy which have direct analogs in the primary information sector — such as printing, law, and accounting — are included in the PRIS. Education provided by the public sector and sold as a local public good by state and local governments is treated as a part

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<sup>4</sup>Underlying this typology is a recognition of the fact that “information is by nature a heterogeneous commodity” and that the provision of information “involves a large number of closely interrelated but distinct industries” (Porat 1977, vol. 1, p. 24).

<sup>5</sup>Porat (1977), vol. 1, p. 4.

of the primary sector. Only the planning and coordinating activities of governments remain in the secondary information sector.

Every non-information firm has a portion of it, referred to as the *private bureaucracy*, that is involved in purely informational activities. It produces services similar to those in the PRIS (e.g., data processing and library services) but for internal consumption of the non-information firm. Conceptually, these services are the informational costs of providing a non-information good or service. Although the good or the service is sold in the market, the information component is not. Porat (1977) introduces the concept of information quasi-industry to describe the private bureaucracy.

#### *Information Quasi-Industries*

As discussed above, every non-information firm produces and consumes a variety of informational services internally as part of its operation. The private bureaucracies use a large amount of both physical capital (such as computers, copy machines, office buildings) and human resources (such as managers, scientists, programmers, accountants) in producing these overhead information services. These resources are organized into production units that play a purely informational role. Each unit has a well-defined technology — with recognizable inputs and outputs and can be conceptualized as a ‘quasi-firm’ embedded within a non-information enterprise. Its information producing, processing, and distributing activities are ancillary to or in support of the main productive activity. These quasi-firms have direct analogs in the primary information sector. When quasi-firms are aggregated horizontally, they are termed information quasi-industries. To measure the value-added contributions of these information quasi-industries, Porat (1977) suggests aggregating the employee compensation of information workers, the capital consumption allowances of information machines, and a part of the proprietors’ income accrued due to the informational tasks.

#### *Information Occupations*

As Porat rightly points out, “Stating precisely who is an information worker and who is not is a risky proposition. Obviously, every human endeavor involves some measure of information processing and cognition; intellectual content is present in every task no matter how

mundane.”<sup>6</sup> However, he develops a conceptual scheme for classifying information workers. This scheme divides occupations into three major classes.

- (i) **Markets for Information:** This category includes those workers who produce information that often assumes the form of a knowledge commodity that is sold directly in the market. Examples include scientists, lawyers, educators etc.
- (ii) **Information in Markets:** The workers in this category do not produce information or knowledge for sale, but rather they serve as information gatherers and disseminators. These workers move information within firms and within markets — they search, coordinate, plan, and process market information. Included in this category are the real estate adjusters, insurance agents, brokers, office managers, school administrators, and air traffic controllers.
- (iii) **Information Infrastructure:** This category includes workers who operate the information machines and technologies to support the previous two activities. Examples of this category of workers include telephone operators, computer operators, office machine repairmen, and sign painters.

These three categories of information workers are further divided into several sub-categories. A detailed list of occupations under each sub-category of Porat’s classification scheme is included in Table 3. Note that with the adoption of the 1998 Standard Occupational Classification (SOC) system by the Bureau of Labor Statistics (BLS), the number of occupations almost doubled and some of the occupational titles do not quite match with those listed by Porat (1977). To determine how to classify these new occupations according to Porat’s scheme, we use the detailed job descriptions of the occupations from the Department of Labor’s *Dictionary of Occupational Titles*.<sup>7</sup>

<sup>6</sup> Porat (1977), vol. 1, p. 105.

<sup>7</sup> O\*NET, the Occupational Information Network (<http://online.onetcenter.org/>), is now replacing the *Dictionary of Occupational Titles* (DOT) as a source of occupational information. O\*NET is a database — not a book, like the DOT. This database has the qualities of both an interactive library and a language.

### A.2.2 National Income and Product Accounts (NIPA) Concepts and Definitions

A few national income accounting concepts have been used in the paper. They are discussed below.

#### *Gross National Product (GNP)*

GNP is the total market value of all final goods and services produced by labor and property supplied by U.S. residents during a given period of time. Since 1992, gross domestic product (GDP) — which is defined as the market value of all final goods and services produced by labor and property located in the United States — has been the most commonly used measure of national income. As the Bureau of Economic Analysis (BEA, 2009) explains, GDP “includes (and GNP excludes) the production that is attributable to labor and property supplied by foreign residents who are located in the United States and the production that is attributable to the return to foreign residents on their investment located in the United States”, whereas GNP “includes (and GDP excludes) the production that is attributable to labor and property supplied by U.S. residents who are located outside the United States and the production that is attributable to the return to U.S. residents on their investment located outside the United States.” Numerically, the difference between GNP and GDP is negligible for the U.S. We use GNP to measure the relative size of the U.S. information economy to make it comparable to the measures reported by Porat (1977).

#### *Value Added*

Value added measures the contribution of each private industry and of government to the nation’s GDP. It is defined as an industry’s gross output (sales or receipts and other operating income, commodity taxes, and inventory change) *minus* its intermediate inputs (energy, raw materials, semi-finished goods, and purchased services). Value added is calculated as the sum of compensation of employees, gross operating surplus, and taxes on production and imports, *less* subsidies.

*Compensation of employees* is the total remuneration of employees in return for their work on domestic production. Wages and salaries primarily consist of the monetary remuneration of employees. Supplements

consist of employer contributions for employee pension and insurance funds and of employer contributions for government social insurance.

*Gross operating surplus* is a profits-like measure that shows enterprise income after subtracting the costs of compensation of employees and taxes on production and imports less subsidies, but before subtracting financing costs (such as net interest) and other payments (such as business current transfer payments and corporate profits).

*Taxes on production and imports* consist of taxes payable on products when they are produced, delivered, sold, transferred, or otherwise disposed of by their producers (including federal excise taxes and state and local sales taxes) and of other taxes on production, such as taxes on ownership of assets used in production (including local real estate taxes). These taxes do not include taxes on income.

*Subsidies* are monetary grants by government agencies to private business (for example, federal subsidies to farmers) and to government enterprises at another level of government (for example, federal subsidies to state and local public housing authorities).

*Consumption of fixed capital* is a charge for the using up of private and government fixed capital located in the United States. It is defined as the decline in the value of the stock of assets due to wear and tear, obsolescence, accidental damage, and aging. We obtain net operating surplus by subtracting consumption of fixed capital from gross operating surplus.

### **A.3 Data Sources**

The following data sources provide the relevant data for measuring the size and structure of the U.S. information economy in 2002.

- 1) Bureau of Economic Analysis (BEA), U.S. Department of Commerce: [www.bea.gov](http://www.bea.gov)
  - i) Industry Economic Accounts: <http://www.bea.gov/industry/index.htm>
    - a) *Benchmark Input-Output Accounts* (<http://www.bea.gov/industry/index.htm#benchmark.io>).  
To measure the size of the PRIS, we obtain

data on three components of value added: compensation of employees, taxes on production and imports *less* subsidies, and gross operating surplus, by 6-digit I-O industries from the zipped data file available for download under **2002 Standard Use Tables at the detailed level** ([http://www.bea.gov/industry/io\\_benchmark.htm#2002data](http://www.bea.gov/industry/io_benchmark.htm#2002data)).

- b) *Annual Industry Accounts* (<http://www.bea.gov/industry/index.htm#annual>). We obtain data on value added by 3-digit NAICS industries for 2002 from the EXCEL data file available for download under **Gross-Domestic-Product-(GDP)-by-Industry Data** ([http://www.bea.gov/industry/gdp-byind\\_data.htm](http://www.bea.gov/industry/gdp-byind_data.htm))
- ii) National Economic Accounts: <http://www.bea.gov/national/index.htm>
  - a) *Fixed Assets Accounts Tables* (<http://www.bea.gov/national/FA2004/index.asp>). We obtain data on depreciation of private nonresidential fixed assets at current cost by detailed 3-digit 1997 NAICS industries and by detailed asset type from the EXCEL data file available for download under **Detailed Data for Fixed Assets and Consumer Durable Goods** (<http://www.bea.gov/national/FA2004/Details/Index.html>).
  - b) *Government Fixed Assets: Table 7.3B* (<http://www.bea.gov/iTable/iTable.cfm?ReqID=10&step=1>) provides data on current-cost depreciation of various types of fixed assets used by federal, state, and local governments.
  - c) *National Income and Product Accounts Tables* (<http://www.bea.gov/national/nipaweb/Select>

Table.asp). Table 1.7.5 on this page provides data on Gross National Product (GNP).

- 2) Bureau of Labor Statistics (BLS), U.S. Department of Labor:  
<http://www.bls.gov>  
Occupational Employment Statistics: [http://www.bls.gov/oes/oes\\_arch.htm](http://www.bls.gov/oes/oes_arch.htm). We obtain data on employment and annual mean wages for over 800 occupations by 3-digit SIC industries for 1999, 2000, and 2001; by 4-digit NAICS industries for 2002; and by 3-digit NAICS industries for 2003 through 2007 from the archived data files available for download.

## **A.4 Description of Detailed Calculations**

### **A.4.1 Primary Information Sector**

As mentioned above, in order to measure the size and structure of the PRIS in 2002, we closely follow the methodology described in the Porat (1977), vol. 2. His methodology involves identifying industries at a high level of disaggregation of industrial classification using the Benchmark Input-Output Table that belongs to one of the 8 major types of PRIS industries described in the previous section, and then obtaining data on value added of those industries to measure the size of the PRIS relative to overall GNP. However, there have been a number of developments that we need to consider. First, the U.S. switched from the traditional product-based Standard Industrial Classification (SIC) system to a new process-based North American Industrial Classification System (NAICS) in 1997. Under the former, firms were classified into a specific industrial category according to the similarity of the products while under the new system, they are classified according to the similarity of processes. This transition is further complicated by the creative destruction process: phasing out of old products and introduction of new products, a hallmark of a dynamic market economy like the U.S. Second, there have been revisions in the NAICS and, as a consequence, there are some differences in NAICS between 1997 and 2002. Furthermore, the industrial classifications used in Input-Output (I-O)

Accounts were different from SIC before the adoption of the NAICS in 1997. Porat (1977) uses a mapping scheme between I-O industrial classifications and SIC so that the calculations for the SIS — which were available by SIC industries — can be merged with those for the PRIS — which were based on Benchmark I-O data and, therefore, were available by I-O industries — to measure the size and structure of the overall information economy. After the transition to the new system, the I-O industrial classifications have been more aligned and, therefore, more consistent with the NAICS. Furthermore, the 2002 Benchmark I-O Tables also provide equivalent 2002 NAICS codes for each of the 6-digit I-O industry code.

The U.S. Census Bureau (2010) provides a mapping between the 2002 NAICS industries and 1987 SIC. Using these mappings, we create a list of 5/6-digit NAICS industries for 2002 corresponding to the detailed 4-digit SIC industries listed by Porat (1977) according to the typology he developed.<sup>8</sup> We obtain data on value added for these NAICS industries from the detailed use table of 2002 Benchmark I-O Accounts. Since Porat (1977) uses value-added data for underlying detailed 9-digit I-O industries to consolidate at these 4-digit SIC industries, for some of these 4-digit industries, only a fraction of the total value added was allocated to the PRIS. Since data are not available at that detailed level of disaggregation for 2002, we apply the same proportions as in Porat (1977) to the value added for the industries corresponding to those with partial PRIS contribution in Porat’s list. Table 1 presents the original SIC industries listed by Porat for 1967 and corresponding NAICS industries for 2002, along with their value-added contributions to the PRIS in 2002.

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<sup>8</sup>Note that Porat (1977) used an earlier version of SIC (1972 SIC) for his work on the U.S. information economy. We have paid careful attention to the consistency of the SIC codes and descriptions that Porat (1977) used with those in 1987 SIC so that we can use the above mentioned mappings.

Table 1. PRIS Industries according to Porat's typology in 1967 and the corresponding industries along with PRIS value added in 2002

Porat's list of PRIS industries		2002 Benchmark I-O industries corresponding to Porat's list					
SIC code	Industry title	I-O Code	NAICS Code	Industry Title	Fraction allocated to PRIS	Total value added (Millions of dollars)	PRIS value added (Millions of dollars)
<b>Market for Information</b>							
<b>Knowledge Production and Inventive Industries</b>							
<b>R&amp;D and Inventive Industries</b>							
7391	Commercial research and development laboratories	541700	5417	Scientific research and development serv	1.00	59431	59431
7397	Commercial testing laboratories						
8921	Nonprofit education and scientific research agencies						
		213112	213112	Support activities for oil & gas operations	1.00	6900	6900
<b>Private Information Services</b>							
6281	Services allied with the exchange of securities or commodities						
6611	Combinations of real estate, insurance, loans, law offices	531000	531	Real estate	0.37	643602	239677
7392	Business, management, administrative, and consulting services	541610	54161	Management, scientific, and technical co	1.00	74048	74048
		5416A0	54162, 54169	Environmental and other technical consul	1.00	12448	12448
		550000	55	Management of companies and enterprises	1.00	278023	278023
8111	Legal services	541100	5411	Legal services	1.00	152165	152165
8911	Engineering and architectural services	541300	5413	Architectural, engineering, and related	1.00	108526	108526
8931	Accounting, auditing, and bookkeeping services	541200	5412	Accounting, tax preparation, bookkeeping	1.00	76805	76805
8999	Services, NEC	512200	5122	Sound recording industries	1.00	5937	5937
		541400	5414	Specialized design services	1.00	15369	15369
		5419A0	54191, 54193, 54199	All other miscellaneous professional, sc	1.00	36219	36219
		561100	5611	Office administrative services	1.00	22512	22512
		561400	5614	Business support services	1.00	32646	32646
		561500	5615	Travel arrangement and reservation servi	1.00	16656	16656
		561900	5619	Other support services	1.00	22616	22616
		711A00	7113-4	Promoters of performing arts and sports	1.00	8202	8202

**Information Distribution and Communication Industries**

**Education**

8211	Elementary and secondary schools	611100	6111	Elementary and secondary schools	1.00	16662	16662
8221	Colleges, universities, and professional schools	611A00	6112-3	Junior colleges, colleges, universities,	1.00	47874	47874
8222	Junior colleges and technical institutes						
8241	Correspondence schools						
8242	Vocational schools, except vocational high schools						
8299	Schools and educational services, NEC	611B00	6114-7	Other educational services	1.00	21737	21737
	Public Information Services						
8231	Libraries and information centers	712000	712	Museums, historical sites, zoos, and par	1.00	4725	4725
	Regulated Communication Media						
4832	Radio Broadcasting	515100	5151	Radio and television broadcasting	1.00	21906	21906
4833	Television Broadcasting	516110	516	Internet publishing and broadcasting	1.00	3647	3647
	Unregulated Communication Media						
2711	Newspapers: publishing, publishing and printing	511110	51111	Newspaper publishers	1.00	26818	26818
2721	Periodicals: publishing, publishing and printing	511120	51112	Periodical publishers	1.00	17830	17830
2731	Books: publishing, publishing and printing	511130	51113	Book publishers	1.00	15291	15291
2741	Miscellaneous publishing	5111A0	51114, 51119	Directory, mailing list, and other publi	0.82	12173	10025
7351	News syndicates	511200	51121	Software publishers	1.00	69839	69839
7813	Motion picture production, except for television	512100	5121	Motion picture and video industries	1.00	44186	44186
7814	Motion picture and tape production for television						
7815	Production of still and slide films						
7816	Motion picture film exchange						
7817	Film or tape distribution for television	532230	53223	Video tape and disc rental	1.00	4694	4694
7821	Motion picture service industries						
7922	Theatrical producers (except motion picture) and misc theatrical services	711100	7111	Performing arts companies	1.00	7219	7219
		711500	7115	Independent artists, writers, and perfor	1.00	14826	14826
		711200	7112	Spectator sports	1.00	16887	16887

## Information in Markets

### Search and Coordination Industries

### Search and Non-Speculative Brokerage Industries

6052	Foreign exchange establishments						
6053	Check cashing agencies and currency exchanges						
6055	Clearing house associations						
6161	Loan correspondents and brokers						
6231	Security and commodity exchanges						
6411	Insurance agents, brokers, and service	524200	5242	Insurance agencies, brokerages, and rela	1.00	71220	71220
6531	Agents, brokers, and managers	525000	525	Funds, trusts, and other financial vehic	1.00	14459	14459
6541	Title abstract companies						
7313	Radio, television, and publishers' advertising representatives						
7321	Consumer credit reporting agencies, mercantile reporting agencies, and adjustments and collection agencies						
7361	Private employment agencies	561300	5613	Employment services	1.00	112374	112374
7398	Temporary help supply services						
7818	Services allied to motion picture distribution						
		561600	5616	Investigation and security services	1.00	24578	24578
		532400	5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	1.00	20388	20388
		532A00	53221-2, 53229, 5323	General and consumer goods rental except	1.00	8259	8259
<b>Advertising Industries</b>							
3993	Signs and advertising displays	339950	33995	Sign manufacturing	1.00	3944	3944
7311	Advertising agencies	541800	5418	Advertising and related services	1.00	49488	49488
7312	Outdoor advertising services						
7319	Miscellaneous advertising						
7331	Direct mail advertising services						
<b>Non-Market Coordinating Institutions</b>							
8611	Business Associations	813B00	8134, 8139	Civic, social, professional and similar	1.00	27866	27866
8621	Professional membership organizations						
8631	Labor unions and similar labor organizations	813A00	8132, 8133	Grantmaking, giving and social advocacy	1.00	11297	11297
8651	Political organizations	813100	8131	Religious organizations	1.00	28346	28346

**Risk Management Industries****Insurance Industries**

63	Life, accident, fire and casualty	524100	5241	Insurance carriers	1.00	175730	175730
636	Title insurance						

**Finance Industries**

60	Commercial, savings banks & related institutions	52A000	521, 5221	Monetary authorities and depository cred	1.00	299622	299622
61	Credit institutions	522A00	5222-3	Nondepository credit intermediation and	1.00	156390	156390

**Speculative Brokers**

62	Security Brokers, Commodity Contractors	523000	523	Securities, commodity contracts, investm	0.76	161523	123064
63	Patent owners and lessors	533000	533	Lessors of nonfinancial intangible asset	0.37	99064	36891

**Information Infrastructure****Information Processing and Transmission Services****Non-electronic based processing****Fixed Costs**

2753	Engraving and plate printing						
2791	Typesetting	323120	32312	Support activities for printing	0.77	3457	2667
2793	Photoengraving						
2794	Electrotyping and stereotyping						

**Variable Costs**

2732	Book printing	323110	32311	Printing	1.00	42837	42837
2751	Commercial printing, except lithographic						
2752	Commercial printing, lithographic						
2789	Bookbinding and related work						
7221	Photographic studios, including commercial photography						
7332	Blueprinting and photocopying services						
7339	Stenographic services; and duplicating services, NEC						
7395	Photofinishing laboratories	541920	54192	Photographic services	0.12	5754	713
		811200	8112	Electronic and precision equipment repai	0.12	13502	1673

**Electronic Based Processing**

7392	Pure data processing services	518200	5182	Data processing, hosting, and related se	1.00	41183	41183
		541511	541511	Custom computer programming services	1.00	46427	46427
		541512	541512	Computer systems design services	1.00	37159	37159
		54151A	541513, 541519	Other computer related services, includi	1.00	26054	26054
		519100	519	Other information services	1.00	3935	3935

<b>Telecommunication Infrastructure</b>							
4811	Telephone communication (wire or radio)	517000	517	Telecommunications	1.00	241872	241872
4821	Telegraph communication (wire or radio)	518100	5181	Internet service providers and web search	1.00	14621	14621
4899	Communication services, NEC	515200	5152	Cable and other subscription programming	1.00	11602	11602
		230301	23*	Nonresidential maintenance and repair	0.28	56973	15736
		492000	492	Couriers and messengers	1.00	35709	35709
<b>Information Goods Manufacturing Industries</b>							
<b>Non-electronic consumption or intermediate goods</b>							
2621	Paper mills, except building paper mills	32222A	322221-2	Coated and laminated paper, packaging pa	0.31	4961	1529
2642	Envelopes	322230	32223	Stationery product manufacturing	1.00	2382	2382
2761	Manifold business forms						
2782	Blankbooks, loose leaf binders and devices						
2893	Printing ink	325910	32591	Printing ink manufacturing	1.00	870	870
2895	Carbon black						
3861	Photographic equipment and supplies	333315	333315	Photographic and photocopying equipment	1.00	996	996
3951	Pens, pen points, fountain pens, ball point pens, mechanical pencils and parts	339940	33994	Office supplies (except paper) manufactu	1.00	2155	2155
3952	Lead pencils, crayons, and artistes' materials						
3953	Marking devices						
3955	Carbon paper and ink ribbons						
		33451A	334518-9	Watch, clock, and other measuring and co	1.00	2412	2412
<b>Non-electronic investment goods</b>							
3554	Paper industries machinery	33329A	33321, 333291-4, 333298	Other industrial machinery manufacturing	1.00	6541	6541
3555	Printing trades machinery and equipment						
3574	Calculating and accounting machines, except electronic computing equipment						
3576	Scales and balances, except laboratory	33399A	333992, 333997, 333999	Other general purpose machinery manufact	1.00	5402	5402
3579	Office machines, NEC	33331A	333311-3	Vending, commercial, industrial, and off	1.00	1256	1256
3821	Mechanical measuring and controlling instruments, except automatic temperature controls	334514	334514	Totalizing fluid meters and counting dev	1.00	1127	1127

		335314	335314	Relay and industrial control manufacturi	0.34	4271	1434
3822	Automatic temperature controls	334512	334512	Automatic environmental control manufact	1.00	1291	1291
3821	Optical instruments and lenses	333314	333314	Optical instrument and lens manufacturin	1.00	1148	1148
		334511	334511	Search, detection, and navigation instru	1.00	13258	13258
		334613	334613	Magnetic and optical recording media man	1.00	1005	1005
		334513	334513	Industrial process variable instruments	1.00	2509	2509
<b>Electronic consumption or intermediate goods</b>							
3652	Phonograph records	33461A	334611-2	Software, audio, and video media reprodu	1.00	1743	1743
3671	Radio and television receiving type electron tubes, except cathode ray	334411	334411	Electron tube manufacturing	1.00	661	661
3672	Cathode ray picture tubes						
3673	Transmitting, industrial and special purpose electron tubes						
3674	Semiconductors and related devices	334413	334413	Semiconductor and related device manufac	1.00	29861	29861
3679	Electronic components and accessories, NEC	334412	334412	Bare printed circuit board manufacturing	1.00	2254	2254
5065	Electronic parts and equipment	334417	334417	Electronic connector manufacturing	1.00	1258	1258
		334418	334418	Printed circuit assembly (electronic ass	1.00	5911	5911
		334419	334419	Other electronic component manufacturing	1.00	3490	3490
<b>Electronic investment goods</b>							
3573	Electronic computing equipment	334111	334111	Electronic computer manufacturing	1.00	13767	13767
		334112	334112	Computer storage device manufacturing	1.00	2723	2723
3611	Electric measuring instruments and test equipment	33441A	334414-6	Electronic capacitor, resistor, coil, tr	1.00	1301	1301
		334515	334515	Electricity and signal testing instrumen	1.00	4735	4735
3651	Radio and television receiving sets, except communication types	334300	3343	Audio and video equipment manufacturing	1.00	2041	2041
3661	Telephone and telegraph apparatus	334210	33421	Telephone apparatus manufacturing	1.00	9511	9511
3662	Radio and television transmitting, signalling, and detection equipment and apparatus	334220	33422	Broadcast and wireless communications eq	1.00	7716	7716
		334290	33429	Other communications equipment manufactu	1.00	1898	1898

3693	Radiographic X-ray, fluroscopic X-ray, therapeutic X-ray, and other X-ray apparatus and tubes; electromedical and electrotherapeutic apparatus	334517	334517	Irradiation apparatus manufacturing	1.00	1809	1809
		334510	334510	Electromedical and electrotherapeutic ap	1.00	6025	6025
3811	Engineering, laboratory, and scientific and research instruments and associated equipment	339111	339111	Laboratory apparatus and furniture manuf	1.00	2099	2099
		334516	334516	Analytical laboratory instrument manufac	1.00	2826	2826
		335999	335999	All other miscellaneous electrical equip	1.00	2771	2771
<b>Wholesale and retail trade in information goods</b>							
<b>Household investment goods</b>							
5732	Radio and television stores	420000	42	Wholesale trade	0.20	597255	119093
5996	Camera and photographic supply stores Hand calculators	4A0000	44, 45	Retail trade	0.10	663325	65868
<b>Consumption goods</b>							
5942	Book stores						
5994	News dealers and newsstands						
7832	Motion picture theaters, except drive-in						
7833	Drive-in motion picture theaters						
<b>Support Facilities for Informational Activities</b>							
15	Contract construction of office, school, communications buildings	230101	23*	Nonresidential commercial and health car	1.00	65500	65500
65	Rental of information structure						
25	Furnishings for office buildings	337212	337211, 337212, 337214	Office furniture and custom architectura	1.00	7006	7006
		337127	337127	Institutional furniture manufacturing	0.61	1915	1161
<b>Health Industry</b>							
		621A00	6211-3	Offices of physicians, dentists, and oth	0.51	253577	128285
		621B00	6214-5, 6219	Medical and diagnostic labs and outpatie	0.51	60438	30576
		622000	622	Hospitals	0.10	218551	21090
		623000	623	Nursing and residential care facilities	0.10	85255	8227
<b>Government</b>							
		491000	491	Postal service Government	1.00 0.15	52516 1277007	52516 187470
<b>Total</b>							<b>4034948</b>

Note: Porat's list of PRIS industries is from Table 3.2, Porat (1977), vol. 1, pp.27-28. The value-added figures for 2002 are obtained from 2002 Benchmark Input-Output Use Tables.

The PRIS value added are then consolidated to 3-digit level NAICS industries. At the 3-digit level of NAICS, there are discrepancies between the total value added obtained from the BEA's Annual Industry Accounts and the total value added consolidated from the 2002 Benchmark I-O Use Table. These discrepancies arise mainly due to data revision of the industry accounts. To make the PRIS value added by 3-digit NAICS industries (calculated from the Benchmark I-O Table) consistent with the industry accounts data, we adjust the PRIS value added as follows:

$$\begin{aligned} & \text{Adjusted PRIS value added} \\ &= \text{Annual industry accountst value added} \\ & \quad \times \frac{\text{PRIS value added from I-O Table}}{\text{Total value added from I-O Table}} \end{aligned}$$

Table 2 presents value added by 3-digit NAICS industries from the Annual Industry Accounts, PRIS value added and total value added by 3-digit NAICS industries from the Benchmark I-O Accounts, and the corresponding adjusted PRIS value added at the 3-digit level of NAICS.

Table 2. PRIS value added by industries adjusted to BEA's Annual Industry Account data, 2002

Sl. No	Code	Industry Title	Value added from BEA's Annual Industry Accounts	Value added from 2002 Benchmark I-O Tables	PRIS value added from 2002 Benchmark I-O Tables	PRIS value added adjusted to BEA's Annual Industry Accounts [col (1) × (col (2) ÷ col (3))]
			1	2	3	4
1	111,112	Farms	72304	73637	0	0
2	113-115	Forestry, fishing, and related activities	22101	21369	0	0
3	211	Oil and gas extraction	66598	52845	0	0
4	212	Mining, except oil and gas	27552	24980	0	0
5	213	Support activities for mining	15312	14157	6900	7463
6	22	Utilities	180973	186737	0	0
7	23	Construction	494328	482698	81236	83193
8	321	Wood products	27277	26624	0	0
9	327	Nonmetallic mineral products	41446	40624	0	0
10	331	Primary metals	41352	40827	0	0
11	332	Fabricated metal products	105210	103425	0	0
12	333	Machinery	95897	93198	15342	15786
13	334	Computer and electronic products	132573	126030	121131	127420
14	335	Electrical equipment, appliances, and components	42568	42577	4205	4204
15	3361-3363	Motor vehicles, bodies and trailers, and parts	121309	179529	0	0
16	3364-3366,3369	Other transportation equipment	67349		0	0
17	337	Furniture and related products	31280	30592	8167	8351
18	339	Miscellaneous manufacturing	61489	60830	8197	8286
19	311,312	Food and beverage and tobacco products	176942	154324	0	0
20	313, 314	Textile mills and textile product mills	24094	23649	0	0
21	315, 316	Apparel and leather and allied products	18269	18605	0	0
22	322	Paper products	53531	55467	3912	3775
23	323	Printing and related support activities	37437	46294	45504	36798
24	324	Petroleum and coal products	44927	22242	0	0
25	325	Chemical products	169567	150343	870	981
26	326	Plastics and rubber products	63018	65039	0	0
27	42	Wholesale trade	614892	597255	119093	122609
28	44,45	Retail trade	731156	663325	65868	72604
29	481	Air transportation	46796	43536	0	0
30	482	Rail transportation	21740	21422	0	0
31	483	Water transportation	7409	8104	0	0
32	484	Truck transportation	97196	94282	0	0
33	485	Transit and ground passenger transportation	19198	17956	0	0
34	486	Pipeline transportation	10340	5627	0	0
35	487, 488, 492	Other transportation and support activities	73383	69189	35709	37873
36	493	Warehousing and storage	26343	25924	0	0
37	511	Publishing industries (includes software)	121772	141949	139801	119929
38	512	Motion picture and sound recording industries	51613	50124	50124	51613
39	513	Broadcasting and telecommunications	267916	279026	279026	267916
40	514	Information and data processing services	58393	59738	59738	58393
41	521, 522	Federal Reserve banks, credit intermediation, and related activities	436009	456011	456011	436009

42	523	Securities, commodity contracts, and investments	153512	161523	123064	116961
43	524	Insurance carriers and related activities	248565	246949	246949	248565
44	525	Funds, trusts, and other financial vehicles	25451	14459	14459	25451
45	531	Real estate	1210895	643602	239677	450937
46	532, 533	Rental and leasing services and lessors of intangible assets	147841	154260	70233	67310
47	5411	Legal services	153874	152165	152165	153874
48	5415	Computer systems design and related services	109835	109640	109640	109835
49	5412-5414, 5416-5419	Miscellaneous professional, scientific, and technical services	455234	446887	433047	441135
50	55	Management of companies and enterprises	178324	278023	278023	178324
51	561	Administrative and support services	270403	293377	231381	213262
52	562	Waste management and remediation services	30641	29740	0	0
53	61	Educational services	98855	86273	86273	98855
54	621	Ambulatory health care services	335271	336841	158860	158120
55	622, 623	Hospitals and nursing and residential care facilities	296068	303807	29317	28571
56	624	Social assistance	59605	59189	0	0
57	711,712	Performing arts, spectator sports, museums, and related activities	55338	51859	51859	55338
58	713	Amusements, gambling, and recreation industries	46802	48198		0
59	721	Accommodation	92764	93761	0	0
60	722	Food services and drinking places	216246	207534	0	0
61	81	Other services, except government	284966	251058	69183	78527
62	92, 491	<b>Government</b>	1352970	1329522	239985	244218
		<b>Total</b>	<b>10691419</b>	<b>9968774</b>	<b>4034948</b>	<b>4132485</b>

#### A.4.2 Secondary Information Sector

In order to measure the size and structure of the SIS, firms producing non-information goods and services as their final products are broken down in an accounting sense into two mutually exclusive activities: an information activity and a non-information activity. The information side of the firm purchases information-producing resources, such as computers, office buildings, and telephone service, hires information workers, and sells its services on a fictitious account to the non-information side. This side of the firm uses matter and energy to the extent that it is directly necessary in producing information services. To measure the secondary sector's contributions to GNP we can make one simplifying assumption. "The information quasi-industries as a group can be said to exactly consume all the information resources purchased by the firm, i. e., (1) the employee compensation of all information workers, (2) the capital services of information machines such as computers, copiers, and printing presses, measured as capital consumption allowances or depreciation, and (3) a specifiable portion of the intermediate inputs of the enterprise, such as telephone service, office space, paper, and any information goods or services that are not produced by the quasi-industry but instead are purchased from the primary information sector."<sup>9</sup> The first two inputs are components of value added, and directly enter the estimates of gross product in the SIS. Thus, Porat (1977) suggests including the following items in calculating the value-added contributions of non-information firms to the SIS:

- (i) Employee compensation of information workers,
- (ii) Labor income of proprietors and unpaid family workers performing informational tasks, and
- (iii) Capital consumption allowances taken on information machines.

By assumption, all indirect business taxes, profits, rental income, and the like, are allocated to the non-information side of the firm.<sup>10</sup>

<sup>9</sup> Porat (1977), vol. 1, p. 153.

<sup>10</sup> As we will explain below, we inadvertently include a portion of these components of value added into the SIS value added. However, for most industries they are negligible.

*Employee compensation of information workers*

In order to calculate the employee compensation of information workers in the SIS, we first identify the information occupations as shown in Table 3, following Porat's scheme. Since 1999, the BLS has been using the Standard Occupational Classification (SOC) to report occupational employment statistics.<sup>11</sup> In this new classification scheme, there are more than 800 occupations. Some occupations in the previous classification system have disappeared and many new occupations have emerged. We use the detailed job descriptions provided in the Dictionary of Standard Occupational Classification (SOC) Codes to determine if an occupation can be classified as information occupation *a la* Porat (1977) and, if so, which category — in the three major classes as described above — it belongs to. We identify a total of 450 occupations as belonging to one of the categories described by Porat (1977).

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<sup>11</sup>Before 1999, the BLS used an occupational classification system that included much fewer occupational categories. Further, surveys were conducted in three-year cycles for each industry.

Table 3. Information occupations in 2002 according to the typology developed by Porat (1977)

Sl. No.	SOC Code	Occupation Title
<b>MARKETS FOR INFORMATION</b>		
<b>Knowledge Producers</b>		
<b>Scientific &amp; Technical Workers</b>		
1	19-1011	Animal Scientists
2	19-1012	Food Scientists and Technologists
3	19-1013	Soil and Plant Scientists
4	19-1021	Biochemists and Biophysicists
5	19-1022	Microbiologists
6	19-1023	Zoologists and Wildlife Biologists
7	19-1029	Biological Scientists, All Other
8	19-1031	Conservation Scientists
9	19-1032	Foresters
10	19-1041	Epidemiologists
11	19-1042	Medical Scientists, Except Epidemiologists
12	19-1099	Life Scientists, All Other
13	19-2011	Astronomers
14	19-2012	Physicists
15	19-2021	Atmospheric and Space Scientists
16	19-2031	Chemists
17	19-2032	Materials Scientists
18	19-2041	Environmental Scientists and Specialists, Including Health
19	19-2042	Geoscientists, Except Hydrologists and Geographers
20	19-2043	Hydrologists
21	19-2099	Physical Scientists, All Other
22	19-3011	Economists
23	19-3021	Market Research Analysts
24	19-3022	Survey Researchers
25	19-3031	Clinical, Counseling, and School Psychologists
26	19-3032	Industrial-Organizational Psychologists
27	19-3039	Psychologists, All Other
28	19-3041	Sociologists
29	19-3051	Urban and Regional Planners
30	19-3091	Anthropologists and Archeologists
31	19-3092	Geographers
32	19-3093	Historians
33	19-3094	Political Scientists
34	19-3099	Social Scientists and Related Workers, All Other
35	19-4011	Agricultural and Food Science Technicians
36	19-4021	Biological Technicians
37	19-4031	Chemical Technicians
38	19-4041	Geological and Petroleum Technicians
39	19-4051	Nuclear Technicians
40	19-4061	Social Science Research Assistants

41	19-4091	Environmental Science and Protection Technicians, Including Health
42	19-4092	Forensic Science Technicians
43	19-4093	Forest and Conservation Technicians
44	19-4099	Life, Physical, and Social Science Technicians, All Other
45	15-1011	Computer and Information Scientists, Research
46	15-2021	Mathematicians
47	15-2031	Operations Research Analysts
48	15-2041	Statisticians
49	15-2099	Mathematical Science Occupations, All Other
50	17-2011	Aerospace Engineers
51	17-2021	Agricultural Engineers
52	17-2031	Biomedical Engineers
53	17-2041	Chemical Engineers
54	17-2051	Civil Engineers
55	17-2061	Computer Hardware Engineers
56	17-2071	Electrical Engineers
57	17-2072	Electronics Engineers, Except Computer
58	17-2081	Environmental Engineers
59	17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
60	17-2112	Industrial Engineers
61	17-2121	Marine Engineers and Naval Architects
62	17-2131	Materials Engineers
63	17-2141	Mechanical Engineers
64	17-2151	Mining and Geological Engineers, Including Mining Safety Engineers
65	17-2161	Nuclear Engineers
66	17-2171	Petroleum Engineers
67	17-2199	Engineers, All Other

**Private Information Service Providers**

68	21-1011	Substance Abuse and Behavioral Disorder Counselors
69	21-1012	Educational, Vocational, and School Counselors
70	21-1013	Marriage and Family Therapists
71	21-1014	Mental Health Counselors
72	21-1015	Rehabilitation Counselors
73	21-1019	Counselors, All Other
74	21-1021	Child, Family, and School Social Workers
75	21-1022	Medical and Public Health Social Workers
76	21-1023	Mental Health and Substance Abuse Social Workers
77	21-1029	Social Workers, All Other
78	21-1091	Health Educators
79	21-1092	Probation Officers and Correctional Treatment Specialists
80	21-1093	Social and Human Service Assistants
81	21-1099	Community and Social Service Specialists, All Other
82	21-2011	Clergy
83	21-2021	Directors, Religious Activities and Education
84	21-2099	Religious Workers, All Other

85	23-1011	Lawyers
86	23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers
87	23-1022	Arbitrators, Mediators, and Conciliators
88	23-1023	Judges, Magistrate Judges, and Magistrates
89	23-2011	Paralegals and Legal Assistants
90	23-2091	Court Reporters
91	23-2092	Law Clerks
92	23-2093	Title Examiners, Abstractors, and Searchers
93	23-2099	Legal Support Workers, All Other
94	29-1031	Dietitians and Nutritionists
95	29-1066	Psychiatrists
96	29-1121	Audiologists
97	29-1122	Occupational Therapists
98	29-1123	Physical Therapists
99	29-1124	Radiation Therapists
100	29-1125	Recreational Therapists
101	29-1126	Respiratory Therapists
102	29-1127	Speech-Language Pathologists
103	29-1129	Therapists, All Other
104	29-1011	Chiropractors
105	29-1021	Dentists, General
106	29-1023	Orthodontists
107	29-1024	Prosthodontists
108	29-1029	Dentists, All Other Specialists
109	29-1041	Optometrists
110	29-1051	Pharmacists
111	29-1061	Anesthesiologists
112	29-1062	Family and General Practitioners
113	29-1063	Internists, General
114	29-1064	Obstetricians and Gynecologists
115	29-1065	Pediatricians, General
116	29-1067	Surgeons
117	29-1069	Physicians and Surgeons, All Other
118	29-1071	Physician Assistants
119	29-1081	Podiatrists
120	29-1111	Registered Nurses
121	29-1131	Veterinarians
122	29-1199	Health Diagnosing and Treating Practitioners, All Other
123	29-2011	Medical and Clinical Laboratory Technologists
124	29-2012	Medical and Clinical Laboratory Technicians
125	29-2021	Dental Hygienists
126	29-2031	Cardiovascular Technologists and Technicians
127	29-2032	Diagnostic Medical Sonographers
128	29-2033	Nuclear Medicine Technologists
129	29-2034	Radiologic Technologists and Technicians
130	29-2051	Dietetic Technicians

131	29-2052	Pharmacy Technicians
132	29-2053	Psychiatric Technicians
133	29-2054	Respiratory Therapy Technicians
134	29-2056	Veterinary Technologists and Technicians
135	29-2061	Licensed Practical and Licensed Vocational Nurses
136	29-2081	Opticians, Dispensing
137	29-2091	Orthotists and Prosthetists
138	29-2099	Health Technologists and Technicians, All Other
139	29-9011	Occupational Health and Safety Specialists
140	29-9012	Occupational Health and Safety Technicians
141	29-9091	Athletic Trainers
142	29-9099	Healthcare Practitioners and Technical Workers, All Other
143	31-2011	Occupational Therapist Assistants
144	31-2012	Occupational Therapist Aides
145	31-2021	Physical Therapist Assistants
146	31-2022	Physical Therapist Aides
147	31-9091	Dental Assistants
148	31-9092	Medical Assistants
149	31-9095	Pharmacy Aides
150	31-9099	Healthcare Support Workers, All Other
151	15-1021	Computer Programmers
152	15-1031	Computer Software Engineers, Applications
153	15-1032	Computer Software Engineers, Systems Software
154	15-1041	Computer Support Specialists
155	15-1051	Computer Systems Analysts
156	15-1061	Database Administrators
157	15-1071	Network and Computer Systems Administrators
158	15-1081	Network Systems and Data Communications Analysts
159	15-1099	Computer Specialists, All Other
160	15-2011	Actuaries
161	17-1011	Architects, Except Landscape and Naval
162	17-1012	Landscape Architects
163	17-1021	Cartographers and Photogrammetrists
164	17-3011	Architectural and Civil Drafters
165	17-3012	Electrical and Electronics Drafters
166	17-3013	Mechanical Drafters
167	17-3019	Drafters, All Other
168	17-3021	Aerospace Engineering and Operations Technicians
169	17-3022	Civil Engineering Technicians
170	17-3023	Electrical and Electronic Engineering Technicians
171	17-3024	Electro-Mechanical Technicians
172	17-3025	Environmental Engineering Technicians
173	17-3026	Industrial Engineering Technicians
174	17-3027	Mechanical Engineering Technicians
175	17-3029	Engineering Technicians, Except Drafters, All Other
176	17-3031	Surveying and Mapping Technicians

177	13-1061	Emergency Management Specialists
178	13-1071	Employment, Recruitment, and Placement Specialists
179	13-1072	Compensation, Benefits, and Job Analysis Specialists
180	13-1073	Training and Development Specialists
181	13-1079	Human Resources, Training, and Labor Relations Specialists, All Other
182	13-1081	Logisticians
183	13-1111	Management Analysts
184	13-1121	Meeting and Convention Planners
185	13-1199	Business Operations Specialists, All Other
186	13-2011	Accountants and Auditors
187	13-2021	Appraisers and Assessors of Real Estate
188	13-2031	Budget Analysts
189	13-2041	Credit Analysts
190	13-2051	Financial Analysts
191	13-2052	Personal Financial Advisors
192	13-2053	Insurance Underwriters
193	13-2061	Financial Examiners
194	13-2071	Loan Counselors
195	13-2072	Loan Officers
196	13-2081	Tax Examiners, Collectors, and Revenue Agents
197	13-2082	Tax Preparers
198	13-2099	Financial Specialists, All Other

### Knowledge Distributors

#### Educators

199	25-1011	Business Teachers, Postsecondary
200	25-1021	Computer Science Teachers, Postsecondary
201	25-1022	Mathematical Science Teachers, Postsecondary
202	25-1031	Architecture Teachers, Postsecondary
203	25-1032	Engineering Teachers, Postsecondary
204	25-1041	Agricultural Sciences Teachers, Postsecondary
205	25-1042	Biological Science Teachers, Postsecondary
206	25-1043	Forestry and Conservation Science Teachers, Postsecondary
207	25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary
208	25-1052	Chemistry Teachers, Postsecondary
209	25-1053	Environmental Science Teachers, Postsecondary
210	25-1054	Physics Teachers, Postsecondary
211	25-1061	Anthropology and Archeology Teachers, Postsecondary
212	25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary
213	25-1063	Economics Teachers, Postsecondary
214	25-1064	Geography Teachers, Postsecondary
215	25-1065	Political Science Teachers, Postsecondary
216	25-1066	Psychology Teachers, Postsecondary
217	25-1067	Sociology Teachers, Postsecondary
218	25-1069	Social Sciences Teachers, Postsecondary, All Other
219	25-1071	Health Specialties Teachers, Postsecondary

220	25-1072	Nursing Instructors and Teachers, Postsecondary
221	25-1081	Education Teachers, Postsecondary
222	25-1082	Library Science Teachers, Postsecondary
223	25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary
224	25-1112	Law Teachers, Postsecondary
225	25-1113	Social Work Teachers, Postsecondary
226	25-1121	Art, Drama, and Music Teachers, Postsecondary
227	25-1122	Communications Teachers, Postsecondary
228	25-1123	English Language and Literature Teachers, Postsecondary
229	25-1124	Foreign Language and Literature Teachers, Postsecondary
230	25-1125	History Teachers, Postsecondary
231	25-1126	Philosophy and Religion Teachers, Postsecondary
232	25-1191	Graduate Teaching Assistants
233	25-1192	Home Economics Teachers, Postsecondary
234	25-1193	Recreation and Fitness Studies Teachers, Postsecondary
235	25-1194	Vocational Education Teachers, Postsecondary
236	25-1199	Postsecondary Teachers, All Other
237	25-2011	Preschool Teachers, Except Special Education
238	25-2012	Kindergarten Teachers, Except Special Education
239	25-2021	Elementary School Teachers, Except Special Education
240	25-2022	Middle School Teachers, Except Special and Vocational Education
241	25-2023	Vocational Education Teachers, Middle School
242	25-2031	Secondary School Teachers, Except Special and Vocational Education
243	25-2032	Vocational Education Teachers, Secondary School
244	25-2041	Special Education Teachers, Preschool, Kindergarten, and Elementary School
245	25-2042	Special Education Teachers, Middle School
246	25-2043	Special Education Teachers, Secondary School
247	25-3011	Adult Literacy, Remedial Education, and GED Teachers and Instructors
248	25-3021	Self-Enrichment Education Teachers
249	25-3099	Teachers and Instructors, All Other
250	27-2022	Coaches and Scouts

**Public Information Disseminators**

251	25-4011	Archivists
252	25-4012	Curators
253	25-4013	Museum Technicians and Conservators
254	25-4021	Librarians
255	25-4031	Library Technicians
256	25-9011	Audio-Visual Collections Specialists
257	25-9021	Farm and Home Management Advisors
258	25-9031	Instructional Coordinators
259	25-9041	Teacher Assistants
260	25-9099	Education, Training, and Library Workers, All Other

**Communication Workers**

261	27-1011	Art Directors
262	27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators
263	27-1014	Multi-Media Artists and Animators

264	27-1019	Artists and Related Workers, All Other
265	27-1021	Commercial and Industrial Designers
266	27-1022	Fashion Designers
267	27-1024	Graphic Designers
268	27-1025	Interior Designers
269	27-1027	Set and Exhibit Designers
270	27-1029	Designers, All Other
271	27-2011	Actors
272	27-2012	Producers and Directors
273	27-2032	Choreographers
274	27-2041	Music Directors and Composers
275	27-2042	Musicians and Singers
276	27-2099	Entertainers and Performers, Sports and Related Workers, All Other
277	27-3011	Radio and Television Announcers
278	27-3012	Public Address System and Other Announcers
279	27-3021	Broadcast News Analysts
280	27-3022	Reporters and Correspondents
281	27-3031	Public Relations Specialists
282	27-3041	Editors
283	27-3042	Technical Writers
284	27-3043	Writers and Authors
285	27-3091	Interpreters and Translators
286	27-3099	Media and Communication Workers, All Other
287	27-4011	Audio and Video Equipment Technicians
288	27-4012	Broadcast Technicians
289	27-4013	Radio Operators
290	27-4014	Sound Engineering Technicians
291	27-4021	Photographers
292	27-4031	Camera Operators, Television, Video, and Motion Picture
293	27-4032	Film and Video Editors
294	27-4099	Media and Communication Equipment Workers, All Other

## INFORMATION IN MARKETS

### Market Search and Coordination Specialists

#### Information Gatherers

295	13-1031	Claims Adjusters, Examiners, and Investigators
296	13-1032	Insurance Appraisers, Auto Damage
297	13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
298	13-1051	Cost Estimators
299	17-1022	Surveyors
300	33-2021	Fire Inspectors and Investigators
301	33-2022	Forest Fire Inspectors and Prevention Specialists
302	33-3021	Detectives and Criminal Investigators
303	33-9021	Private Detectives and Investigators
304	33-9031	Gaming Surveillance Officers and Gaming Investigators

305	43-3011	Bill and Account Collectors
306	43-4061	Eligibility Interviewers, Government Programs
307	43-4111	Interviewers, Except Eligibility and Loan
308	43-4131	Loan Interviewers and Clerks
309	43-5041	Meter Readers, Utilities
310	43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping
311	51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers

### **Search and Coordination Specialists**

312	13-1011	Agents and Business Managers of Artists, Performers, and Athletes
313	13-1021	Purchasing Agents and Buyers, Farm Products
314	13-1022	Wholesale and Retail Buyers, Except Farm Products
315	13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products
316	41-2022	Parts Salespersons
317	41-2031	Retail Salespersons
318	41-9099	Sales and Related Workers, All Other
319	41-3011	Advertising Sales Agents
320	41-3021	Insurance Sales Agents
321	41-3031	Securities, Commodities, and Financial Services Sales Agents
322	41-3041	Travel Agents
323	41-3099	Sales Representatives, Services, All Other
324	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
325	41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
326	41-9011	Demonstrators and Product Promoters
327	41-9021	Real Estate Brokers
328	41-9022	Real Estate Sales Agents
329	41-9031	Sales Engineers
330	41-9041	Telemarketers

### **Planning and Control Workers**

#### **Administrators and Managers**

331	11-1011	Chief Executives
332	11-1021	General and Operations Managers
333	11-1031	Legislators
334	11-2011	Advertising and Promotions Managers
335	11-2021	Marketing Managers
336	11-2022	Sales Managers
337	11-2031	Public Relations Managers
338	11-3011	Administrative Services Managers
339	11-3021	Computer and Information Systems Managers
340	11-3031	Financial Managers
341	11-3041	Compensation and Benefits Managers
342	11-3042	Training and Development Managers
343	11-3049	Human Resources Managers, All Other
344	11-3051	Industrial Production Managers

345	11-3061	Purchasing Managers
346	11-3071	Transportation, Storage, and Distribution Managers
347	11-9011	Farm, Ranch, and Other Agricultural Managers
348	11-9012	Farmers and Ranchers
349	11-9021	Construction Managers
350	11-9031	Education Administrators, Preschool and Child Care Center/Program
351	11-9032	Education Administrators, Elementary and Secondary School
352	11-9033	Education Administrators, Postsecondary
353	11-9039	Education Administrators, All Other
354	11-9041	Engineering Managers
355	11-9051	Food Service Managers
356	11-9061	Funeral Directors
357	11-9071	Gaming Managers
358	11-9081	Lodging Managers
359	11-9111	Medical and Health Services Managers
360	11-9121	Natural Sciences Managers
361	11-9141	Property, Real Estate, and Community Association Managers
362	11-9151	Social and Community Service Managers
363	11-9199	Managers, All Other
		<b>Process Control Workers</b>
364	11-9131	Postmasters and Mail Superintendents
365	33-1011	First-Line Supervisors/Managers of Correctional Officers
366	33-1012	First-Line Supervisors/Managers of Police and Detectives
367	33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers
368	33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other
369	35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers
370	37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers
371	37-1012	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers
372	39-1021	First-Line Supervisors/Managers of Personal Service Workers
373	41-1011	First-Line Supervisors/Managers of Retail Sales Workers
374	41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers
375	43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers
376	43-3051	Payroll and Timekeeping Clerks
377	43-5031	Police, Fire, and Ambulance Dispatchers
378	43-5032	Dispatchers, Except Police, Fire, and Ambulance
379	43-5061	Production, Planning, and Expediting Clerks
380	45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
381	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers
382	49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
383	51-1011	First-Line Supervisors/Managers of Production and Operating Workers
384	53-1011	Aircraft Cargo Handling Supervisors
385	53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand

386	53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators
387	53-2011	Airline Pilots, Copilots, and Flight Engineers
388	53-2021	Air Traffic Controllers
389	53-2022	Airfield Operations Specialists
390	53-4011	Locomotive Engineers
391	53-4013	Rail Yard Engineers, Dinkey Operators, and Hostlers
392	53-5021	Captains, Mates, and Pilots of Water Vessels
393	53-5031	Ship Engineers

### Information Processors

394	29-2071	Medical Records and Health Information Technicians
395	31-9094	Medical Transcriptionists
396	39-3012	Gaming and Sports Book Writers and Runners
397	39-3021	Motion Picture Projectionists
398	39-3031	Ushers, Lobby Attendants, and Ticket Takers
399	39-3091	Amusement and Recreation Attendants
400	39-3099	Entertainment Attendants and Related Workers, All Other
401	39-6012	Concierges
402	39-6021	Tour Guides and Escorts
403	39-6022	Travel Guides
404	39-6031	Flight Attendants
405	39-6032	Transportation Attendants, Except Flight Attendants and Baggage Porters
406	39-9032	Recreation Workers
407	39-9041	Residential Advisors
408	39-9099	Personal Care and Service Workers, All Other
409	41-2011	Cashiers
410	41-2012	Gaming Change Persons and Booth Cashiers
411	41-2021	Counter and Rental Clerks
412	43-3021	Billing and Posting Clerks and Machine Operators
413	43-3031	Bookkeeping, Accounting, and Auditing Clerks
414	43-3041	Gaming Cage Workers
415	43-3061	Procurement Clerks
416	43-3071	Tellers
417	43-4011	Brokerage Clerks
418	43-4021	Correspondence Clerks
419	43-4031	Court, Municipal, and License Clerks
420	43-4041	Credit Authorizers, Checkers, and Clerks
421	43-4051	Customer Service Representatives
422	43-4071	File Clerks
423	43-4121	Library Assistants, Clerical
424	43-4081	Hotel, Motel, and Resort Desk Clerks
425	43-4141	New Accounts Clerks
426	43-4151	Order Clerks
427	43-4161	Human Resources Assistants, Except Payroll and Timekeeping
428	43-4171	Receptionists and Information Clerks

429	43-4181	Reservation and Transportation Ticket Agents and Travel Clerks
430	43-4199	Information and Record Clerks, All Other
431	43-5011	Cargo and Freight Agents
432	43-5051	Postal Service Clerks
433	43-5052	Postal Service Mail Carriers
434	43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators
435	43-5071	Shipping, Receiving, and Traffic Clerks
436	43-5081	Stock Clerks and Order Fillers
437	43-6011	Executive Secretaries and Administrative Assistants
438	43-6012	Legal Secretaries
439	43-6013	Medical Secretaries
440	43-6014	Secretaries, Except Legal, Medical, and Executive
441	43-9021	Data Entry Keyers
442	43-9022	Word Processors and Typists
443	43-9031	Desktop Publishers
444	43-9041	Insurance Claims and Policy Processing Clerks
445	43-9061	Office Clerks, General
446	43-9081	Proofreaders and Copy Markers
447	43-9111	Statistical Assistants
448	43-9199	Office and Administrative Support Workers, All Other
449	45-2011	Agricultural Inspectors
450	45-2041	Graders and Sorters, Agricultural Products
451	45-4023	Log Graders and Scalers
452	47-2073	Operating Engineers and Other Construction Equipment Operators
453	47-4011	Construction and Building Inspectors
454	53-4031	Railroad Conductors and Yardmasters
455	53-6051	Transportation Inspectors

## **INFORMATION INFRASTRUCTURE**

### **Information Machine Workers**

456	43-2011	Switchboard Operators, Including Answering Service
457	43-2021	Telephone Operators
458	43-2099	Communications Equipment Operators, All Other
459	43-9011	Computer Operators
460	43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service
461	43-9071	Office Machine Operators, Except Computer
462	49-2011	Computer, Automated Teller, and Office Machine Repairers
463	49-2021	Radio Mechanics
464	49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers
465	51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic
466	51-4012	Numerical Tool and Process Control Programmers
467	51-5021	Job Printers
468	51-5022	Prepress Technicians and Workers
469	51-9141	Semiconductor Processors

The data on employment and mean annual wages are available from the detailed occupations and 4- and 5-digit NAICS industries for 2002 from the BLS. Multiplying the number of workers in each of the information occupations by corresponding mean annual wage and aggregating for the industry, we obtain the total wage bill of the information workers for each of 4-digit NAICS industries. Chart 1 illustrates these calculations of total wage bills of information workers by industries.

Chart 1. Calculations of total information wage bill for the Secondary Information Sector

(An example using 2002 occupational employment data)

SOC Code	Occupation Title	Number of workers							Annual average wage							Total information wage bill (in Thousands of dollars)					
		113300	115100	115200	211100	212100			113300	115100	115200	211100	212100			113300	115100	115200	211100	212100	
		Logging	Support Activities for Crop Production	Support Activities for Animal Production	Oil and Gas Extraction	Coal Mining		Logging	Support Activities for Crop Production	Support Activities for Animal Production	Oil and Gas Extraction	Coal Mining		Logging	Support Activities for Crop Production	Support Activities for Animal Production	Oil and Gas Extraction	Coal Mining			
		2	3	4	5	6	7	I	II	III	IV	V	VI	A	B	C	D	E	F		
11-1011	Chief Executives	310	690	80	730	230	...	90510	107820	100580	175010	134080	...	28058.1	74395.8	8046.4	127757.3	30838.4	...		
11-1021	General and Operations Managers	1340	2470	460	4590	1140	...	59200	73390	62110	124700	82030	...	79328	181273.3	28570.6	572373	93514.2	...		
11-1031	Legislators	0	0	0	0	0	...	0	0	0	0	0	...	0	0	0	0	0	...		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
19-1010	Agricultural and Food Scientists	0	300	130	0	0	...	0	53740	45390	0	0	...	0	16122	5900.7	0	0	...		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
27-3031	Public Relations Specialists	0	0	30	160	0	...	0	0	40460	71640	0	...	0	0	1213.8	11462.4	0	...		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
	Total													Sum of the column	Sum of the column	Sum of the column	Sum of the column	Sum of the column			

We make a few adjustments at this point. First, there are discrepancies between the total number of workers reported for each industry and the total number obtained by adding the number of workers for various occupations within the industry. These discrepancies also lead to differences in total wage bills calculated by multiplying the total number of workers by the mean annual wage for the industry and the total wage bills calculated by adding total wages for various occupations within that industry. We allocate, somewhat arbitrarily, half of these differences in wage bills to information workers and the other half to non-information workers. Second, for those 4-digit NAICS industries that partially or entirely belong to the PRIS, we make further adjustments in information wage bills that would be a part of the SIS value-added. For example, if an industry entirely belongs to the PRIS, we set the SIS information wage bill for that industry equal to 0. Similarly, if only a fraction, say 40%, of an industry's value added is allocated to the PRIS, we allocate 60% of the information wage bill to the SIS value added.<sup>12</sup> Table 4 presents adjusted information wage bills along with total wages by 4-digit NAICS industries. The third adjustment involves calculating compensation of employees for information workers in the SIS.<sup>13</sup> Data on total compensation of employees are available roughly at 3-digit NAICS level from the BEA's Annual Industry Accounts. Therefore, we first consolidate the SIS information wage bills to 3-digit NAICS industries. We then calculate the share of SIS information wages in total wage bill for each 3-digit NAICS industry and apply that ratio to the total compensation of employees data, obtained from the BEA's Annual Industry Accounts. Thus, compensation of employees

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<sup>12</sup>It implicitly assumes that different components of value added (i.e., compensation of employees, consumption of fixed capital, and net operating surplus) are proportionately allocated either to the PRIS (and, therefore, to the SIS).

<sup>13</sup>Note that wages and salaries are only a part of the compensation of employees and do not include supplemental incomes. Please see our discussion in Section 2.

for information workers for each industry is calculated as follows:

Compensation of employees for information workers

$$\begin{aligned} &= \text{Total compensation of employees for all workers employed} \\ &\quad \text{by the industry} \\ &\quad \times \frac{\text{Total wages for information workers employed by the industry}}{\text{Total wages for all workers employed by the industry}} \end{aligned}$$

These calculations are shown in Table 5.

Table 4. Total wages of information workers by 4-digit NAICS industries, 2002

Sl. No.	NAICS CODE	Industry Title	Total information wages adjusted for the discrepancy between aggregate and sum of disaggregates (Thousands of dollars)	Total non-information wages: Col 3 - Col 2 (Thousands of dollars)	Total wages: no. of workers (i) X annual average wage (i) where i indexes industry (Thousands of dollars)	Fraction allocated to SIS	SIS Wages (Thousands of dollars)
			1	2	3	4	5
1	113300	Logging	602950	1548536	2151486	1.00	602950
2	115100	Support Activities for Crop Production	1748824	3656479	5405303	1.00	1748824
3	115200	Support Activities for Animal Production	292562	352569	645131	1.00	292562
4	211100	Oil and Gas Extraction	5159857	1995091	7154948	1.00	5159857
5	212100	Coal Mining	478054	2595650	3073704	1.00	478054
6	212200	Metal Ore Mining	310225	935063	1245289	1.00	310225
7	212300	Nonmetallic Mineral Mining and Quarrying	1010669	2726074	3736742	1.00	1010669
8	213100	Support Activities for Mining	2339611	4171053	6510663	0.51	1199285
9	221100	Electric Power Generation, Transmission and Distribution	12914189	10589327	23503515	1.00	12914189
10	221200	Natural Gas Distribution	3164168	2678476	5842644	1.00	3164168
11	221300	Water, Sewage and Other Systems	881205	931886	1813091	1.00	881205
12	236100	Residential Building Construction	13029262	19098946	32128208	1.00	13029262
13	236200	Nonresidential Building Construction	13209498	20650994	33860493	0.16	2138618
14	237100	Utility System Construction	3531286	11156254	14687540	1.00	3531286
15	237200	Land Subdivision	3030566	913998	3944564	1.00	3030566
16	237300	Highway, Street, and Bridge Construction	3361760	11705779	15067540	1.00	3361760
17	237900	Other Heavy and Civil Engineering Construction	1591302	3203440	4794741	1.00	1591302
18	238100	Foundation, Structure, and Building Exterior Contractors	6384534	28688810	35073344	1.00	6384534
19	238200	Building Equipment Contractors	18214453	57550699	75765152	1.00	18214453
20	238300	Building Finishing Contractors	6396415	26158399	32554814	1.00	6396415
21	238900	Other Specialty Trade Contractors	4813550	17323905	22137455	1.00	4813550
22	311100	Animal Food Manufacturing	649803	1016837	1666640	1.00	649803
23	311200	Grain and Oilseed Milling	802876	1509463	2312339	1.00	802876
24	311300	Sugar and Confectionery Product Manufacturing	982635	1779076	2761711	1.00	982635
25	311400	Fruit and Vegetable Preserving and Specialty Food Manufacturing	1432873	3784208	5217081	1.00	1432873
26	311500	Dairy Product Manufacturing	1388118	3146816	4534933	1.00	1388118
27	311600	Animal Slaughtering and Processing	2119475	9954176	12073651	1.00	2119475
28	311700	Seafood Product Preparation and Packaging	282125	630074	912199	1.00	282125
29	311800	Bakeries and Tortilla Manufacturing	2363243	5945878	8309121	1.00	2363243
30	311900	Other Food Manufacturing	1720172	3085872	4806044	1.00	1720172
31	312100	Beverage Manufacturing	2688315	3468803	6157118	1.00	2688315
32	312200	Tobacco Manufacturing	318799	861276	1180075	1.00	318799
33	313100	Fiber, Yarn, and Thread Mills	282567	1329089	1611656	1.00	282567
34	313200	Fabric Mills	1087769	2883515	3971284	1.00	1087769
35	313300	Textile and Fabric Finishing and Fabric Coating Mills	980754	1393810	2374564	1.00	980754
36	314100	Textile Furnishings Mills	845380	2066946	2912326	1.00	845380

37	314900	Other Textile Product Mills	757898	1312256	2070154	1.00	757898
38	315100	Apparel Knitting Mills	310988	851269	1162257	1.00	310988
39	315200	Cut and Sew Apparel Manufacturing	2320696	3897851	6218548	1.00	2320696
40	315900	Apparel Accessories and Other Apparel Manufacturing	241315	383821	625136	1.00	241315
41	316100	Leather and Hide Tanning and Finishing	77771	187912	265683	1.00	77771
42	316200	Footwear Manufacturing	150156	355867	506023	1.00	150156
43	316900	Other Leather and Allied Product Manufacturing	213591	295932	509522	1.00	213591
44	321100	Sawmills and Wood Preservation	775521	2592296	3367818	1.00	775521
45	321200	Veneer, Plywood, and Engineered Wood Product Manufacturing	868725	2432053	3300778	1.00	868725
46	321900	Other Wood Product Manufacturing	2556930	6156997	8713927	1.00	2556930
47	322100	Pulp, Paper, and Paperboard Mills	1892098	5049906	6942003	1.00	1892098
48	322200	Converted Paper Product Manufacturing	4241179	8548367	12789546	0.86	3628752
49	323100	Printing and Related Support Activities	11282409	13188034	24470443	0.02	192929
50	324100	Petroleum and Coal Products Manufacturing	2728759	3213178	5941936	1.00	2728759
51	325100	Basic Chemical Manufacturing	4449041	4058170	8507211	1.00	4449041
52	325200	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	2388341	2798572	5186914	1.00	2388341
53	325300	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing	841129	1041863	1882993	1.00	841129
54	325400	Pharmaceutical and Medicine Manufacturing	11436725	3917156	15353881	1.00	11436725
55	325500	Paint, Coating, and Adhesive Manufacturing	1744556	1188126	2932682	1.00	1744556
56	325600	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	2352979	2099726	4452706	1.00	2352979
57	325900	Other Chemical Product and Preparation Manufacturing	2462411	2309588	4771999	0.91	2251629
58	326100	Plastics Product Manufacturing	7000223	13500127	20500350	1.00	7000223
59	326200	Rubber Product Manufacturing	1723562	4445393	6168954	1.00	1723562
60	327100	Clay Product and Refractory Manufacturing	722535	1469963	2192498	1.00	722535
61	327200	Glass and Glass Product Manufacturing	1148698	2926771	4075469	1.00	1148698
62	327300	Cement and Concrete Product Manufacturing	2206203	5326296	7532500	1.00	2206203
63	327400	Lime and Gypsum Product Manufacturing	167938	501319	669257	1.00	167938
64	327900	Other Nonmetallic Mineral Product Manufacturing	825172	1585856	2411028	1.00	825172
65	331100	Iron and Steel Mills and Ferroalloy Manufacturing	1120651	3339353	4460004	1.00	1120651
66	331200	Steel Product Manufacturing from Purchased Steel	683375	1493187	2176563	1.00	683375
67	331300	Alumina and Aluminum Production and Processing	715870	1973502	2689372	1.00	715870
68	331400	Nonferrous Metal (except Aluminum) Production and Processing	1033592	1945830	2979421	1.00	1033592
69	331500	Foundries	1469485	4520120	5989605	1.00	1469485
70	332100	Forging and Stamping	1347896	2585753	3933649	1.00	1347896
71	332200	Cutlery and Handtool Manufacturing	780070	1320938	2101008	1.00	780070
72	332300	Architectural and Structural Metals Manufacturing	4790269	8222989	13013257	1.00	4790269
73	332400	Boiler, Tank, and Shipping Container Manufacturing	1163133	2252853	3415986	1.00	1163133
74	332500	Hardware Manufacturing	473414	816523	1289937	1.00	473414
75	332600	Spring and Wire Product Manufacturing	803120	1420560	2223680	1.00	803120
76	332700	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	3680073	7452786	11132859	1.00	3680073
77	332800	Coating, Engraving, Heat Treating, and Allied Activities	1562591	3000949	4563540	1.00	1562591
78	332900	Other Fabricated Metal Product Manufacturing	4783425	6096892	10880317	1.00	4783425
79	333100	Agriculture, Construction, and Mining	3156318	4094228	7250546	1.00	3156318

		Machinery Manufacturing						
80	333200	Industrial Machinery Manufacturing	3412159	2216497	5628655	0.39	1336201	
81	333300	Commercial and Service Industry Machinery Manufacturing	3535001	1829607	5364608	0.57	2012829	
82	333400	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	1972625	3350719	5323344	1.00	1972625	
83	333500	Metalworking Machinery Manufacturing	3262672	5274779	8537451	1.00	3262672	
84	333600	Engine, Turbine, and Power Transmission Equipment Manufacturing	1735391	2323841	4059233	1.00	1735391	
85	333900	Other General Purpose Machinery Manufacturing	5853389	5121573	10974963	0.74	4314533	
86	334100	Computer and Peripheral Equipment Manufacturing	12095190	2135853	14231043	0.23	2769798	
87	334200	Communications Equipment Manufacturing	6305243	1767306	8072549	0.00	0	
88	334300	Audio and Video Equipment Manufacturing	996971	599398	1596369	0.00	0	
89	334400	Semiconductor and Other Electronic Component Manufacturing	15898345	7018426	22916771	0.00	0	
90	334500	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	18285612	4668713	22954325	0.00	0	
91	334600	Manufacturing and Reproducing Magnetic and Optical Media	1666547	664360	2330906	0.00	0	
92	335100	Electric Lighting Equipment Manufacturing	1019875	1325772	2345648	1.00	1019875	
93	335200	Household Appliance Manufacturing	1039800	2091587	3131386	1.00	1039800	
94	335300	Electrical Equipment Manufacturing	2941431	3219432	6160862	0.90	2637875	
95	335900	Other Electrical Equipment and Component Manufacturing	2344616	2878337	5222953	0.82	1915083	
96	336100	Motor Vehicle Manufacturing	2999917	11299407	14299324	1.00	2999917	
97	336200	Motor Vehicle Body and Trailer Manufacturing	1581036	3548796	5129832	1.00	1581036	
98	336300	Motor Vehicle Parts Manufacturing	8574244	20972459	29546703	1.00	8574244	
99	336400	Aerospace Product and Parts Manufacturing	16339182	7578581	23917763	1.00	16339182	
100	336500	Railroad Rolling Stock Manufacturing	311896	552529	864425	1.00	311896	
101	336600	Ship and Boat Building	1672623	3459854	5132478	1.00	1672623	
102	336900	Other Transportation Equipment Manufacturing	664627	821339	1485966	1.00	664627	
104	337100	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	3002896	8022156	11025053	0.93	2804405	
105	337200	Office Furniture (including Fixtures) Manufacturing	1751270	2951952	4703222	0.32	556553	
106	337900	Other Furniture Related Product Manufacturing	560739	976981	1537719	1.00	560739	
107	339100	Medical Equipment and Supplies Manufacturing	5744407	5546935	11291341	0.94	5381360	
108	339900	Other Miscellaneous Manufacturing	5651879	6394371	12046250	0.78	4404509	
109	423100	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	8044037	3937238	11981275	0.80	6440056	
110	423200	Furniture and Home Furnishing Merchant Wholesalers	3175650	934252	4109902	0.80	2542426	
111	423300	Lumber and Other Construction Materials Merchant Wholesalers	5277565	3102086	8379651	0.80	4225218	
112	423400	Professional and Commercial Equipment and Supplies Merchant Wholesalers	28809959	4529227	33339186	0.80	23065253	
113	423500	Metal and Mineral (except Petroleum) Merchant Wholesalers	3213118	1728579	4941697	0.80	2572422	
114	423600	Electrical and Electronic Goods Merchant Wholesalers	14380194	2376217	16756411	0.80	11512783	
115	423700	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	7259850	1915425	9175274	0.80	5812236	
116	423800	Machinery, Equipment, and Supplies Merchant Wholesalers	19903149	7167321	27070469	0.80	15934461	
117	423900	Miscellaneous Durable Goods Merchant Wholesalers	6069704	3083284	9152987	0.80	4859405	
118	424100	Paper and Paper Product Merchant Wholesalers	5267844	1183574	6451418	0.80	4217436	

119	424200	Drugs and Druggists Sundries Merchant Wholesalers	8324895	1217898	9542794	0.80	6664911
120	424300	Apparel, Piece Goods, and Notions Merchant Wholesalers	5122707	1061808	6184515	0.80	4101239
121	424400	Grocery and Related Product Wholesalers	13093169	10230129	23323298	0.80	10482391
122	424500	Farm Product Raw Material Merchant Wholesalers	1219416	952491	2171907	0.80	976264
123	424600	Chemical and Allied Products Merchant Wholesalers	4549814	1472761	6022575	0.80	3642581
124	424700	Petroleum and Petroleum Products Merchant Wholesalers	2300034	1531048	3831082	0.80	1841407
125	424800	Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	3626119	1652354	5278473	0.80	2903071
126	424900	Miscellaneous Nondurable Goods Merchant Wholesalers	8822930	3095239	11918170	0.80	7063638
127	425100	Wholesale Electronic Markets and Agents and Brokers	25611592	4669647	30281239	0.80	20504641
128	441100	Automobile Dealers	34595954	16297996	50893951	0.90	31160576
129	441200	Other Motor Vehicle Dealers	3101974	1549595	4651569	0.90	2793948
130	441300	Automotive Parts, Accessories, and Tire Stores	8135047	5066155	13201202	0.90	7327237
131	442100	Furniture Stores	6970957	1722392	8693350	0.90	6278741
132	442200	Home Furnishings Stores	6133261	1513878	7647139	0.90	5524228
133	443100	Electronics and Appliance Stores	14504502	3022868	17527370	0.90	13064205
134	444100	Building Material and Supplies Dealers	22843298	5796750	28640048	0.90	20574958
135	444200	Lawn and Garden Equipment and Supplies Stores	2528028	1279803	3807830	0.90	2276994
136	445100	Grocery Stores	36565781	16371579	52937360	0.90	32934799
137	445200	Specialty Food Stores	3551075	2911369	6462444	0.90	3198453
138	445300	Beer, Wine, and Liquor Stores	2966362	587958	3554321	0.90	2671802
139	446100	Health and Personal Care Stores	19670005	7200469	26870473	0.90	17716773
140	447100	Gasoline Stations	12749629	4037145	16786774	0.90	11483591
141	448100	Clothing Stores	19377139	1171240	20548379	0.90	17452989
142	448200	Shoe Stores	3826243	56693	3882936	0.90	3446297
143	448300	Jewelry, Luggage, and Leather Goods Stores	4177336	559592	4736928	0.90	3762526
144	451100	Sporting Goods, Hobby, and Musical Instrument Stores	8763498	995611	9759109	0.90	7893283
145	451200	Book, Periodical, and Music Stores	4425096	332748	4757844	0.90	3985684
146	452100	Department Stores	30936766	4024895	34961661	0.90	27864745
147	452900	Other General Merchandise Stores	18950429	3744514	22694942	0.90	17068651
148	453100	Florists	1954733	409612	2364344	0.90	1760628
149	453200	Office Supplies, Stationery, and Gift Stores	9489546	1142553	10632099	0.90	8547234
150	453300	Used Merchandise Stores	1864734	380624	2245358	0.90	1679566
151	453900	Other Miscellaneous Store Retailers	6506118	1450507	7956626	0.90	5860061
152	454100	Electronic Shopping and Mail-Order Houses	6177068	762055	6939123	0.90	5563685
153	454200	Vending Machine Operators	518761	1013752	1532513	0.90	467248
154	454300	Direct Selling Establishments	2613559	2345950	4959509	0.90	2354032
155	481100	Scheduled Air Transportation	8409022	18816226	27225248	1.00	8409022
156	481200	Nonscheduled Air Transportation	613211	1350589	1963800	1.00	613211
157	482100	Rail Transportation	2409673	7750671	10160343	1.00	2409673
158	483100	Deep Sea, Coastal, and Great Lakes Water Transportation	790894	672407	1463300	1.00	790894
159	483200	Inland Water Transportation	211193	624591	835784	1.00	211193
160	484100	General Freight Trucking	7501164	26944749	34445912	1.00	7501164
161	484200	Specialized Freight Trucking	3321435	9778036	13099471	1.00	3321435
162	485100	Urban Transit Systems	202733	982136	1184869	1.00	202733
163	485200	Interurban and Rural Bus Transportation	121455	526103	647558	1.00	121455
164	485300	Taxi and Limousine Service	608098	1090361	1698458	1.00	608098

165	485400	School and Employee Bus Transportation	423396	3900972	4324368	1.00	423396
166	485500	Charter Bus Industry	188039	683363	871402	1.00	188039
167	485900	Other Transit and Ground Passenger Transportation	391063	939412	1330475	1.00	391063
168	486100	Pipeline Transportation of Crude Oil	136250	253176	389426	1.00	136250
169	486200	Pipeline Transportation of Natural Gas	824573	741882	1566455	1.00	824573
170	486900	Other Pipeline Transportation	87466	182375	269841	1.00	87466
171	487100	Scenic and Sightseeing Transportation, Land	73419	161669	235089	1.00	73419
172	487200	Scenic and Sightseeing Transportation, Water	121940	250815	372756	1.00	121940
173	487900	Scenic and Sightseeing Transportation, Other	31481	51261	82742	1.00	31481
174	488100	Support Activities for Air Transportation	1540185	2961842	4502027	1.00	1540185
175	488200	Support Activities for Rail Transportation	143303	467816	611120	1.00	143303
176	488300	Support Activities for Water Transportation	720513	3407424	4127937	1.00	720513
177	488400	Support Activities for Road Transportation	656610	1431942	2088551	1.00	656610
178	488500	Freight Transportation Arrangement	4990382	1574188	6564570	1.00	4990382
179	488900	Other Support Activities for Transportation	265637	573077	838713	1.00	265637
180	492100	Couriers	5405479	13238435	18643914	0.00	0
181	492200	Local Messengers and Local Delivery	782165	621270	1403435	0.00	0
182	493100	Warehousing and Storage	7178870	8413231	15592101	1.00	7178870
183	511100	Newspaper, Periodical, Book, and Directory Publishers	23223197	4553913	27777110	0.03	692051
184	511200	Software Publishers	16919217	133255	17052472	0.00	0
185	512100	Motion Picture and Video Industries	13004729	2376859	15381588	0.00	0
186	512200	Sound Recording Industries	1123536	119527	1243063	0.00	0
187	515100	Radio and Television Broadcasting	10431483	149115	10580598	0.00	0
188	515200	Cable and Other Subscription Programming	2933903	1000029	3933932	0.00	0
189	516100	Internet Publishing and Broadcasting	1991584	13907	2005491	0.00	0
190	517100	Wired Telecommunications Carriers	22040591	9158824	31199414	0.00	0
191	517200	Wireless Telecommunications Carriers (except Satellite)	7924892	750007	8674899	0.00	0
192	517300	Telecommunications Resellers	6086494	2168403	8254897	0.00	0
193	517400	Satellite Telecommunications	40374	67119	107492	0.00	0
194	517500	Cable and Other Program Distribution	3052853	1738405	4791258	0.00	0
195	517900	Other Telecommunications	299324	87926	387250	0.00	0
196	518100	Internet Service Providers and Web Search Portals	7456497	153283	7609780	0.00	0
197	518200	Data Processing, Hosting, and Related Services	14157501	354027	14511528	0.00	0
198	519100	Other Information Services	1511886	80311	1592198	0.00	0
199	521100	Monetary Authorities - Central Bank	1022413	51747	1074160	0.00	0
200	522100	Depository Credit Intermediation	62728409	180769	62909178	0.00	0
201	522200	Nondepository Credit Intermediation	31152526	156930	31309456	0.00	0
202	522300	Activities Related to Credit Intermediation	10734501	83184	10817685	0.00	0
203	523100	Securities and Commodity Contracts Intermediation and Brokerage	35357132	65285	35422418	0.24	8418533
204	523200	Securities and Commodity Exchanges	641510	10279	651790	0.24	152744
205	523900	Other Financial Investment Activities	17751835	126261	17878097	0.24	4226712
207	524100	Insurance Carriers	59953561	875765	60829326	0.00	0
208	524200	Agencies, Brokerages, and Other Insurance Related Activities	36364600	220110	36584710	0.00	0
209	525100	Insurance and Employee Benefit Funds	2389599	30384	2419983	0.00	0
210	525900	Other Investment Pools and Funds	2015843	60367	2076210	0.00	0
211	531100	Lessors of Real Estate	10058013	7485738	17543751	0.63	6312409
212	531200	Offices of Real Estate Agents and Brokers	10882561	1087319	11969880	0.63	6829895
213	531300	Activities Related to Real Estate	11942574	3880280	15822853	0.63	7495159
214	532100	Automotive Equipment Rental and Leasing	3234417	2209711	5444128	0.00	0
215	532200	Consumer Goods Rental	5383675	1080193	6463868	0.00	0

216	532300	General Rental Centers	1290480	720091	2010572	0.00	0
217	532400	Commercial and Industrial Machinery and Equipment Rental and Leasing	2274189	1635694	3909883	0.00	0
218	533100	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	1308524	71241	1379765	0.63	821230
219	541100	Legal Services	67327365	332957	67660321	0.00	0
220	541200	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	35935201	1171807	37107008	0.00	0
221	541300	Architectural, Engineering, and Related Services	62819570	4480155	67299725	0.00	0
222	541400	Specialized Design Services	5305171	547385	5852556	0.00	0
223	541500	Computer Systems Design and Related Services	72202536	1448726	73651262	0.00	0
224	541600	Management, Scientific, and Technical Consulting Services	40149373	2110344	42259718	0.00	0
225	541700	Scientific Research and Development Services	31079187	1876373	32955560	0.00	0
226	541800	Advertising and Related Services	19769073	1354115	21123188	0.00	0
227	541900	Other Professional, Scientific, and Technical Services	12767846	3552402	16320248	0.27	3480515
228	551100	Management of Companies and Enterprises	81742238	6355670	88097908	0.00	0
229	561100	Office Administrative Services	11915550	1572667	13488218	0.00	0
230	561200	Facilities Support Services	2205808	1282856	3488665	1.00	2205808
231	561300	Employment Services	47262334	37198313	84460646	0.00	0
232	561400	Business Support Services	19976521	1372284	21348805	0.00	0
233	561500	Travel Arrangement and Reservation Services	7302384	709920	8012305	0.00	0
234	561600	Investigation and Security Services	8934110	7634948	16569058	0.00	0
235	561700	Services to Buildings and Dwellings	13667980	23164164	36832144	1.00	13667980
236	561900	Other Support Services	6147881	2892407	9040289	0.00	0
237	562100	Waste Collection	810001	2554071	3364072	1.00	810001
238	562200	Waste Treatment and Disposal	1916501	2608539	4525040	1.00	1916501
239	562900	Remediation and Other Waste Management Services	1426907	2233741	3660648	1.00	1426907
240	611100	Elementary and Secondary Schools	264813740	33634570	298448310	0.00	0
241	611200	Junior Colleges	28083964	1399994	29483958	0.00	0
242	611300	Colleges, Universities, and Professional Schools	101855866	10073286	111929152	0.00	0
243	611400	Business Schools and Computer and Management Training	3846485	86857	3933342	0.00	0
244	611500	Technical and Trade Schools	4373391	466925	4840317	0.00	0
245	611600	Other Schools and Instruction	6472929	725818	7198747	0.00	0
246	611700	Educational Support Services	2282004	126554	2408558	0.00	0
247	621100	Offices of Physicians	66346552	41041247	107387799	0.49	32781831
248	621200	Offices of Dentists	20544269	14051978	34596248	0.49	10150924
249	621300	Offices of Other Health Practitioners	13335313	6589976	19925289	0.49	6588978
250	621400	Outpatient Care Centers	12035828	4850622	16886450	0.49	5946903
251	621500	Medical and Diagnostic Laboratories	4969324	2068295	7037619	0.49	2455343
252	621600	Home Health Care Services	11203506	9073679	20277185	1.00	11203506
253	621900	Other Ambulatory Health Care Services	3752325	2095457	5847782	0.49	1854024
254	622100	General Medical and Surgical Hospitals	110645556	75936120	186581676	0.90	99968260
255	622200	Psychiatric and Substance Abuse Hospitals	5974307	3337408	9311715	0.90	5397786
256	622300	Specialty (except Psychiatric and Substance Abuse) Hospitals	4404185	2652007	7056192	0.90	3979181
257	623100	Nursing Care Facilities	19950142	20597643	40547786	0.90	18024953
258	623200	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	7279576	4662526	11942102	0.90	6577097
259	623300	Community Care Facilities for the Elderly	5700568	6654726	12355294	0.90	5150463
260	623900	Other Residential Care Facilities	2849237	1609824	4459061	0.90	2574286
261	624100	Individual and Family Services	15157022	5367672	20524694	1.00	15157022
262	624200	Community Food and Housing, and Emergency and Other Relief Services	2898426	646203	3544629	1.00	2898426

263	624300	Vocational Rehabilitation Services	5336676	2282158	7618834	1.00	5336676
264	624400	Child Day Care Services	10468766	4080955	14549722	1.00	10468766
265	711100	Performing Arts Companies	4262672	618848	4881520	0.00	0
266	711200	Spectator Sports	2859250	1473869	4333119	0.00	0
267	711300	Promoters of Performing Arts, Sports, and Similar Events	1330888	821692	2152580	0.00	0
268	711400	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	825818	17683	843502	0.00	0
269	711500	Independent Artists, Writers, and Performers	1625296	234899	1860195	0.00	0
270	712100	Museums, Historical Sites, and Similar Institutions	2447058	871278	3318336	0.00	0
271	713100	Amusement Parks and Arcades	1314846	1752273	3067119	1.00	1314846
272	713200	Gambling Industries	1265023	1845908	3110931	1.00	1265023
273	713900	Other Amusement and Recreation Industries	8387429	14708699	23096128	1.00	8387429
274	721100	Traveler Accommodation	15111332	21808380	36919711	1.00	15111332
275	721200	RV (Recreational Vehicle) Parks and Recreational Camps	467026	441182	908208	1.00	467026
276	721300	Rooming and Boarding Houses	89708	164434	254142	1.00	89708
277	722100	Full-Service Restaurants	9145961	63258616	72404577	1.00	9145961
278	722200	Limited-Service Eating Places	10714539	49204202	59918741	1.00	10714539
279	722300	Special Food Services	2495635	8853001	11348636	1.00	2495635
280	722400	Drinking Places (Alcoholic Beverages)	1168366	5702387	6870753	1.00	1168366
281	811100	Automotive Repair and Maintenance	5836577	19659506	25496083	1.00	5836577
282	811200	Electronic and Precision Equipment Repair and Maintenance	1990675	1810622	3801297	0.88	1744030
283	811300	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	1861577	3509534	5371110	1.00	1861577
284	811400	Personal and Household Goods Repair and Maintenance	766441	1668670	2435111	1.00	766441
285	812100	Personal Care Services	2576445	9447969	12024414	1.00	2576445
286	812200	Death Care Services	2845712	1546284	4391997	1.00	2845712
287	812300	Dry cleaning and Laundry Services	2724332	5060544	7784876	1.00	2724332
288	812900	Other Personal Services	1947159	3259074	5206233	1.00	1947159
289	813100	Religious Organizations	4091560	688061	4779620	0.00	0
290	813200	Grantmaking and Giving Services	4808887	312123	5121010	0.00	0
291	813300	Social Advocacy Organizations	4169835	716135	4885970	0.00	0
292	813400	Civic and Social Organizations	4935126	4375219	9310346	0.00	0
293	813900	Business, Professional, Labor, Political, and Similar Organizations	15881719	1504019	17385737	0.00	0
294	999100	Federal Executive Branch and United States Postal Service (OES designation)	109068827	21400501	130469328	0.85	92370390
295	999200	State Government (OES designation)	71590032	18368596	89958628	0.85	60629598
296	999300	Local Government (OES designation)	118018748	75644291	193663039	0.85	99950077
		<b>Total</b>	<b>3003750958</b>	<b>1530499950</b>	<b>4534250908</b>		<b>1336024402</b>

Table 5. Employee compensation of information workers by 3-digit industries, 2002

(Values in millions of dollars)

Sl. No.	Code	Industry Title	Compensation of employees	Total wage bill calculated from the BLS' OES dataset	SIS wage bill	Compensation of employees for SIS = col. 1 × (col. 3 ÷ col. 2)
			1	2	3	4
1	111,112	Farms	20798			1435
2	113-115	Forestry, fishing, and related activities	11088	8202	2644	3575
3	211	Oil and gas extraction	13490	7155	5160	9728
4	212	Mining, except oil and gas	12277	8056	1799	2742
5	213	Support activities for mining	10151	6511	1199	1870
6	22	Utilities	54309	31159	16960	29560
7	23	Construction	327835	270014	62492	75874
8	321	Wood products	21465	15383	4201	5862
9	327	Nonmetallic mineral products	25877	16881	5071	7773
10	331	Primary metals	28753	18295	5023	7894
11	332	Fabricated metal products	74579	52554	19384	27508
12	333	Machinery	70872	47139	17791	26748
13	334	Computer and electronic products	120967	72102	2770	4647
14	335	Electrical equipment, appliances, and components	27004	16861	6613	10591
15	3361-3363	Motor vehicles, bodies and trailers, and parts	76701	48976	13155	20602
16	3364-3366,3369	Other transportation equipment	49848	31401	18988	30144
17	337	Furniture and related products	22506	17266	3922	5112
18	339	Miscellaneous manufacturing	37526	23338	9786	15735
19	311,312	Food and beverage and tobacco products	76497	49931	14748	22595
20	313, 314	Textile mills and textile product mills	17570	12940	3954	5369
21	315, 316	Apparel and leather and allied products	12816	9287	3315	4574
22	322	Paper products	32166	19732	5521	9000
23	323	Printing and related support activities	32724	24470	193	258
24	324	Petroleum and coal products	14358	5942	2729	6594
25	325	Chemical products	76341	43088	25464	45116
26	326	Plastics and rubber products	38953	26669	8724	12742
27	42	Wholesale trade	330051	229912	139362	200061
28	44,45	Retail trade	428074	379645	264713	298481
29	481	Air transportation	39165	29189	9022	12106
30	482	Rail transportation	16184	10160	2410	3838
31	483	Water transportation	3686	2299	1002	1607
32	484	Truck transportation	60871	47545	10823	13856
33	485	Transit and ground passenger transportation	11152	10057	1935	2145
34	486	Pipeline transportation	3778	2226	1048	1779
35	487, 488, 492	Other transportation and support activities	48655	39471	8543	10531
36	493	Warehousing and storage	20533	15592	7179	9454
37	511	Publishing industries (includes software)	68680	44830	692	1060
38	512	Motion picture and sound recording industries	21623	16625	0	0
39	513	Broadcasting and telecommunications	101345	69935	0	0
40	514	Information and data processing services	32688	23714	0	0
41	521, 522	Federal Reserve banks, credit intermediation, and related activities	164257	106110	0	0
42	523	Securities, commodity contracts, and investments	125962	53952	12798	29879

43	524	Insurance carriers and related activities	146929	97414	0	0
44	525	Funds, trusts, and other financial vehicles	10168	4496	0	0
45	531	Real estate	61105	45336	20637	27815
46	532, 533	Rental and leasing services and lessors of intangible assets	25070	19208	821	1072
47	5411	Legal services	85377	67660	0	0
48	5415	Computer systems design and related services	99365	73651	0	0
49	5412- 5414,5416- 5419	Miscellaneous professional, scientific, and technical services	284652	201795	3481	4910
50	55	Management of companies and enterprises	152097	88098	0	0
51	561	Administrative and support services	211670	193240	15874	17388
52	562	Waste management and remediation services	15813	11550	4153	5687
53	61	Educational services	88841	458242	0	0
54	621	Ambulatory health care services	251722	211958	70982	84298
55	622, 623	Hospitals and nursing and residential care facilities	264282	272254	141672	137524
56	624	Social assistance	48155	46238	33861	35265
57	711,712	Performing arts, spectator sports, museums, and related activities	29611	17389	0	0
58	713	Amusements, gambling, and recreation industries	31768	29274	10967	11902
59	721	Accommodation	49836	38082	15668	20504
60	722	Food services and drinking places	138358	150543	23525	21620
61	81	Other services, except government	186970	107994	20302	35149
62		Federal government	329031	130469	92370	232949
63		State and local government	821392	283622	160580	465052
		<b>Total</b>	<b>6116389</b>	<b>4513128</b>	<b>1336024</b>	<b>2079579</b>

*Labor income of proprietors and unpaid family workers for performing informational tasks*

The BEA's Annual Industry Accounts provide data on various components of value added by 3-digit NAICS industries. One of the components, 'other gross operating surplus, noncorporate' primarily consists of proprietors' income. However, it also includes 'consumption of fixed capital' (depreciation) owned by noncorporate firms which cannot be separated due to a lack of data. Nevertheless, we have data on depreciation of nonresidential fixed assets owned by both corporate and noncorporate firms. Therefore, we subtract consumption of fixed capital from the total gross operating surplus to obtain net operating surplus by 3-digit NAICS industries. What fraction of this net operating surplus is due to informational activities performed by the proprietors? We apply the SIS shares in total proprietors' income by industries, as reported in Table 9.2 of Porat (1977), vol. 1, to the 2002 net operating surplus to obtain the proprietors' income accrued to the proprietors for informational activities. Furthermore, we make an additional adjustment for those 3-digit NAICS industries that partially or entirely belong to the PRIS. Although the numbers calculated include a part of corporate profits, we would argue that the extent of overestimation of SIS value added is negligible. First, for most industries the information share of proprietors' income as estimated by Porat (1977) is very small. Second, it is conceivable that informational activities of the proprietors have gone up over the years since 1967. The calculations of the proprietors' income due to informational activities are shown in Table 6.

Table 6. Net operating surplus accrued to SIS by 3-digit industries, 2002

Sl. No.	Code	Industry Title	Gross operating surplus (Millions of dollars)	Depreciation of nonresidential fixed assets (Millions of dollars)	Net operating surplus (Millions of dollars) – col.(1) – col.(2) (millions of dollars)	Information share of net operating surplus *	Fraction allocated to SIS	SIS net operating surplus (Millions of dollars) col.(3) × col. (4) × col. (5) (Millions of dollars)
			1	2	3	4	5	6
1	111,112	Farms	57491	20568	36923	0.001	1.00	37
2	113-115	Forestry, fishing, and related activities	10180	2082	8098	0.001	1.00	8
3	211	Oil and gas extraction	41794	5302	36492	0.032	1.00	1168
4	212	Mining, except oil and gas	12274	5562	6712	0.032	1.00	215
5	213	Support activities for mining	4357	4425	-68	0.032	0.51	-1
6	22	Utilities	88197	28701	59496	0.007	1.00	416
7	23	Construction	160821	24288	136533	0.286	0.83	32477
8	321	Wood products	5198	7953	-2755	0.037	1.00	-102
9	327	Nonmetallic mineral products	14547	1409	13138	0.037	1.00	486
10	331	Primary metals	10554	3538	7016	0.037	1.00	260
11	332	Fabricated metal products	28362	11454	16908	0.037	1.00	626
12	333	Machinery	22405	2852	19553	0.037	0.84	604
13	334	Computer and electronic products	6911	1048	5863	0.037	0.04	8
14	335	Electrical equipment, appliances, and components	14651	8453	6198	0.037	0.90	207
15	3361-3363	Motor vehicles, bodies and trailers, and parts	42535	3958	38577	0.037	1.00	1427
16	3364-3366, 3369	Other transportation equipment	15988	5728	10260	0.037	1.00	380
17	337	Furniture and related products	8444	18540	-10096	0.037	0.73	-274
18	339	Miscellaneous manufacturing	22995	6851	16144	0.037	0.87	517
19	311,312	Food and beverage and tobacco products	81331	2428	78903	0.025	1.00	1973
20	313, 314	Textile mills and textile product mills	5811	4074	1737	0.025	1.00	43
21	315, 316	Apparel and leather and allied products	5150	6250	-1100	0.025	1.00	-28
22	322	Paper products	19662	13879	5783	0.025	0.93	134
23	323	Printing and related support activities	3940	27672	-23732	0.025	0.02	-10
24	324	Petroleum and coal products	28771	3520	25251	0.025	1.00	631
25	325	Chemical products	88449	12117	76332	0.025	0.99	1897
26	326	Plastics and rubber products	22472	7419	15053	0.025	1.00	376
27	42	Wholesale trade	144789	42041	102748	0.407	0.80	33480
28	44,45	Retail trade	162884	24588	138296	0.407	0.90	50697
29	481	Air transportation	-1668	19580	-21248	0.236	1.00	-5015
30	482	Rail transportation	6153	2535	3618	0.236	1.00	854
31	483	Water transportation	3253	3452	-199	0.236	1.00	-47
32	484	Truck transportation	34126	9337	24789	0.236	1.00	5850
33	485	Transit and ground passenger transportation	7268	2197	5071	0.236	1.00	1197
34	486	Pipeline transportation	5307	2069	3238	0.236	1.00	764
35	487, 488, 492	Other transportation and support activities	21418	8065	13353	0.236	0.48	1525
36	493	Warehousing and storage	5407	1051	4356	0.236	1.00	1028
37	511	Publishing industries (includes software)	51318	6269	45049	0.352	0.02	240
38	512	Motion picture and sound recording industries	27743	1098	26645	0.352	0.00	0
39	513	Broadcasting and telecommunications	133094	60909	72185	0.352	0.00	0
40	514	Information and data processing services	24705	4484	20221	0.352	0.00	0

41	521, 522	Federal Reserve banks, credit intermediation, and related activities	261945	51025	210920	0.029	0.00	0
42	523	Securities, commodity contracts, and investments	24810	7911	16899	0.029	0.24	117
43	524	Insurance carriers and related activities	85798	14125	71673	0.029	0.00	0
44	525	Funds, trusts, and other financial vehicles	13017	1423	11594	0.029	0.00	0
45	531	Real estate	1008581	192347	816234	0.029	0.63	14856
46	532, 533	Rental and leasing services and lessors of intangible assets	112124	43021	69103	0.029	0.54	1092
47	5411	Legal services	56711	2162	54549	0.352	0.00	0
48	5415	Computer systems design and related services	8208	29907	-21699	0.352	0.00	0
49	5412-5414,5416-5419	Miscellaneous professional, scientific, and technical services	164767	13101	151666	0.352	0.03	1653
50	55	Management of companies and enterprises	20228	14744	5484	0.352	0.00	0
51	561	Administrative and support services	54325	13007	41318	0.352	0.21	3073
52	562	Waste management and remediation services	12770	2204	10566	0.352	1.00	3719
53	61	Educational services	5657	5673	-16	0.352	0.00	0
54	621	Ambulatory health care services	77865	15951	61914	0.352	0.53	11515
55	622, 623	Hospitals and nursing and residential care facilities	21941	24729	-2788	0.352	0.90	-887
56	624	Social assistance	10744	1022	9722	0.352	1.00	3422
57	711,712	Performing arts, spectator sports, museums, and related activities	21880	1502	20378	0.352	0.00	0
58	713	Amusements, gambling, and recreation industries	9259	3724	5535	0.352	1.00	1948
59	721	Accommodation	30065	3102	26963	0.352	1.00	9491
60	722	Food services and drinking places	52678	12035	40643	0.352	1.00	14306
61	81	Other services, except government	84781		84781	0.352	0.72	21619
62		Federal	89357	88875	482		0.85	
63		State and local	127934	122742	5192		0.85	
		<b>Total</b>						<b>219975</b>

*Capital consumption allowances on information machines*

The data on depreciation (consumption of fixed capital) of information capital assets are obtained from the Fixed Assets Accounts of the BEA. This dataset provides current-cost depreciation on 47 distinct types of nonresidential fixed assets (of which, 32 are equipments and 15 are structures) for 63 industries from 1947–2007. These 63 industries roughly match 3-digit level NAICS industries. We classify 8 of them as information capital assets. They are computer and peripheral equipment, software, communications equipment, photocopy and related equipment, office buildings, communication, religious, and educational structures. Note that some of the information capital assets in this list either did not exist or were not considered as capital assets before. Therefore, this list of information capital assets is slightly different from Porat's. We further obtain data on current-cost depreciation of government fixed assets. For the federal government, we include depreciation on 5 different types of information fixed assets: defense electronics and software, non-defense equipment and software, office, educational, and amusement and recreation structures. For the state and local governments, we include equipment and software, office, educational, and amusement and recreation structure. The capital consumption allowances by types of assets and their total for all 63 industries and the governments are shown in Table 7. As one can see, we make an adjustment for those 3-digit industries that partially or entirely belong to the PRIS.

Table 7. Current-cost depreciation of information capital assets by 3-digit industries, 2002

(Values in millions of dollars, except in col. 10)

Sl. No.	Code	Industry Title	Computers and peripheral equipment	Software	Communi-cations	Photo-copy & related equip	Office & acctng equip	Office Buildgs.	Religi-Ous	Educa-tional	Total deprecia-Tion	Fraction allocated to SIS	SIS depreci-ation of information capital
			1	2	3	4	5	6	7	8	9	10	11
1	111,112	Farms	129	293	46	9	4	0	0	0	481	1.00	481
2	113,114,115	Forestry, fishing, and related activities	23	15	35	1	4	61	0	0	139	1.00	139
3	211	Oil and gas extraction	137	694	76	59	3	219	0	0	1,188	1.00	1188
4	212	Mining, except oil and gas	92	534	30	13	0	39	0	0	708	1.00	708
5	213	Support activities for mining	78	531	37	19	3	55	0	0	723	0.51	371
6	22	Utilities	837	5,479	669	102	96	535	0	0	7,718	1.00	7718
7	23	Construction	780	4,512	1,053	170	51	364	0	0	6,930	0.83	5764
8	321	Wood products	55	205	20	8	2	23	0	0	313	1.00	313
9	327	Nonmetallic mineral products	127	630	59	17	4	36	0	0	873	1.00	873
10	331	Primary metals	124	820	58	25	3	91	0	0	1,121	1.00	1121
11	332	Fabricated metal products	319	1,421	82	37	9	80	0	0	1,948	1.00	1948
12	333	Machinery	817	5,699	246	110	15	137	0	0	7,024	0.84	5868
13	334	Computer and electronic products	1,357	10,514	445	195	25	227	0	0	12,763	0.04	496
14	335	Electrical equipment, appliances, and components	139	696	62	21	4	127	0	0	1,049	0.90	945
15	3361-3	Motor vehicles, bodies and trailers, and parts	343	2,671	81	45	6	40	0	0	3,186	1.00	3186
16	3364-9	Other transportation equipment	369	3,213	227	66	4	31	0	0	3,910	1.00	3910
17	337	Furniture and related products	63	191	15	7	2	17	0	0	295	0.73	216
18	339	Miscellaneous manufacturing	177	819	54	56	10	30	0	0	1,146	0.87	992
19	311,312	Food and beverage and tobacco products	375	1,644	179	74	26	127	0	0	2,425	1.00	2425
20	313,314	Textile mills and textile product mills	40	227	22	11	2	51	0	0	353	1.00	353
21	315,316	Apparel and leather and allied products	42	143	11	8	1	54	0	0	259	1.00	259
22	322	Paper products	155	846	58	44	5	19	0	0	1,127	0.93	1048
23	323	Printing and related support activities	233	578	53	79	27	15	0	0	985	0.02	17
24	324	Petroleum and coal products	147	857	43	27	2	87	0	0	1,163	1.00	1163
25	325	Chemical products	961	5,054	200	244	16	234	0	0	6,709	0.99	6670
26	326	Plastics and rubber products	96	533	27	15	4	18	0	0	693	1.00	693
27	42	Wholesale trade	4,667	5,170	2,885	836	267	697	0	0	14,522	0.80	11626
28	44-45	Retail trade	2,603	2,945	1,674	532	570	417	0	0	8,741	0.90	7873
29	481	Air transportation	800	2,976	6,420	83	15	105	0	0	10,399	1.00	10399
30	482	Rail transportation	115	311	172	13	2	12	0	0	625	1.00	625
31	483	Water transportation	53	183	1,141	3	1	0	0	0	1,381	1.00	1381
32	484	Truck transportation	224	326	471	30	13	21	0	0	1,085	1.00	1085
33	485	Transit and ground passenger transportation	130	284	313	10	5	24	0	0	766	1.00	766
34	486	Pipeline transportation	93	461	968	8	1	241	0	0	1,772	1.00	1772

35	487,488,492	Other transportation and support activities	408	1,665	351	33	16	52	0	0	2,525	0.48	1222
36	493	Warehousing and storage	79	153	64	13	11	12	0	0	332	1.00	332
37	511	Publishing industries (includes software)	480	3,247	444	128	24	130	0	0	4,453	0.02	67
38	512	Motion picture and sound recording industries	54	173	195	150	7	93	0	0	672	0.00	0
39	513	Broadcasting and telecommunications	5,026	12,642	34,460	348	90	1,279	0	0	53,845	0.00	0
40	514	Information and data processing services	336	2,863	656	44	7	96	0	0	4,002	0.00	0
41	521,522	Federal Reserve banks, credit intermediation, and related activities	9,585	8,658	1,221	564	2,270	3,750	0	0	26,048	0.00	0
42	523	Securities, commodity contracts, and investments	2,138	2,964	400	117	47	792	0	0	6,458	0.24	1538
43	524	Insurance carriers and related activities	1,693	6,044	398	345	74	1,526	0	0	10,080	0.00	0
44	525	Funds, trusts, and other financial vehicles	171	441	13	6	1	1,200	0	0	1,832	0.00	0
45	531	Real estate	806	1,547	719	77	60	4,778	0	0	7,987	0.63	5013
46	532,533	Rental and leasing services and lessors of intangible assets	8,957	979	1,660	229	136	119	0	0	12,080	0.54	6580
47	5411	Legal services	478	744	108	143	15	196	0	0	1,684	0.00	0
48	5415	Computer systems design and related services	2,299	8,680	1,329	75	5	297	0	0	12,685	0.00	0
49	541 ex. 5411,5415	Miscellaneous professional, scientific, and technical services	2,930	19,597	882	716	74	844	0	0	25,043	0.03	776
50	55	Management of companies and enterprises	2,056	7,686	581	521	53	3,216	0	0	14,113	0.00	0
51	561	Administrative and support services	1,812	5,886	1,898	211	170	630	0	0	10,607	0.21	2241
52	562	Waste management and remediation services	68	339	157	17	2	87	0	0	670	1.00	670
53	61	Educational services	587	2,114	111	21	13	86	0	3,911	6,843	0.00	0
54	621	Ambulatory health care services	701	1,863	471	488	39	0	0	0	3,562	0.53	1882
55	622,623	Hospitals and nursing and residential care facilities	1,283	3,771	710	198	37	0	0	0	5,999	0.90	5420
56	624	Social assistance	97	325	54	19	5	287	0	34	821	1.00	821
57	711,712	Performing arts, spectator sports, museums, and related activities	204	79	150	19	14	91	0	76	633	0.00	0
58	713	Amusements, gambling, and recreation industries	187	89	100	6	14	136	0	0	532	1.00	532
59	721	Accommodation	117	304	116	23	20	14	0	0	594	1.00	594
60	722	Food services and drinking places	261	562	229	21	110	36	0	0	1,219	1.00	1219
61	81	Other services, except government	537	1,625	333	289	45	707	3,810	184	7,530	0.72	5455
62		Federal government									22200	0.85	18801
63		State government									45350	0.85	38407
		<b>Total</b>									<b>394919</b>		<b>175961</b>

Finally, we present the PRIS value added, SIS value added and their components, and total information value added by 3-digit industries in col. (2)–(7) of Table 8. Col. (1) presents the total value added by industries obtained from the Annual Industry Accounts of the BEA. In col. 8, we present the non-information value added as a difference between total value added and information value added for each industry.

Table 8. Total value added, information value added and its components, and non-information (material) value added by 3-digit industries, 2002

(Values are in millions of dollars )

Sl. No.	Code	Industry Title	Value added	PRIS value added	SIS Components			SIS value added	Total information value added	Total non-information value added
					Total secondary information sector wages	Net operating surplus due to information activities	Depreciation of information capital			
			1	2	3	4	5	6	7	8
1	111,112	Farms	72304	0	1435	37	481	1953	1953	70351
2	113-115	Forestry, fishing, and related activities	22101	0	3575	8	139	3722	3722	18379
3	211	Oil and gas extraction	66598	0	9728	1168	1188	12084	12084	54514
4	212	Mining, except oil and gas	27552	0	2742	215	708	3664	3664	23888
5	213	Support activities for mining	15312	7463	1870	-1	371	2239	9702	5610
6	22	Utilities	180973	0	29560	416	7718	37694	37694	143279
7	23	Construction	494328	83193	75874	32477	5764	114114	197307	297021
8	321	Wood products	27277	0	5862	-102	313	6073	6073	21204
9	327	Nonmetallic mineral products	41446	0	7773	486	873	9132	9132	32314
10	331	Primary metals	41352	0	7894	260	1121	9275	9275	32077
11	332	Fabricated metal products	105210	0	27508	626	1948	30081	30081	75129
12	333	Machinery	95897	15786	26748	604	5868	33220	49006	46891
13	334	Computer and electronic products	132573	127420	4647	8	496	5152	132571	2
14	335	Electrical equipment, appliances, and components	42568	4204	10591	207	945	11743	15947	26621
15	3361-3363	Motor vehicles, bodies and trailers, and parts	121309	0	20602	1427	3186	25216	25216	96093
16	3364-3366,3369	Other transportation equipment	67349	0	30144	380	3910	34433	34433	32916
17	337	Furniture and related products	31280	8351	5112	-274	216	5054	13405	17875
18	339	Miscellaneous manufacturing	61489	8286	15735	517	992	17244	25530	35959
19	311,312	Food and beverage and tobacco products	176942	0	22595	1973	2425	26993	26993	149949
20	313, 314	Textile mills and textile product mills	24094	0	5369	43	353	5766	5766	18328
21	315, 316	Apparel and leather and allied products	18269	0	4574	-28	259	4805	4805	13464
22	322	Paper products	53531	3775	9000	134	1048	10182	13957	39574
23	323	Printing and related support activities	37437	36798	258	-10	17	265	37063	374
24	324	Petroleum and coal products	44927	0	6594	631	1163	8388	8388	36539
25	325	Chemical products	169567	981	45116	1897	6670	53684	54664	114903
26	326	Plastics and rubber products	63018	0	12742	376	693	13811	13811	49207
27	42	Wholesale trade	614892	122609	200061	33480	11626	245167	367777	247115
28	44,45	Retail trade	731156	72604	298481	50697	7873	357051	429655	301501
29	481	Air transportation	46796	0	12106	-5015	10399	17490	17490	29306
30	482	Rail transportation	21740	0	3838	854	625	5317	5317	16423
31	483	Water transportation	7409	0	1607	-47	1381	2941	2941	4468
32	484	Truck transportation	97196	0	13856	5850	1085	20791	20791	76405
33	485	Transit and ground passenger transportation	19198	0	2145	1197	766	4108	4108	15090
34	486	Pipeline transportation	10340	0	1779	764	1772	4316	4316	6024
35	487, 488, 492	Other transportation and support activities	73383	37873	10531	1525	1222	13278	51151	22232
36	493	Warehousing and storage	26343	0	9454	1028	332	10814	10814	15529

37	511	Publishing industries (includes software)	121772	119929	1060	240	67	1368	121297	475
38	512	Motion picture and sound recording industries	51613	51613	0	0	0	0	51613	0
39	513	Broadcasting and telecommunications	267916	267916	0	0	0	0	267916	0
40	514	Information and data processing services	58393	58393	0	0	0	0	58393	0
41	521, 522	Federal Reserve banks, credit intermediation, and related activities	436009	436009	0	0	0	0	436009	0
42	523	Securities, commodity contracts, and investments	153512	116961	29879	117	1538	31534	148494	5018
43	524	Insurance carriers and related activities	248565	248565	0	0	0	0	248565	0
44	525	Funds, trusts, and other financial vehicles	25451	25451	0	0	0	0	25451	0
45	531	Real estate	1210895	450937	27815	14856	5013	47684	498621	712274
46	532, 533	Rental and leasing services and lessors of intangible assets	147841	67310	1072	1092	6580	8744	76054	71787
47	5411	Legal services	153874	153874	0	0	0	0	153874	0
48	5415	Computer systems design and related services	109835	109835	0	0	0	0	109835	0
49	5412-5414, 5416-5419	Miscellaneous professional, scientific, and technical services	455234	441135	4910	1653	776	7339	448474	6760
50	55	Management of companies and enterprises	178324	178324	0	0	0	0	178324	0
51	561	Administrative and support services	270403	213262	17388	3073	2241	22703	235965	34438
52	562	Waste management and remediation services	30641	0	5687	3719	670	10076	10076	20565
53	61	Educational services	98855	98855	0	0	0	0	98855	0
54	621	Ambulatory health care services	335271	158120	84298	11515	1882	97695	255815	79456
55	622, 623	Hospitals and nursing and residential care facilities	296068	28571	137524	-887	5420	142057	170628	125440
56	624	Social assistance	59605	0	35265	3422	821	39508	39508	20097
57	711,712	Performing arts, spectator sports, museums, and related activities	55338	55338	0	0	0	0	55338	0
58	713	Amusements, gambling, and recreation industries	46802	0	11902	1948	532	14382	14382	32420
59	721	Accommodation	92764	0	20504	9491	594	30589	30589	62175
60	722	Food services and drinking places	216246	0	21620	14306	1219	37146	37146	179100
61	81	Other services, except government	284966	78527	35149	21619	5455	62224	140751	144215
62	92, 491	Government	1352970	244218					999427	353543
63		Federal	416585		232949		18801	251750		
		State and local	936385		465052		38407	503459		
		Rest of the world	49100					5647	5647	43454
		<b>Total</b>	<b>10691419</b>	<b>4132485</b>				<b>2481162</b>	<b>6613647</b>	<b>4077772</b>

### A.4.3 Information-intensity Based Classification of Occupations and Total Information Employment and Wages

We classify the occupations into the information and non-information category, based on their information intensity. However, this classification scheme is different from the one that is used in Porat (1977) and Apte and Nath (2007) and, therefore, from the one discussed above. It also differs from some other previous studies (for example, Autor et al. 1998 and Wolff 2006). This classification scheme — based on the framework developed by Apte and Mason (1995) and has been used by Apte et al. (2008) — recognizes that every occupation uses information at various intensities. Following Apte and Mason (1995), the *information intensity* of an occupation is defined as the fraction of time spent in dealing with informational actions (i.e., in creating, processing, and communicating information). An occupation is classified according to five levels of information intensity. If an occupation requires creating, processing, and communicating information and does not require physical presence in a specific location or physical action by the worker, then it is classified as an information occupation. An occupation that requires only physical action and does not involve creation, processing, and communication of information is called a non-information occupation. Because many occupations involve creation, processing, and communication of information as well as physical action (including physical presence in a particular location), they are classified into one of three intermediate categories based on the fraction of time spent on information actions versus physical actions: high (75 percent information and 25 percent physical), medium (50 percent information and 50 percent physical) and low (25 percent information and 75 percent physical). However, there are no clear guidelines for assessing the information intensity of various occupations. The detailed description of occupations from the *Dictionary of Standard Occupational Classification (SOC) Codes* available from the BLS are used to determine

information intensity.<sup>14</sup> Table 9 presents 802 occupations along with the weights that represent information intensities. For example, while a chief executive spends almost all of her time creating, processing, and communicating information, a surgeon has to devote about half of his time to information actions and other half to physical actions. Similarly, an economist's time is entirely invested in creating, processing, and communicating information whereas a biologist has to devote a significant amount of her time to physical actions in her laboratory or outside.

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<sup>14</sup>It is almost impossible to come up with a precise number that reflects information intensity. We also recognize that information intensity may vary even within the same occupation.

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info intensity	Sl. No.	SOC Code	Occupation Description	Info intensity
1	11-1011	Chief Executives	100	41	13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transport	50
2	11-1021	General and Operations Managers	100	42	13-1051	Cost Estimators	100
3	11-1031	Legislators	100	43	13-1061	Emergency Management Specialists	75
4	11-2011	Advertising and Promotions Managers	100	44	13-1071	Employment, Recruitment, and Placement Specialists	100
5	11-2021	Marketing Managers	100	45	13-1072	Compensation, Benefits, and Job Analysis Specialists	100
6	11-2022	Sales Managers	100	46	13-1073	Training and Development Specialists	100
7	11-2031	Public Relations Managers	100	47	13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	100
8	11-3011	Administrative Services Managers	75	48	13-1081	Logisticians	100
9	11-3021	Computer and Information Systems Managers	100	49	13-1111	Management Analysts	100
10	11-3031	Financial Managers	100	50	13-1121	Meeting and Convention Planners	75
11	11-3041	Compensation and Benefits Managers	100	51	13-1199	Business Operations Specialists, All Other	75
12	11-3042	Training and Development Managers	100	52	13-2011	Accountants and Auditors	100
13	11-3049	Human Resources Managers, All Other	100	53	13-2021	Appraisers and Assessors of Real Estate	50
14	11-3051	Industrial Production Managers	100	54	13-2031	Budget Analysts	100
15	11-3061	Purchasing Managers	100	55	13-2041	Credit Analysts	100
16	11-3071	Transportation, Storage, and Distribution Managers	100	56	13-2051	Financial Analysts	100
17	11-9011	Farm, Ranch, and Other Agricultural Managers	50	57	13-2052	Personal Financial Advisors	100
18	11-9012	Farmers and Ranchers	50	58	13-2053	Insurance Underwriters	100
19	11-9021	Construction Managers	75	59	13-2061	Financial Examiners	100
20	11-9031	Education Administrators, Preschool and Child Care Center/Program	75	60	13-2071	Loan Counselors	100
21	11-9032	Education Administrators, Elementary and Secondary School	100	61	13-2072	Loan Officers	100
22	11-9033	Education Administrators, Postsecondary	100	62	13-2081	Tax Examiners, Collectors, and Revenue Agents	100
23	11-9039	Education Administrators, All Other	100	63	13-2082	Tax Preparers	100
24	11-9041	Engineering Managers	100	64	13-2099	Financial Specialists, All Other	100
25	11-9051	Food Service Managers	100	65	15-1011	Computer and Information Scientists, Research	100
26	11-9061	Funeral Directors	75	66	15-1021	Computer Programmers	100
27	11-9071	Gaming Managers	75	67	15-1031	Computer Software Engineers, Applications	100
28	11-9081	Lodging Managers	75	68	15-1032	Computer Software Engineers, Systems Software	100
29	11-9111	Medical and Health Services Managers	75	69	15-1041	Computer Support Specialists	75
30	11-9121	Natural Sciences Managers	100	70	15-1051	Computer Systems Analysts	100
31	11-9131	Postmasters and Mail Superintendents	100	71	15-1061	Database Administrators	100
32	11-9141	Property, Real Estate, and Community Association Managers	100	72	15-1071	Network and Computer Systems Administrators	100
33	11-9151	Social and Community Service Managers	100	73	15-1081	Network Systems and Data Communications Analysts	100
34	11-9199	Managers, All Other	100	74	15-1099	Computer Specialists, All Other	100
35	13-1011	Agents and Business Managers of Artists, Performers, and Athletes	100	75	15-2011	Actuaries	100
36	13-1021	Purchasing Agents and Buyers, Farm Products	75	76	15-2021	Mathematicians	100
37	13-1022	Wholesale and Retail Buyers, Except Farm Products	75	77	15-2031	Operations Research Analysts	100
38	13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	75	78	15-2041	Statisticians	100
39	13-1031	Claims Adjusters, Examiners, and Investigators	75	79	15-2099	Mathematical Science Occupations, All Other	100
40	13-1032	Insurance Appraisers, Auto Damage	75	80	17-1011	Architects, Except Landscape and Naval	75

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info intensity	Sl. No.	SOC Code	Occupation Description	Info intensity
81	17-1012	Landscape Architects	75	126	19-1099	Life Scientists, All Other	50
82	17-1021	Cartographers and Photogrammetrists	100	127	19-2011	Astronomers	50
83	17-1022	Surveyors	25	128	19-2012	Physicists	50
84	17-2011	Aerospace Engineers	75	129	19-2021	Atmospheric and Space Scientists	50
85	17-2021	Agricultural Engineers	75	130	19-2031	Chemists	50
86	17-2031	Biomedical Engineers	75	131	19-2032	Materials Scientists	50
87	17-2041	Chemical Engineers	75	132	19-2041	Environmental Scientists and Specialists, Including Health	50
88	17-2051	Civil Engineers	50	133	19-2042	Geoscientists, Except Hydrologists and Geographers	50
89	17-2061	Computer Hardware Engineers	75	134	19-2043	Hydrologists	50
90	17-2071	Electrical Engineers	75	135	19-2099	Physical Scientists, All Other	50
91	17-2072	Electronics Engineers, Except Computer	75	136	19-3011	Economists	100
92	17-2081	Environmental Engineers	75	137	19-3021	Market Research Analysts	100
93	17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	75	138	19-3022	Survey Researchers	100
94	17-2112	Industrial Engineers	100	139	19-3031	Clinical, Counseling, and School Psychologists	100
95	17-2121	Marine Engineers and Naval Architects	75	140	19-3032	Industrial-Organizational Psychologists	100
96	17-2131	Materials Engineers	75	141	19-3039	Psychologists, All Other	100
97	17-2141	Mechanical Engineers	75	142	19-3041	Sociologists	100
98	17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	50	143	19-3051	Urban and Regional Planners	100
99	17-2161	Nuclear Engineers	75	144	19-3091	Anthropologists and Archeologists	100
100	17-2171	Petroleum Engineers	75	145	19-3092	Geographers	100
101	17-2199	Engineers, All Other	75	146	19-3093	Historians	100
102	17-3011	Architectural and Civil Drafters	100	147	19-3094	Political Scientists	100
103	17-3012	Electrical and Electronics Drafters	100	148	19-3099	Social Scientists & Related Workers, All Other	100
104	17-3013	Mechanical Drafters	100	149	19-4011	Agricultural and Food Science Technicians	25
105	17-3019	Drafters, All Other	100	150	19-4021	Biological Technicians	25
106	17-3021	Aerospace Engineering and Operations Technicians	25	151	19-4031	Chemical Technicians	25
107	17-3022	Civil Engineering Technicians	25	152	19-4041	Geological and Petroleum Technicians	25
108	17-3023	Electrical and Electronic Engineering Technicians	25	153	19-4051	Nuclear Technicians	25
109	17-3024	Electro-Mechanical Technicians	25	154	19-4061	Social Science Research Assistants	50
110	17-3025	Environmental Engineering Technicians	25	155	19-4091	Environmental Science and Protection Technicians, Including Health	25
111	17-3026	Industrial Engineering Technicians	25	156	19-4092	Forensic Science Technicians	25
112	17-3027	Mechanical Engineering Technicians	25	157	19-4093	Forest and Conservation Technicians	25
113	17-3029	Engineering Technicians, Except Drafters, All Other	25	158	19-4099	Life, Physical, and Social Science Technicians, All Other	25
114	17-3031	Surveying and Mapping Technicians	75	159	21-1011	Substance Abuse and Behavioral Disorder Counselors	100
115	19-1011	Animal Scientists	50	160	21-1012	Educational, Vocational, and School Counselors	100
116	19-1012	Food Scientists and Technologists	50	161	21-1013	Marriage and Family Therapists	100
117	19-1013	Soil and Plant Scientists	50	162	21-1014	Mental Health Counselors	100
118	19-1021	Biochemists and Biophysicists	50	163	21-1015	Rehabilitation Counselors	100
119	19-1022	Microbiologists	50	164	21-1019	Counselors, All Other	100
120	19-1023	Zoologists and Wildlife Biologists	50	165	21-1021	Child, Family, and School Social Workers	75
121	19-1029	Biological Scientists, All Other	50	166	21-1022	Medical and Public Health Social Workers	75
122	19-1031	Conservation Scientists	50	167	21-1023	Mental Health and Substance Abuse Social Workers	75
123	19-1032	Foresters	50	168	21-1029	Social Workers, All Other	75
124	19-1041	Epidemiologists	50	169	21-1091	Health Educators	50
125	19-1042	Medical Scientists, Except Epidemiologists	50	170	21-1092	Probation Officers and Correctional Treatment Specialists	50

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info Inten	Sl. No.	SOC Code	Occupation Description	Info Inten
171	21-1093	Social and Human Service Assistants	50	216	25-1125	History Teachers, Postsecondary	100
172	21-1099	Community and Social Service Specialists, All Other	50	217	25-1126	Philosophy and Religion Teachers, Postsecondary	100
173	21-2011	Clergy	75	218	25-1191	Graduate Teaching Assistants	100
174	21-2021	Directors, Religious Activities and Education	75	219	25-1192	Home Economics Teachers, Postsecondary	100
175	21-2099	Religious Workers, All Other	75	220	25-1193	Recreation and Fitness Studies Teachers, Postsecondary	100
176	23-1011	Lawyers	100	221	25-1194	Vocational Education Teachers, Postsecondary	100
177	23-1021	Administrative Law Judges, Adjudicators, and Hearing Officers	100	222	25-1199	Postsecondary Teachers, All Other	100
178	23-1022	Arbitrators, Mediators, and Conciliators	100	223	25-2011	Preschool Teachers, Except Special Education	50
179	23-1023	Judges, Magistrate Judges, and Magistrates	100	224	25-2012	Kindergarten Teachers, Except Special Education	50
180	23-2011	Paralegals and Legal Assistants	100	225	25-2021	Elementary School Teachers, Except Special Edu	50
181	23-2091	Court Reporters	100	226	25-2022	Middle School Teachers, Except Special and Vocational Education	50
182	23-2092	Law Clerks	100	227	25-2023	Vocational Education Teachers, Middle School	50
183	23-2093	Title Examiners, Abstractors, and Searchers	100	228	25-2031	Secondary School Teachers, Except Special and Vocational Education	100
184	23-2099	Legal Support Workers, All Other	100	229	25-2032	Vocational Education Teachers, Secondary School	75
185	25-1011	Business Teachers, Postsecondary	100	230	25-2041	Special Education Teachers, Preschool, Kindergarten, and Elementary School	50
186	25-1021	Computer Science Teachers, Postsecondary	100	231	25-2042	Special Education Teachers, Middle School	50
187	25-1022	Mathematical Science Teachers, Postsecondary	100	232	25-2043	Special Education Teachers, Secondary School	50
188	25-1031	Architecture Teachers, Postsecondary	100	233	25-3011	Adult Literacy, Remedial Education, and GED Teachers and Instructors	100
189	25-1032	Engineering Teachers, Postsecondary	100	234	25-3021	Self-Enrichment Education Teachers	100
190	25-1041	Agricultural Sciences Teachers, Postsecondary	100	235	25-3099	Teachers and Instructors, All Other	100
191	25-1042	Biological Science Teachers, Postsecondary	100	236	25-4011	Archivists	100
192	25-1043	Forestry and Conservation Science Teachers, Postsecondary	100	237	25-4012	Curators	100
193	25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	100	238	25-4013	Museum Technicians and Conservators	50
194	25-1052	Chemistry Teachers, Postsecondary	100	239	25-4021	Librarians	100
195	25-1053	Environmental Science Teachers, Postsecondary	100	240	25-4031	Library Technicians	50
196	25-1054	Physics Teachers, Postsecondary	100	241	25-9011	Audio-Visual Collections Specialists	75
197	25-1061	Anthropology and Archeology Teachers, Postsecondary	100	242	25-9021	Farm and Home Management Advisors	100
198	25-1062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	100	243	25-9031	Instructional Coordinators	100
199	25-1063	Economics Teachers, Postsecondary	100	244	25-9041	Teacher Assistants	100
200	25-1064	Geography Teachers, Postsecondary	100	245	25-9099	Education, Training, and Library Workers, All Other	100
201	25-1065	Political Science Teachers, Postsecondary	100	246	27-1011	Art Directors	100
202	25-1066	Psychology Teachers, Postsecondary	100	247	27-1012	Craft Artists	0
203	25-1067	Sociology Teachers, Postsecondary	100	248	27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	25
204	25-1069	Social Sciences Teachers, Postsecondary, All Other	100	249	27-1014	Multi-Media Artists and Animators	100
205	25-1071	Health Specialties Teachers, Postsecondary	100	250	27-1019	Artists and Related Workers, All Other	25
206	25-1072	Nursing Instructors and Teachers, Postsecondary	100	251	27-1021	Commercial and Industrial Designers	100
207	25-1081	Education Teachers, Postsecondary	100	252	27-1022	Fashion Designers	75
208	25-1082	Library Science Teachers, Postsecondary	100	253	27-1023	Floral Designers	0
209	25-1111	Criminal Justice and Law Enforcement Teachers, Postsecondary	100	254	27-1024	Graphic Designers	100
210	25-1112	Law Teachers, Postsecondary	100	255	27-1025	Interior Designers	75
211	25-1113	Social Work Teachers, Postsecondary	100	256	27-1026	Merchandise Displayers and Window Trimmers	0
212	25-1121	Art, Drama, and Music Teachers, Postsecondary	100	257	27-1027	Set and Exhibit Designers	25
213	25-1122	Communications Teachers, Postsecondary	100	258	27-1029	Designers, All Other	50
214	25-1123	English Language and Literature Teachers, Postsecondary	100	259	27-2011	Actors	25
215	25-1124	Foreign Language and Literature Teachers, Postsecondary	100	260	27-2012	Producers and Directors	50

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info intensity	Sl. No.	SOC Code	Occupation Description	Info intensity
261	27-2021	Athletes and Sports Competitors	0	306	29-1111	Registered Nurses	25
262	27-2022	Coaches and Scouts	25	307	29-1121	Audiologists	25
263	27-2023	Umpires, Referees, and Other Sports Officials	0	308	29-1122	Occupational Therapists	25
264	27-2031	Dancers	0	309	29-1123	Physical Therapists	25
265	27-2032	Choreographers	25	310	29-1124	Radiation Therapists	25
266	27-2041	Music Directors and Composers	50	311	29-1125	Recreational Therapists	25
267	27-2042	Musicians and Singers	50	312	29-1126	Respiratory Therapists	25
268	27-2099	Entertainers and Performers, Sports and Related Workers, All Other	25	313	29-1127	Speech-Language Pathologists	25
269	27-3011	Radio and Television Announcers	100	314	29-1129	Therapists, All Other	25
270	27-3012	Public Address System and Other Announcers	25	315	29-1131	Veterinarians	25
271	27-3021	Broadcast News Analysts	100	316	29-1199	Health Diagnosing and Treating Practitioners, All Other	25
272	27-3022	Reporters and Correspondents	75	317	29-2011	Medical and Clinical Laboratory Technologists	50
273	27-3031	Public Relations Specialists	100	318	29-2012	Medical and Clinical Laboratory Technicians	25
274	27-3041	Editors	100	319	29-2021	Dental Hygienists	25
275	27-3042	Technical Writers	100	320	29-2031	Cardiovascular Technologists and Technicians	25
276	27-3043	Writers and Authors	100	321	29-2032	Diagnostic Medical Sonographers	25
277	27-3091	Interpreters and Translators	100	322	29-2033	Nuclear Medicine Technologists	25
278	27-3099	Media and Communication Workers, All Other	100	323	29-2034	Radiologic Technologists and Technicians	25
279	27-4011	Audio and Video Equipment Technicians	25	324	29-2041	Emergency Medical Technicians and Paramedics	0
280	27-4012	Broadcast Technicians	25	325	29-2051	Dietetic Technicians	50
281	27-4013	Radio Operators	50	326	29-2052	Pharmacy Technicians	25
282	27-4014	Sound Engineering Technicians	100	327	29-2053	Psychiatric Technicians	25
283	27-4021	Photographers	50	328	29-2054	Respiratory Therapy Technicians	25
284	27-4031	Camera Operators, Television, Video, and Motion Picture	50	329	29-2055	Surgical Technologists	0
285	27-4032	Film and Video Editors	100	330	29-2056	Veterinary Technologists and Technicians	25
286	27-4099	Media and Communication Equipment Workers, All Other	50	331	29-2061	Licensed Practical and Licensed Vocational Nurses	25
287	29-1011	Chiropractors	25	332	29-2071	Medical Records and Health Information Technicians	100
288	29-1021	Dentists, General	25	333	29-2081	Opticians, Dispensing	25
289	29-1022	Oral and Maxillofacial Surgeons	0	334	29-2091	Orthotists and Prosthetists	25
290	29-1023	Orthodontists	25	335	29-2099	Health Technologists and Technicians, All Other	25
291	29-1024	Prosthodontists	25	336	29-9011	Occupational Health and Safety Specialists	50
292	29-1029	Dentists, All Other Specialists	25	337	29-9012	Occupational Health and Safety Technicians	50
293	29-1031	Dietitians and Nutritionists	100	338	29-9091	Athletic Trainers	25
294	29-1041	Optometrists	50	339	29-9099	Healthcare Practitioners and Technical Workers, All Other	25
295	29-1051	Pharmacists	50	340	31-1011	Home Health Aides	0
296	29-1061	Anesthesiologists	25	341	31-1012	Nursing Aides, Orderlies, and Attendants	0
297	29-1062	Family and General Practitioners	50	342	31-1013	Psychiatric Aides	0
298	29-1063	Internists, General	25	343	31-2011	Occupational Therapist Assistants	50
299	29-1064	Obstetricians and Gynecologists	25	344	31-2012	Occupational Therapist Aides	25
300	29-1065	Pediatricians, General	25	345	31-2021	Physical Therapist Assistants	50
301	29-1066	Psychiatrists	75	346	31-2022	Physical Therapist Aides	25
302	29-1067	Surgeons	25	347	31-9011	Massage Therapists	0
303	29-1069	Physicians and Surgeons, All Other	50	348	31-9091	Dental Assistants	25
304	29-1071	Physician Assistants	50	349	31-9092	Medical Assistants	50
305	29-1081	Podiatrists	25	350	31-9093	Medical Equipment Preparers	0

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info inten	Sl. No.	SOC Code	Occupation Description	Info inten
351	31-9094	Medical Transcriptionists	100	396	37-2012	Maids and Housekeeping Cleaners	0
352	31-9095	Pharmacy Aides	75	397	37-2019	Building Cleaning Workers, All Other	0
353	31-9096	Veterinary Assistants & Laboratory Animal Caretakers	0	398	37-2021	Pest Control Workers	0
354	31-9099	Healthcare Support Workers, All Other	25	399	37-3010	Grounds Maintenance Workers	0
355	33-1011	First-Line Supervisors/Managers of Correctional Officers	50	400	37-3011	Landscaping and Groundskeeping Workers	0
356	33-1012	First-Line Supervisors/Managers of Police & Detectives	50	401	37-3012	Pesticide Handlers, Sprayers, & Applicators, Vegetation	0
357	33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	50	402	37-3013	Tree Trimmers and Pruners	0
358	33-1099	First-Line Supervisors/Managers, Protective Service Workers, All Other	50	403	37-3019	Grounds Maintenance Workers, All Other	0
359	33-2011	Fire Fighters	25	404	39-1011	Gaming Supervisors	25
360	33-2021	Fire Inspectors and Investigators	25	405	39-1012	Slot Key Persons	25
361	33-2022	Forest Fire Inspectors and Prevention Specialists	25	406	39-1021	First-Line Supervisors/Managers of Personal Service Workers	25
362	33-3011	Bailiffs	25	407	39-2011	Animal Trainers	0
363	33-3012	Correctional Officers and Jailers	0	408	39-2021	Nonfarm Animal Caretakers	0
364	33-3021	Detectives and Criminal Investigators	50	409	39-3011	Gaming Dealers	25
365	33-3031	Fish and Game Wardens	50	410	39-3012	Gaming and Sports Book Writers and Runners	100
366	33-3041	Parking Enforcement Workers	25	411	39-3019	Gaming Service Workers, All Other	25
367	33-3051	Police and Sheriff's Patrol Officers	25	412	39-3021	Motion Picture Projectionists	25
368	33-3052	Transit and Railroad Police	25	413	39-3031	Ushers, Lobby Attendants, and Ticket Takers	25
369	33-9011	Animal Control Workers	0	414	39-3091	Amusement and Recreation Attendants	25
370	33-9021	Private Detectives and Investigators	50	415	39-3092	Costume Attendants	0
371	33-9031	Gaming Surveillance Officers and Gaming Investigators	50	416	39-3093	Locker Room, Coatroom, & Dressing Room Attendants	0
372	33-9032	Security Guards	50	417	39-3099	Entertainment Attendants & Related Workers, All Other	25
373	33-9091	Crossing Guards	0	418	39-4011	Embalmers	0
374	33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	0	419	39-4021	Funeral Attendants	0
375	35-1011	Chefs and Head Cooks	50	420	39-5011	Barbers	0
376	35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	25	421	39-5012	Hairdressers, Hairstylists, and Cosmetologists	0
377	35-2011	Cooks, Fast Food	0	422	39-5091	Makeup Artists, Theatrical and Performance	0
378	35-2012	Cooks, Institution and Cafeteria	0	423	39-5092	Manicurists and Pedicurists	0
379	35-2013	Cooks, Private Household	0	424	39-5093	Shampooers	0
380	35-2014	Cooks, Restaurant	0	425	39-5094	Skin Care Specialists	0
381	35-2015	Cooks, Short Order	0	426	39-6011	Baggage Porters and Bellhops	0
382	35-2019	Cooks, All Other	0	427	39-6012	Concierges	75
383	35-2021	Food Preparation Workers	0	428	39-6021	Tour Guides and Escorts	25
384	35-3011	Bartenders	0	429	39-6022	Travel Guides	75
385	35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	0	430	39-6031	Flight Attendants	50
386	35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	0	431	39-6032	Transportation Attendants, Except Flight Attendants and Baggage Porters	50
387	35-3031	Waiters and Waitresses	25	432	39-9011	Child Care Workers	0
388	35-3041	Food Servers, Nonrestaurant	0	433	39-9021	Personal and Home Care Aides	0
389	35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	0	434	39-9031	Fitness Trainers and Aerobics Instructors	0
390	35-9021	Dishwashers	0	435	39-9032	Recreation Workers	25
391	35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	50	436	39-9041	Residential Advisors	50
392	35-9099	Food Preparation and Serving Related Workers, All Other	0	437	39-9099	Personal Care and Service Workers, All Other	25
393	37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	25	438	41-1011	First-Line Supervisors/Managers of Retail Sales Workers	75
394	37-1012	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	25	439	41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers	75
395	37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	0	440	41-2011	Cashiers	100

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info inten	Sl. No.	SOC Code	Occupation Description	Info inten
441	41-2012	Gaming Change Persons and Booth Cashiers	75	486	43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	50
442	41-2021	Counter and Rental Clerks	75	487	43-4199	Information and Record Clerks, All Other	50
443	41-2022	Parts Salespersons	50	488	43-5011	Cargo and Freight Agents	75
444	41-2031	Retail Salespersons	50	489	43-5021	Couriers and Messengers	0
445	41-3011	Advertising Sales Agents	100	490	43-5031	Police, Fire, and Ambulance Dispatchers	100
446	41-3021	Insurance Sales Agents	50	491	43-5032	Dispatchers, Except Police, Fire, and Ambulance	100
447	41-3031	Securities, Commodities, and Financial Services Sales Agents	75	492	43-5041	Meter Readers, Utilities	100
448	41-3041	Travel Agents	100	493	43-5051	Postal Service Clerks	25
449	41-3099	Sales Representatives, Services, All Other	75	494	43-5052	Postal Service Mail Carriers	25
450	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	75	495	43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	25
451	41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	75	496	43-5061	Production, Planning, and Expediting Clerks	75
452	41-9011	Demonstrators and Product Promoters	25	497	43-5071	Shipping, Receiving, and Traffic Clerks	25
453	41-9012	Models	0	498	43-5081	Stock Clerks and Order Fillers	25
454	41-9021	Real Estate Brokers	75	499	43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	25
455	41-9022	Real Estate Sales Agents	50	500	43-6011	Executive Secretaries and Administrative Assistants	75
456	41-9031	Sales Engineers	75	501	43-6012	Legal Secretaries	100
457	41-9041	Telemarketers	100	502	43-6013	Medical Secretaries	75
458	41-9091	Door-To-Door Sales Workers, News and Street Vendors, and Related Workers	0	503	43-6014	Secretaries, Except Legal, Medical, and Executive	75
459	41-9099	Sales and Related Workers, All Other	50	504	43-9011	Computer Operators	50
460	43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	75	505	43-9021	Data Entry Keyers	100
461	43-2011	Switchboard Operators, Including Answering Service	100	506	43-9022	Word Processors and Typists	100
462	43-2021	Telephone Operators	100	507	43-9031	Desktop Publishers	100
463	43-2099	Communications Equipment Operators, All Other	75	508	43-9041	Insurance Claims and Policy Processing Clerks	100
464	43-3011	Bill and Account Collectors	75	509	43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	25
465	43-3021	Billing and Posting Clerks and Machine Operators	100	510	43-9061	Office Clerks, General	50
466	43-3031	Bookkeeping, Accounting, and Auditing Clerks	100	511	43-9071	Office Machine Operators, Except Computer	25
467	43-3041	Gaming Cage Workers	75	512	43-9081	Proofreaders and Copy Markers	100
468	43-3051	Payroll and Timekeeping Clerks	100	513	43-9111	Statistical Assistants	100
469	43-3061	Procurement Clerks	100	514	43-9199	Office and Administrative Support Workers, All Other	50
470	43-3071	Tellers	75	515	45-1011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	50
471	43-4011	Brokerage Clerks	100	516	45-1012	Farm Labor Contractors	25
472	43-4021	Correspondence Clerks	100	517	45-2011	Agricultural Inspectors	50
473	43-4031	Court, Municipal, and License Clerks	75	518	45-2021	Animal Breeders	25
474	43-4041	Credit Authorizers, Checkers, and Clerks	100	519	45-2041	Graders and Sorters, Agricultural Products	25
475	43-4051	Customer Service Representatives	100	520	45-2091	Agricultural Equipment Operators	0
476	43-4061	Eligibility Interviewers, Government Programs	75	521	45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	0
477	43-4071	File Clerks	100	522	45-2093	Farmworkers, Farm and Ranch Animals	25
478	43-4081	Hotel, Motel, and Resort Desk Clerks	50	523	45-2099	Agricultural Workers, All Other	0
479	43-4111	Interviewers, Except Eligibility and Loan	75	524	45-3011	Fishers and Related Fishing Workers	0
480	43-4121	Library Assistants, Clerical	25	525	45-3021	Hunters and Trappers	0
481	43-4131	Loan Interviewers and Clerks	100	526	45-4011	Forest and Conservation Workers	0
482	43-4141	New Accounts Clerks	75	527	45-4020	Logging Workers	0
483	43-4151	Order Clerks	100	528	45-4021	Fallers	0
484	43-4161	Human Resources Assistants, Except Payroll and Timekeeping	100	529	45-4022	Logging Equipment Operators	0
485	43-4171	Receptionists and Information Clerks	50	530	45-4023	Log Graders and Scalers	50

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info inten	Sl. No.	SOC Code	Occupation Description	Info inten
531	45-4029	Logging Workers, All Other	0	576	47-4091	Segmental Pavers	0
532	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	25	577	47-4099	Construction and Related Workers, All Other	0
533	47-2011	Boilermakers	25	578	47-5011	Derrick Operators, Oil and Gas	0
534	47-2021	Brickmasons and Blockmasons	0	579	47-5012	Rotary Drill Operators, Oil and Gas	0
535	47-2022	Stonemasons	0	580	47-5013	Service Unit Operators, Oil, Gas, and Mining	0
536	47-2031	Carpenters	0	581	47-5021	Earth Drillers, Except Oil and Gas	0
537	47-2041	Carpet Installers	0	582	47-5031	Explosives Workers, Ord Handling Exprs, & Blasters	0
538	47-2042	Floor Layers, Except Carpet, Wood, and Hard Tiles	0	583	47-5041	Continuous Mining Machine Operators	0
539	47-2043	Floor Sanders and Finishers	0	584	47-5042	Mine Cutting and Channeling Machine Operators	0
540	47-2044	Tile and Marble Setters	0	585	47-5049	Mining Machine Operators, All Other	0
541	47-2051	Cement Masons and Concrete Finishers	0	586	47-5051	Rock Splitters, Quarry	0
542	47-2053	Terrazzo Workers and Finishers	0	587	47-5061	Roof Bolters, Mining	0
543	47-2061	Construction Laborers	0	588	47-5071	Roustabouts, Oil and Gas	0
544	47-2071	Paving, Surfacing, and Tamping Equipment Operators	0	589	47-5081	Helpers--Extraction Workers	0
545	47-2072	Pile-Driver Operators	0	590	47-5099	Extraction Workers, All Other	0
546	47-2073	Operating Engineers and Other Construction Equipment Operators	25	591	49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	75
547	47-2081	Drywall and Ceiling Tile Installers	0	592	49-2011	Computer, Automated Teller, & Office Machine Repairers	25
548	47-2082	Tapers	0	593	49-2021	Radio Mechanics	25
549	47-2111	Electricians	0	594	49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	25
550	47-2121	Glaziers	0	595	49-2091	Avionics Technicians	25
551	47-2131	Insulation Workers, Floor, Ceiling, and Wall	0	596	49-2092	Electric Motor, Power Tool, and Related Repairers	25
552	47-2132	Insulation Workers, Mechanical	0	597	49-2093	Electrical and Electronics Installers and Repairers, Transportation Equipment	25
553	47-2141	Painters, Construction and Maintenance	0	598	49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	25
554	47-2142	Paperhangers	0	599	49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	25
555	47-2151	Pipelayers	0	600	49-2096	Electronic Equipment Installers & Repairers, Motor Vehicles	25
556	47-2152	Plumbers, Pipefitters, and Steamfitters	0	601	49-2097	Electronic Home Entertainment Equipment Installers and Repairers	25
557	47-2161	Plasterers and Stucco Masons	0	602	49-2098	Security and Fire Alarm Systems Installers	25
558	47-2171	Reinforcing Iron and Rebar Workers	0	603	49-3011	Aircraft Mechanics and Service Technicians	25
559	47-2181	Roofers	0	604	49-3021	Automotive Body and Related Repairers	0
560	47-2211	Sheet Metal Workers	0	605	49-3022	Automotive Glass Installers and Repairers	0
561	47-2221	Structural Iron and Steel Workers	0	606	49-3023	Automotive Service Technicians and Mechanics	25
562	47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	0	607	49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	25
563	47-3012	Helpers--Carpenters	0	608	49-3041	Farm Equipment Mechanics	25
564	47-3013	Helpers--Electricians	0	609	49-3042	Mobile Heavy Equipment Mechanics, Except Engines	25
565	47-3014	Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons	0	610	49-3043	Rail Car Repairers	25
566	47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, & Steamfitters	0	611	49-3051	Motorboat Mechanics	0
567	47-3016	Helpers--Roofers	0	612	49-3052	Motorcycle Mechanics	25
568	47-3019	Helpers, Construction Trades, All Other	0	613	49-3053	Outdoor Power Equip & Other Small Engine Mechanics	25
569	47-4011	Construction and Building Inspectors	50	614	49-3091	Bicycle Repairers	0
570	47-4021	Elevator Installers and Repairers	0	615	49-3092	Recreational Vehicle Service Technicians	25
571	47-4031	Fence Erectors	0	616	49-3093	Tire Repairers and Changers	0
572	47-4041	Hazardous Materials Removal Workers	0	617	49-9011	Mechanical Door Repairers	0
573	47-4051	Highway Maintenance Workers	0	618	49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	0
574	47-4061	Rail-Track Laying and Maintenance Equipment Operators	0	619	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	0
575	47-4071	Septic Tank Servicers and Sewer Pipe Cleaners	0	620	49-9031	Home Appliance Repairers	0

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info inten	Sl. No.	SOC Code	Occupation Description	Info inten
621	49-9041	Industrial Machinery Mechanics	0	661	51-4012	Numerical Tool and Process Control Programmers	100
622	49-9042	Maintenance and Repair Workers, General	0	662	51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	0
623	49-9043	Maintenance Workers, Machinery	0	663	51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	0
624	49-9044	Millwrights	0	664	51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	0
625	49-9045	Refractory Materials Repairers, Except Brickmasons	0	665	51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	0
626	49-9051	Electrical Power-Line Installers and Repairers	0	666	51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	0
627	49-9052	Telecommunications Line Installers and Repairers	0	667	51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal & Plastic	0
628	49-9061	Camera and Photographic Equipment Repairers	0	668	51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	0
629	49-9062	Medical Equipment Repairers	0	669	51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	0
630	49-9063	Musical Instrument Repairers and Tuners	0	670	51-4041	Machinists	0
631	49-9064	Watch Repairers	0	671	51-4051	Metal-Refining Furnace Operators and Tenders	0
632	49-9069	Precision Instrument & Equip Repairers, All Other	0	672	51-4052	Pourers and Casters, Metal	0
633	49-9091	Coin, Vending, Amusement Machine Servicers and Repairers	0	673	51-4061	Model Makers, Metal and Plastic	0
634	49-9092	Commercial Divers	0	674	51-4062	Patternmakers, Metal and Plastic	0
635	49-9093	Fabric Menders, Except Garment	0	675	51-4071	Foundry Mold and Coremakers	0
636	49-9094	Locksmiths and Safe Repairers	0	676	51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	0
637	49-9095	Manufactured Building and Mobile Home Installers	0	677	51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	0
638	49-9096	Riggers	0	678	51-4111	Tool and Die Makers	0
639	49-9097	Signal and Track Switch Repairers	0	679	51-4121	Welders, Cutters, Solderers, and Brazers	0
640	49-9098	Helpers--Installation, Maintenance, and Repair Workers	0	680	51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	0
641	49-9099	Installation, Maintenance, and Repair Workers, All Other	0	681	51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	0
642	51-1011	First-Line Supervisors/Managers of Production and Operating Workers	75	682	51-4192	Lay-Out Workers, Metal and Plastic	0
643	51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	0	683	51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	0
644	51-2021	Coil Winders, Tapers, and Finishers	0	684	51-4194	Tool Grinders, Filers, and Sharpeners	0
645	51-2022	Electrical and Electronic Equipment Assemblers	0	685	51-4199	Metal Workers and Plastic Workers, All Other	0
646	51-2023	Electromechanical Equipment Assemblers	0	686	51-5011	Bindery Workers	0
647	51-2031	Engine and Other Machine Assemblers	0	687	51-5012	Bookbinders	0
648	51-2041	Structural Metal Fabricators and Fitters	0	688	51-5021	Job Printers	25
649	51-2091	Fiberglass Laminators and Fabricators	0	689	51-5022	Prepress Technicians and Workers	50
650	51-2092	Team Assemblers	0	690	51-5023	Printing Machine Operators	0
651	51-2093	Timing Device Assemblers, Adjusters, and Calibrators	0	691	51-6011	Laundry and Dry-Cleaning Workers	0
652	51-2099	Assemblers and Fabricators, All Other	0	692	51-6021	Pressers, Textile, Garment, and Related Materials	0
653	51-3011	Bakers	0	693	51-6031	Sewing Machine Operators	0
654	51-3021	Butchers and Meat Cutters	0	694	51-6041	Shoe and Leather Workers and Repairers	0
655	51-3022	Meat, Poultry, and Fish Cutters and Trimmers	0	695	51-6042	Shoe Machine Operators and Tenders	0
656	51-3023	Slaughterers and Meat Packers	0	696	51-6051	Sewers, Hand	0
657	51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	0	697	51-6052	Tailors, Dressmakers, and Custom Sewers	0
658	51-3092	Food Batchmakers	0	698	51-6061	Textile Bleaching and Dyeing Machine Operators and Tenders	0
659	51-3093	Food Cooking Machine Operators and Tenders	0	699	51-6062	Textile Cutting Machine Setters, Operators, & Tenders	0
660	51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	25	700	51-6063	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	0

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info Inten	Sl. No.	SOC Code	Occupation Description	Info Inten
701	51-6064	Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	0	741	51-9123	Painting, Coating, and Decorating Workers	0
702	51-6091	Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	0	742	51-9131	Photographic Process Workers	0
703	51-6092	Fabric and Apparel Patternmakers	0	743	51-9132	Photographic Processing Machine Operators	0
704	51-6093	Upholsterers	0	744	51-9141	Semiconductor Processors	25
705	51-6099	Textile, Apparel, and Furnishings Workers, All Other	0	745	51-9191	Cementing and Gluing Machine Operators and Tenders	0
706	51-7011	Cabinetmakers and Bench Carpenters	0	746	51-9192	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	0
707	51-7020	Furniture Finishers	0	747	51-9193	Cooling and Freezing Equipment Operators and Tenders	0
708	51-7021	Furniture Finishers	0	748	51-9194	Etchers and Engravers	0
709	51-7031	Model Makers, Wood	0	749	51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	0
710	51-7032	Patternmakers, Wood	0	750	51-9196	Paper Goods Machine Setters, Operators, and Tenders	25
711	51-7041	Sawing Machine Setters, Operators, & Tenders, Wood	0	751	51-9197	Tire Builders	0
712	51-7042	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	0	752	51-9198	Helpers--Production Workers	0
713	51-7099	Woodworkers, All Other	0	753	51-9199	Production Workers, All Other	0
714	51-8011	Nuclear Power Reactor Operators	50	754	53-1011	Aircraft Cargo Handling Supervisors	50
715	51-8012	Power Distributors and Dispatchers	50	755	53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	50
716	51-8013	Power Plant Operators	50	756	53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators	50
717	51-8021	Stationary Engineers and Boiler Operators	25	757	53-2011	Airline Pilots, Copilots, and Flight Engineers	50
718	51-8031	Water and Liquid Waste Treatment Plant and System Operators	25	758	53-2012	Commercial Pilots	50
719	51-8091	Chemical Plant and System Operators	25	759	53-2021	Air Traffic Controllers	75
720	51-8092	Gas Plant Operators	25	760	53-2022	Airfield Operations Specialists	75
721	51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	25	761	53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	0
722	51-8099	Plant and System Operators, All Other	25	762	53-3021	Bus Drivers, Transit and Intercity	0
723	51-9011	Chemical Equipment Operators and Tenders	25	763	53-3022	Bus Drivers, School	0
724	51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	25	764	53-3031	Driver/Sales Workers	0
725	51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	25	765	53-3032	Truck Drivers, Heavy and Tractor-Trailer	0
726	51-9022	Grinding and Polishing Workers, Hand	0	766	53-3033	Truck Drivers, Light or Delivery Services	0
727	51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	25	767	53-3041	Taxi Drivers and Chauffeurs	0
728	51-9031	Cutters and Trimmers, Hand	0	768	53-3099	Motor Vehicle Operators, All Other	0
729	51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	25	769	53-4011	Locomotive Engineers	50
730	51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	25	770	53-4012	Locomotive Firers	50
731	51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	0	771	53-4013	Rail Yard Engineers, Dinkey Operators, and Hostlers	25
732	51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	50	772	53-4021	Railroad Brake, Signal, and Switch Operators	25
733	51-9071	Jewelers and Precious Stone and Metal Workers	25	773	53-4031	Railroad Conductors and Yardmasters	50
734	51-9081	Dental Laboratory Technicians	0	774	53-4041	Subway and Streetcar Operators	0
735	51-9082	Medical Appliance Technicians	0	775	53-4099	Rail Transportation Workers, All Other	0
736	51-9083	Ophthalmic Laboratory Technicians	0	776	53-5011	Sailors and Marine Oilers	0
737	51-9110	Packaging and Filling Machine Operators and Tenders	0	777	53-5021	Captains, Mates, and Pilots of Water Vessels	50
738	51-9111	Packaging and Filling Machine Operators and Tenders	0	778	53-5022	Motorboat Operators	25
739	51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	25	779	53-5031	Ship Engineers	75
740	51-9122	Painters, Transportation Equipment	0	780	53-6011	Bridge and Lock Tenders	0

Table 9. Detailed occupations with corresponding information-intensity weights

Sl. No.	SOC Code	Occupation Description	Info inten	Sl. No.	SOC Code	Occupation Description	Info inten
781	53-6021	Parking Lot Attendants	0	792	53-7061	Cleaners of Vehicles and Equipment	0
782	53-6031	Service Station Attendants	0	793	53-7062	Laborers and Freight, Stock, and Material Movers, Hand	0
783	53-6041	Traffic Technicians	50	794	53-7063	Machine Feeders and Offbearers	0
784	53-6051	Transportation Inspectors	25	795	53-7064	Packers and Packagers, Hand	0
785	53-6099	Transportation Workers, All Other	0	796	53-7071	Gas Compressor and Gas Pumping Station Operators	0
786	53-7011	Conveyor Operators and Tenders	0	797	53-7072	Pump Operators, Except Wellhead Pumpers	0
787	53-7021	Crane and Tower Operators	0	798	53-7073	Wellhead Pumpers	0
788	53-7031	Dredge Operators	0	799	53-7081	Refuse and Recyclable Material Collectors	0
789	53-7033	Loading Machine Operators, Underground Mining	0	800	53-7111	Shuttle Car Operators	0
790	53-7041	Hoist and Winch Operators	0	801	53-7121	Tank Car, Truck, and Ship Loaders	0
791	53-7051	Industrial Truck and Tractor Operators	0	802	53-7199	Material Moving Workers, All Other	0

By applying the weights: 100 percent, 75 percent, 50 percent, 25 percent, and 0 percent, the total employment in an industry is decomposed into two broad categories: information and non-information for each disaggregate industry. The following equation is used for information and non-information employment in industry  $i$ :

$$IE_i = \sum_{j=1}^n v_j E_{ji} \quad \text{and} \quad NE_i = \sum_{j=1}^n (1 - v_j) E_{ji}$$

where  $IE_i$  and  $NE_i$  are respectively the information and non-information employment in industry  $i$ ;  $v_j$  is the weight that represents information-intensity applied to the  $j$ th occupation and  $v_j \in [0, 0.25, 0.50, 0.75, 1]$ , and  $E_{ji}$  is the number of workers employed in occupation  $j$  in industry  $i$ . Chart 2 illustrates how we implement this strategy to calculate information employment by various industries. We obtain non-information employment by subtracting information employment from the total employment for each industry.

Chart 2. Calculation of information employment by industries.  
 (An illustrative example using 2002 occupational employment data)

SOC Code	4-digit NAICS Code →  Industry Title  Occupation Title	Number of workers						
		Information intensity (in percentage)	113300 Logging	115100 Support Activities for Crop Production	115200 Support Activities for Animal Production	211100 Oil and Gas Extraction	212100 Coal Mining	
		1	2	3	4	5	6	7
11-1011	Chief Executives	100	310	690	80	730	230	...
11-1021	General and Operations Managers	100	1340	2470	460	4590	1140	...
11-1031	Legislators	100	0	0	0	0	0	...
...	...	...	...	...	...	...	...	...
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	0	100	890	100	150	200	...
...	...	...	...	...	...	...	...	...
41-2031	Retail Salespersons	50	0	180	30	0	0	...
...	...	...	...	...	...	...	...	...
	Total							

Number of information workers					
113300	115100	115200	211100	212100	
Logging (col. 1 × col. 2 ÷ 100)	Support Activities for Crop Production (col. 1 × col. 3 ÷ 100)	Support Activities for Animal Production (col. 1 × col. 4 ÷ 100)	Oil and Gas Extraction (col. 1 × col. 4 ÷ 100)	Coal Mining (col. 1 × col. 5 ÷ 100)	
A	B	C	D	E	F
310	690	80	730	230	...
1340	2470	460	4590	1140	...
0	0	0	0	0	...
...	...	...	...	...	...
0	0	0	0	0	...
...	...	...	...	...	...
0	90	15	0	0	...
...	...	...	...	...	...
Sum of the column	Sum of the column	Sum of the column	Sum of the column	Sum of the column	...

A similar equation is used to calculate wage bills for information and non-information categories in industry  $i$ :

$$IE_i = \sum_{j=1}^n v_j E_{ji} W_{ji} \quad \text{and} \quad NE_i = \sum_{j=1}^n (1 - v_j) E_{ji} W_{ji}$$

where  $W_{ji}$  is the annual average wage for occupation  $j$  in industry  $i$ . The product-service classification is then applied to the industries, and the information and non-information employments are aggregated for each of these two broad categories. The total wage bills are also calculated for information and non-information workers for each industry. In Chart 3, we illustrate how we calculate information wage bill for each occupation and aggregate for the industry.

Chart 3. Calculations of total information wage bill

(An illustrative example using 2002 occupational employment data)

SOC Code	Occupation Title	Information intensity (in percentage)	Number of workers							Annual average wage							Total information wage bill (in Thousands of dollars)				
			113300	115100	115200	211100	212100			113300	115100	115200	211100	212100			113300	115100	115200	211100	212100
			Logging	Support Activities for Crop Production	Support Activities for Animal Production	Oil and Gas Extraction	Coal Mining			Logging	Support Activities for Crop Production	Support Activities for Animal Production	Oil and Gas Extraction	Coal Mining			Logging	Support Activities for Crop Production	Support Activities for Animal Production	Oil and Gas Extraction	Coal Mining
		1	2	3	4	5	6	7	I	II	III	IV	V	VI	A	B	C	D	E	F	
11-1011	Chief Executives	100	310	690	80	730	230	...	90510	107820	100580	175010	134080	...	28058.1	74395.8	8046.4	127757.3	30838.4	...	
11-1021	General and Operations Managers	100	1340	2470	460	4590	1140	...	59200	73390	62110	124700	82030	...	79328	181273.3	28570.6	572373	93514.2	...	
11-1031	Legislators	100	0	0	0	0	0	...	0	0	0	0	0	...	0	0	0	0	0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	0	100	890	100	150	200	...	17550	16880	18910	19240	26660	...	0	0	0	0	0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
41-2031	Retail Salespersons	50	0	180	30	0	0	...	0	17300	16220	0	0	...	0	1557	243.3	0	0	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Total														Sum of the column	Sum of the column	Sum of the column	Sum of the column	Sum of the column		

Using occupational employment data obtained from BLS, we construct the employment and wages data by information and non-information classification for industries at 3-digit levels of disaggregation for the years since 1999 through 2007 (see Tables 10–17). Note that we make adjustments to these calculations at two levels. First, for most major occupational categories, the total employment does not match the total number of workers obtained by adding a number of workers employed in various detailed occupations within a major occupational category. For example, the total employment for the category, Legal Occupations (SOC 23-0000) in Oil and Gas Extraction Industry is reported to be 2680 in 2003. However, if we add number of workers in nine occupations (such as Lawyers, Arbitrators, Mediators, and Conciliators etc.), we obtain a total of 1800 workers, giving us a discrepancy of 880 workers in this category. Since more detailed occupations are admittedly subject to greater measurement errors, we need to account for this discrepancy while measuring information employment in the respective industry. Since all nine occupations in this broad category have been assigned an information weight of 100, we apply the same weight to this discrepancy employment number. In general, we would use the mean or median of the weights assigned to various occupations within a broad category.

Furthermore, the total employment reported by BLS for various industries does not match the total number of workers employed in various occupations even after the above-mentioned discrepancies are accounted for. Therefore, we make an additional adjustment. We take the difference between the total employment and the total of employment in various occupations (including discrepancies at the levels of broad occupational categories) for each industry and assign, somewhat arbitrarily, half of it to information employment and the other half to non-information employment. For example, the total employment for Oil and Gas Extraction industry was reported to be 117,970 in 2003. If we add the number of workers in various occupations in this industry and the adjustments we have already made for discrepancies at the levels of broad occupational categories, we obtain 117,730 for total

employment — a difference of 240 workers. We assign half of them, i.e., 120, to information employment and the other 120 workers to non-information employment. We make similar adjustments for wage bills for these two categories as well.

Table 10. Employment and wages of information and non-information (physical) workers by 2-digit SIC industries, 1999

Sl. No.	SIC Code	Industry Title	Employment			Total wage bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	07	Agricultural Services	179290	927180	1106470	6043182	18634392	24677574
2	10	Metal Mining	8928	30353	39280	509234	1155806	1665040
3	12	Coal Mining	12895	68105	81000	661235	2485285	3146521
4	13	Oil and Gas Extraction	100898	195823	296720	5745563	6642982	12388545
5	14	Mining and Quarrying of Nonmetallic Minerals, Except Fuels	23795	87825	111620	1008971	2544397	3553368
6	15	Building Construction General Contractors and Operative Builders	415273	1089958	1505230	19301885	36102743	55404628
7	16	Heavy Construction Other Than Building Construction Contractors	197095	727555	924650	9456400	23937259	33393659
8	17	Construction Special Trade Contractors	737013	3426568	4163580	32722576	115626391	148348967
9	20	Food and Kindred Products	313670	1380480	1694150	13654976	31851712	45506688
10	21	Tobacco Products	5223	27948	33170	277544	882712	1160256
11	22	Textile Mill Products	101180	444420	545600	4061993	9590477	13652470
12	23	Apparel and Other Finished Products Made From Fabrics and Similar Materials	130453	530168	660620	5057249	9671907	14729155
13	24	Lumber and Wood Products, Except Furniture	149608	684393	834000	6104654	15703696	21808350
14	25	Furniture and Fixtures	102013	447688	549700	4243647	10209756	14453403
15	26	Paper and Allied Products	153260	506900	660160	7572525	14616646	22189172
16	27	Printing, Publishing, and Allied Industries	838618	716093	1554710	33340680	19442215	52782895
17	28	Chemicals and Allied Products	378705	654575	1033280	19699134	21131608	40830742
18	29	Petroleum Refining and Related Industries	53748	73703	127450	2915795	2859981	5775775
19	30	Rubber and Miscellaneous Plastics Products	222305	801335	1023640	9681920	19567690	29249610
20	31	Leather and Leather Products	14438	57583	72020	588980	1119220	1708200
21	32	Stone, Clay, Glass, and Concrete Products	125365	445775	571140	5364500	11751762	17116262
22	33	Primary Metal Industries	150518	549203	699720	7190735	16014047	23204782
23	34	Fabricated Metal Products, Except Machinery and Transportation Equipment	378465	1160765	1539230	17540294	31120357	48660650
24	35	Industrial and Commercial Machinery and Computer Equipment	770683	1343948	2114630	39557938	39533583	79091521
25	36	Electronic and Other Electrical Equipment and Components, Except Computer Equipment	607575	1073965	1681540	31642636	28474930	60117565
26	37	Transportation Equipment	597290	1288630	1885920	32159855	43535232	75695087
27	38	Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks	379815	461065	840880	20824448	13833722	34658170
28	39	Miscellaneous Manufacturing Industries	124423	274558	398980	5063373	6354027	11417400
29	40	Railroad Transportation	79190	120770	199960	3687356	4718677	8406032
30	41	Local and Suburban Transit and Interurban Highway Passenger Transportation	78703	404088	482790	2361556	8642106	11003662
31	42	Motor Freight Transportation and Warehousing	370845	1473635	1844480	13586479	44332440	57918920
32	44	Water Transportation	59033	128558	187590	2521500	3947637	6469137
33	45	Transportation By Air	473125	829635	1302760	20232032	29908764	50140796
34	46	Pipelines, Except Natural Gas	5355	7705	13060	295199	363250	658449
35	47	Transportation Services	300043	163158	463200	10044652	4182045	14226697

36	48	Communications	1054343	535888	1590230	45209692	21348647	66558339
37	49	Electric, Gas, and Sanitary Services	401693	458928	860620	19251028	18652360	37903388
38	50	Wholesale Trade--Durable Goods	2169960	1957270	4127230	96881170	55686372	152567541
39	51	Wholesale Trade--Non-Durable Goods	1264270	1564180	2828450	50850175	39649446	90499620
40	52	Building Materials, Hardware, Garden Supply, and Mobile Home Dealers	532653	459928	992580	14259310	10241907	24501217
41	53	General Merchandise Stores	1539028	1301703	2840730	30336415	24416454	54752870
42	54	Food Stores	1680520	1810510	3491030	34477103	33501311	67978414
43	55	Automotive Dealers and Gasoline Service Stations	1255230	1138660	2393890	38957303	29581854	68539157
44	56	Apparel and Accessory Stores	659973	511938	1171910	13823262	8989033	22812294
45	57	Home Furniture, Furnishings, and Equipment Stores	592273	512438	1104710	17509218	11733460	29242678
46	58	Eating and Drinking Places	1483910	6501120	7985030	33075788	95669140	128744928
47	59	Miscellaneous Retail	1776915	1240545	3017460	40656739	25910159	66566898
48	60	Depository Institutions	1666370	364920	2031290	58009206	9276895	67286102
49	61	Non-Depository Credit Institutions	618368	77003	695370	25305955	2522156	27828111
50	62	Security and Commodity Brokers, Dealers, Exchanges, and Services	598988	101093	700080	37479011	5722903	43201914
51	63	Insurance Carriers	1232290	242290	1474580	53102520	9511194	62613714
52	64	Insurance Agents, Brokers, and Service	609045	149685	758730	24265461	5884233	30149694
53	65	Real Estate	701858	795473	1497330	25960630	18384618	44345249
54	67	Holding and Other Investment Offices	195798	41973	237770	10660611	1456619	12117230
55	70	Hotels, Rooming Houses, Camps, and Other Lodging Places	489505	1361575	1851080	12453782	23604622	36058404
56	72	Personal Services	366785	886035	1252820	9749693	17212520	26962213
57	73	Business Services	4926183	4633908	9560090	188421644	94961022	283382665
58	75	Automotive Repair, Services, and Parking	374175	824145	1198320	12176798	19178488	31355286
59	76	Miscellaneous Repair Services	121398	257973	379370	4404237	7128091	11532328
60	78	Motion Pictures	331835	270725	602560	10564446	9023018	19587464
61	79	Amusement and Recreation Services	575313	1111928	1687240	16247820	23081027	39328847
62	80	Health Services	4000838	6929903	10930740	144815015	224815537	369630551
63	81	Legal Services	926543	74968	1001510	52954361	1812458	54766820
64	82	Educational Services	7164688	3723213	10887900	268786168	108079296	376865464
65	83	Social Services	1272590	1453430	2726020	34450136	26973568	61423705
66	84	Museums, Art Galleries, and Botanical and Zoological Gardens	59005	42005	101010	1778449	882484	2660933
67	86	Membership Organizations	583290	478280	1061570	19744352	9837143	29581495
68	87	Engineering, Accounting, Research, Management, and Related Services	2445430	876330	3321760	121213778	31469887	152683665
69	89	Services, not elsewhere classified	36583	15278	51860	1951459	518073	2469532
70	90	Government (OES designation)	4738623	4879538	9618160	188332901	163443332	351776233
		<b>Total</b>	<b>57085088</b>	<b>70188873</b>	<b>127273960</b>	<b>2152836332</b>	<b>1840648778</b>	<b>3993485110</b>

Table 11. Employment and wages of information and non-information (physical) workers by 2-digit SIC industries, 2000

Sl. No.	SIC Code	Industry Title	Employment			Total Wage Bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	07	Agricultural Services	262928	877593	1140520	7361859	18935115	26296974
2	10	Metal Mining	7363	30458	37820	409403	1195046	1604449
3	12	Coal Mining	12285	63580	75865	594838	2470829	3065667
4	13	Oil and Gas Extraction	109080	214335	323415	6323177	7094714	13417891
5	14	Mining and Quarrying of Nonmetallic Minerals, Except Fuels	26720	81820	108540	1115705	2543594	3659299
6	15	Building Construction General Contractors and Operative Builders	380790	1150890	1531680	18631897	38556680	57188576
7	16	Heavy Construction Other Than Building Construction Contractors	169740	776000	945740	8558438	26308485	34866923
8	17	Construction Special Trade Contractors	704530	3644555	4349085	32236234	126416758	158652992
9	20	Food and Kindred Products	369070	1323630	1692700	15248863	32446782	47695644
10	21	Tobacco Products	11033	22138	33170	582067	773231	1355298
11	22	Textile Mill Products	80210	436160	516370	3182530	9907568	13090098
12	23	Apparel and Other Finished Products Made From Fabrics and Similar Materials	113918	487378	601295	4407144	9640985	14048129
13	24	Lumber and Wood Products, Except Furniture	165200	639735	804935	6339007	15555901	21894908
14	25	Furniture and Fixtures	99950	451265	551215	4214593	11043077	15257671
15	26	Paper and Allied Products	150253	498978	649230	7451789	15578130	23029919
16	27	Printing, Publishing, and Allied Industries	682203	855858	1538060	28392895	26045527	54438422
17	28	Chemicals and Allied Products	364275	660375	1024650	19998725	23053884	43052609
18	29	Petroleum Refining and Related Industries	52713	71348	124060	2971051	2851594	5822645
19	30	Rubber and Miscellaneous Plastics Products	191865	808480	1000345	8583281	21075333	29658614
20	31	Leather and Leather Products	14220	52440	66660	571502	1105714	1677216
21	32	Stone, Clay, Glass, and Concrete Products	139433	433643	573075	5764881	12183115	17947996
22	33	Primary Metal Industries	134910	556765	691675	6548967	17259949	23808916
23	34	Fabricated Metal Products, Except Machinery and Transportation Equipment	341890	1194920	1536810	16058223	33826634	49884857
24	35	Industrial and Commercial Machinery and Computer Equipment	697538	1405938	2103475	38089821	43997016	82086837
25	36	Electronic and Other Electrical Equipment and Components, Except Computer Equipment	620153	1128703	1748855	33647131	31883012	65530143
26	37	Transportation Equipment	542890	1284625	1827515	31809306	47662298	79471604
27	38	Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks	386380	461055	847435	22204692	14582090	36786783
28	39	Miscellaneous Manufacturing Industries	113988	276713	390700	4794407	6876108	11670515
29	40	Railroad Transportation	74953	147738	222690	3324234	5885841	9210075
30	41	Local and Suburban Transit and Interurban Highway Passenger	157125	333465	490590	4110794	7810554	11921348

		Transportation						
31	42	Motor Freight Transportation and Warehousing	686598	1171133	1857730	23408469	36664938	60073407
32	44	Water Transportation	67125	123925	191050	2846206	4414797	7261002
33	45	Transportation By Air	539883	799568	1339450	20848658	32356284	53204942
34	46	Pipelines, Except Natural Gas	4070	9125	13195	238127	431152	669279
35	47	Transportation Services	308140	165665	473805	10678717	4548228	15226945
36	48	Communications	1061608	660368	1721975	49831160	26866026	76697187
37	49	Electric, Gas, and Sanitary Services	365448	487628	853075	18417514	20950123	39367637
38	50	Wholesale Trade--Durable Goods	2422265	1788730	4210995	109117211	55072309	164189519
39	51	Wholesale Trade--Non-Durable Goods	1544195	1286360	2830555	60562077	35483596	96045673
40	52	Building Materials, Hardware, Garden Supply, and Mobile Home Dealers	625893	372538	998430	16687320	8661156	25348476
41	53	General Merchandise Stores	1939543	995803	2935345	37969195	19749586	57718781
42	54	Food Stores	1846425	1623045	3469470	38132331	31189742	69322074
43	55	Automotive Dealers and Gasoline Service Stations	1234790	1179455	2414245	39519845	32025285	71545130
44	56	Apparel and Accessory Stores	864590	334790	1199380	17748192	6403965	24152157
45	57	Home Furniture, Furnishings, and Equipment Stores	717085	422530	1139615	20892526	10486182	31378708
46	58	Eating and Drinking Places	689873	7470488	8160360	19812904	115956221	135769124
47	59	Miscellaneous Retail	1973023	1147958	3120980	46052779	27051791	73104570
48	60	Depository Institutions	1649830	367020	2016850	62098628	9286852	71385480
49	61	Non-Depository Credit Institutions	572763	107208	679970	24136097	3159798	27295895
50	62	Security and Commodity Brokers, Dealers, Exchanges, and Services	647590	127015	774605	41047861	6313270	47361132
51	63	Insurance Carriers	1214495	236875	1451370	55066304	8180080	63246383
52	64	Insurance Agents, Brokers, and Service	611940	149280	761220	25639083	5031507	30670590
53	65	Real Estate	744088	770408	1514495	29084068	18865793	47949861
54	67	Holding and Other Investment Offices	198185	49350	247535	10912216	1635107	12547323
55	70	Hotels, Rooming Houses, Camps, and Other Lodging Places	456970	1426875	1883845	12286047	26374908	38660956
56	72	Personal Services	479028	790498	1269525	12298192	15732703	28030894
57	73	Business Services	5252805	4869870	10122675	220594180	107817784	328411964
58	75	Automotive Repair, Services, and Parking	353133	874958	1228090	10214725	22230533	32445258
59	76	Miscellaneous Repair Services	98575	268775	367350	3556086	7900432	11456518
60	78	Motion Pictures	318703	271418	590120	9836547	6981328	16817875
61	79	Amusement and Recreation Services	605345	1146170	1751515	17826528	24352112	42178639
62	80	Health Services	4208795	6894095	11102890	152206640	245231252	397437892
63	81	Legal Services	900268	121043	1021310	53066107	3720133	56786241
64	82	Educational Services	8779750	2406590	11186340	347144672	60948155	408092827
65	83	Social Services	1652738	1203338	2856075	42983653	23783902	66767555
66	84	Museums, Art Galleries, and Botanical and Zoological Gardens	61270	46655	107925	1939729	1021260	2960989
67	86	Membership Organizations	650783	445458	1096240	22412632	9426422	31839054
68	87	Engineering, Accounting, Research, Management, and Related Services	2639468	880883	3520350	138558996	32402193	170961189
69	89	Services, not elsewhere classified	35873	18348	54220	1845899	723527	2569426
70	90	Government (OES designation)	5322018	4327388	9649405	217153873	153838760	370992633
		<b>Total</b>	<b>61522558</b>	<b>68209193</b>	<b>129731750</b>	<b>2388199447</b>	<b>1877834756</b>	<b>4266034203</b>

Table 11. Employment and wages of information and non-information (physical) workers by 2-digit SIC industries, 2001

Sl. No.	SIC Code	Industry Title	Employment			Total Wage Bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	07	Agricultural Services	270883	907118	1178000	7875950	20325370	28201320
2	10	Metal Mining	6655	25875	32530	384251	1058455	1442706
3	12	Coal Mining	13728	70463	84190	686518	2801474	3487992
4	13	Oil and Gas Extraction	111453	221648	333100	6710531	7752671	14463202
5	14	Mining and Quarrying of Nonmetallic Minerals, Except Fuels	26295	82445	108740	1124819	2662596	3787414
6	15	Building Construction General Contractors and Operative Builders	369815	1106675	1476490	18644744	38657833	57302577
7	16	Heavy Construction Other Than Building Construction Contractors	171480	789730	961210	8824980	27662552	36487532
8	17	Construction Special Trade Contractors	682035	3692705	4374740	31529068	131692481	163221549
9	20	Food and Kindred Products	367033	1317408	1684440	15543693	33591422	49135115
10	21	Tobacco Products	10750	22720	33470	572479	820207	1392687
11	22	Textile Mill Products	71223	366108	437330	3019365	8731692	11751057
12	23	Apparel and Other Finished Products Made From Fabrics and Similar Materials	96025	416855	512880	3771366	8471080	12242446
13	24	Lumber and Wood Products, Except Furniture	156518	606743	763260	6189410	15326889	21516299
14	25	Furniture and Fixtures	93168	399003	492170	4091969	10180961	14272930
15	26	Paper and Allied Products	138498	474153	612650	6982459	15232230	22214689
16	27	Printing, Publishing, and Allied Industries	633408	802043	1435450	26649172	25127509	51776682
17	28	Chemicals and Allied Products	366513	629078	995590	21264915	22949237	44214152
18	29	Petroleum Refining and Related Industries	50325	75495	125820	2960461	3194653	6155114
19	30	Rubber and Miscellaneous Plastics Products	183745	733185	916930	8573563	19887944	28461507
20	31	Leather and Leather Products	12165	44315	56480	512815	982776	1495590
21	32	Stone, Clay, Glass, and Concrete Products	130745	417955	548700	5567971	12248318	17816289
22	33	Primary Metal Industries	116555	486845	603400	5830950	15740600	21571550
23	34	Fabricated Metal Products, Except Machinery and Transportation Equipment	318805	1080975	1399780	15320138	31782459	47102597
24	35	Industrial and Commercial Machinery and Computer Equipment	628770	1256140	1884910	35759267	40711532	76470799
25	36	Electronic and Other Electrical Equipment and Components, Except Computer Equipment	551973	938908	1490880	31754091	27836383	59590474
26	37	Transportation Equipment	516615	1197805	1714420	31064122	46136211	77200333
27	38	Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks	383785	437655	821440	22954021	14413284	37367306
28	39	Miscellaneous Manufacturing Industries	107298	256363	363660	4700541	6652924	11353465
29	40	Railroad Transportation	76433	167808	244240	3771476	7251076	11022551
30	41	Local and Suburban Transit and Interurban Highway Passenger Transportation	158030	333630	491660	4291893	8038940	12330833
31	42	Motor Freight Transportation and Warehousing	670735	1150995	1821730	23601238	37025937	60627174
32	44	Water Transportation	64943	119148	184090	2857044	4412670	7269714

33	45	Transportation By Air	509303	742128	1251430	20595207	30913652	51508859
34	46	Pipelines, Except Natural Gas	4403	9278	13680	265669	454583	720252
35	47	Transportation Services	281948	157753	439700	10201426	4594479	14795905
36	48	Communications	1003490	662450	1665940	48184502	27865659	76050161
37	49	Electric, Gas, and Sanitary Services	367195	485185	852380	19466250	21814513	41280763
38	50	Wholesale Trade--Durable Goods	2268403	1669848	3938250	105012550	53502012	158514563
39	51	Wholesale Trade--Non-Durable Goods	1489983	1242468	2732450	60552858	35929951	96482810
40	52	Building Materials, Hardware, Garden Supply, and Mobile Home Dealers	626505	387365	1013870	17242011	9402493	26644504
41	53	General Merchandise Stores	1896973	988108	2885080	38579023	20478564	59057588
42	54	Food Stores	1834088	1588313	3422400	39017046	31723962	70741008
43	55	Automotive Dealers and Gasoline Service Stations	1224160	1185080	2409240	40817012	33580320	74397331
44	56	Apparel and Accessory Stores	844760	322580	1167340	17727165	6390079	24117244
45	57	Home Furniture, Furnishings, and Equipment Stores	696728	418643	1115370	20815815	10749156	31564971
46	58	Eating and Drinking Places	702138	7539053	8241190	21158171	121991299	143149470
47	59	Miscellaneous Retail	1935545	1138975	3074520	47059500	28358475	75417976
48	60	Depository Institutions	1662245	379475	2041720	63672029	9911560	73583589
49	61	Non-Depository Credit Institutions	614408	115813	730220	26942190	3602912	30545103
50	62	Security and Commodity Brokers, Dealers, Exchanges, and Services	639643	128428	768070	41458767	6691541	48150308
51	63	Insurance Carriers	1228250	237540	1465790	57368712	8415944	65784655
52	64	Insurance Agents, Brokers, and Service	625273	156908	782180	26461526	5482705	31944231
53	65	Real Estate	777650	766920	1544570	30548117	19279711	49827828
54	67	Holding and Other Investment Offices	201508	49433	250940	11270244	1735976	13006220
55	70	Hotels, Rooming Houses, Camps, and Other Lodging Places	434950	1338030	1772980	12111555	25564270	37675825
56	72	Personal Services	486155	799565	1285720	12692240	16519318	29211558
57	73	Business Services	4767903	4478848	9246750	207459771	102861159	310320930
58	75	Automotive Repair, Services, and Parking	354688	883973	1238660	10480831	23520386	34001217
59	76	Miscellaneous Repair Services	97845	268515	366360	3627912	8117589	11745502
60	78	Motion Pictures	308798	256673	565470	9592790	6754948	16347738
61	79	Amusement and Recreation Services	583215	1106015	1689230	17787513	24375668	42163181
62	80	Health Services	4373345	7084575	11457920	163270404	261474691	424745094
63	81	Legal Services	913130	130550	1043680	52831963	4017286	56849250
64	82	Educational Services	9065845	2466105	11531950	370473044	64973388	435446432
65	83	Social Services	1709888	1290013	2999900	45693031	26424565	72117596
66	84	Museums, Art Galleries, and Botanical and Zoological Gardens	62168	48283	110450	2064415	1097769	3162184
67	86	Membership Organizations	621990	408570	1030560	22398837	9095077	31493914
68	87	Engineering, Accounting, Research, Management, and Related Services	2647893	913908	3561800	141908050	35042174	176950224
69	89	Services, not elsewhere classified	33193	17318	50510	1745185	683841	2429026
70	90	Government (OES designation)	5508185	4529575	10037760	232515315	166184512	398699827
		<b>Total</b>	<b>60960175</b>	<b>67020235</b>	<b>127980410</b>	<b>2434453929</b>	<b>1918936550</b>	<b>4353390479</b>

Table 12. Employment and wages of information and non-information (physical) workers by 3-digit NAICS industries, 2002

Sl. No.	3-digit NAICS Code	Industry Title	Employment			Total Wage Bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	113000	Forestry and Logging	20133	50913	71045	653454	1499778	2153232
2	115000	Support Activities for Agriculture and Forestry	87210	222225	309435	2065153	3992027	6057179
3	211000	Oil and Gas Extraction	62490	56505	118995	4498180	2653483	7151663
4	212000	Mining (except Oil and Gas)	40810	162530	203340	1963588	6089358	8052946
5	213000	Support Activities for Mining	38623	132878	171500	2132124	4374982	6507105
6	221000	Utilities	252383	333298	585680	14456894	16701803	31158697
7	236000	Construction of Buildings	429590	1165825	1595415	23979851	42041593	66021444
8	237000	Heavy and Civil Engineering Construction	198348	774503	972850	10979398	27519030	38498428
9	238000	Specialty Trade Contractors	670775	3620435	4291210	33130353	132434405	165564757
10	311000	Food Manufacturing	295240	1240845	1536085	11793620	30805851	42599471
11	312000	Beverage and Tobacco Product Manufacturing	67113	137813	204925	2961650	4368591	7330242
12	313000	Textile Mills	46615	235480	282095	2157535	5801366	7958902
13	314000	Textile Product Mills	36850	155420	192270	1479669	3504291	4983960
14	315000	Apparel Manufacturing	59220	273725	332945	2512971	5493190	8006161
15	316000	Leather and Allied Product Manufacturing	9568	39078	48645	401205	877098	1278302
16	321000	Wood Product Manufacturing	103233	439718	542950	4264573	11117499	15382072
17	322000	Paper Manufacturing	113320	422710	536030	5787351	13946619	19733970
18	323000	Printing and Related Support Activities	217233	480503	697735	9717158	14765622	24482780
19	324000	Petroleum and Coal Products Manufacturing	38353	80198	118550	2450916	3484225	5935141
20	325000	Chemical Manufacturing	344265	574660	918925	21317897	21751264	43069162
21	326000	Plastics and Rubber Products Manufacturing	166788	672303	839090	8154992	18523359	26678350
22	327000	Nonmetallic Mineral Product Manufacturing	120113	387058	507170	5352049	11525971	16878020
23	331000	Primary Metal Manufacturing	90355	406185	496540	4713019	13579466	18292486
24	332000	Fabricated Metal Product Manufacturing	344275	1167125	1511400	17527150	35010253	52537403
25	333000	Machinery Manufacturing	363833	823113	1186945	20017534	27113688	47131222
26	334000	Computer and Electronic Product Manufacturing	726645	704180	1430825	48056122	23805325	71861448
27	335000	Electrical Equipment, Appliance, and Component Manufacturing	122080	354550	476630	6496019	10347985	16844004
28	336000	Transportation Equipment Manufacturing	429435	1344185	1773620	25768393	52105036	77873430
29	337000	Furniture and Related Product Manufacturing	109905	480600	590505	4847222	12416003	17263225
30	339000	Miscellaneous Manufacturing	198085	481590	679675	9945612	13395709	23341321
31	423000	Merchant Wholesalers, Durable Goods	1681115	1277435	2958550	82982067	41807094	124789160
32	424000	Merchant Wholesalers, Nondurable Goods	1071268	937138	2008405	46576177	28132288	74708465
33	425000	Wholesale Electronic Markets and Agents and Brokers	394748	245298	640045	21220410	9043585	30263996
34	441000	Motor Vehicle and Parts Dealers	924538	957923	1882460	38215196	30467081	68682277
35	442000	Furniture and Home Furnishings Stores	332218	212968	545185	10625467	5695610	16321077
36	443000	Electronics and Appliance Stores	340595	189705	530300	12028864	5449208	17478072
37	444000	Building Material and Garden Equipment and Supplies Dealers	722123	453353	1175475	20953023	11453827	32406851
38	445000	Food and Beverage Stores	1534623	1324663	2859285	34743950	28154352	62898302
39	446000	Health and Personal Care Stores	527343	401458	928800	14078817	12722859	26801676
40	447000	Gasoline Stations	534633	354473	889105	10126106	6623881	16749987
41	448000	Clothing and Clothing Accessories Stores	942385	364855	1307240	21268764	7827501	29096265
42	451000	Sporting Goods, Hobby, Book, and Music Stores	467720	199905	667625	10428474	4055391	14483865
43	452000	General Merchandise Stores	1815720	885960	2701680	36525680	18039880	54565560

44	453000	Miscellaneous Store Retailers	633603	337713	971315	15675989	7477419	23153408
45	454000	Nonstore Retailers	250005	193805	443810	8223048	5205217	13428265
46	481000	Air Transportation	244708	313238	557945	11159770	17835821	28995590
47	482000	Rail Transportation	68270	153585	221855	3368193	6795660	10163853
48	483000	Water Transportation	23263	28628	51890	1156531	1136105	2292636
49	484000	Truck Transportation	466050	875695	1341745	17708111	29848655	47556766
50	485000	Transit and Ground Passenger Transportation	120018	267288	387305	3347101	6609927	9957028
51	486000	Pipeline Transportation	14693	25678	40370	875054	1234972	2110025
52	487000	Scenic and Sightseeing Transportation	8098	16303	24400	265748	417688	683436
53	488000	Support Activities for Transportation	216850	298310	515160	8826272	9853380	18679652
54	492000	Couriers and Messengers	239675	352000	591675	8440571	11599699	20040270
55	493000	Warehousing and Storage	226528	292008	518535	7502101	8055504	15557605
56	511000	Publishing Industries (except Internet)	625968	323808	949775	33611296	11160992	44772288
57	512000	Motion Picture and Sound Recording Industries	202278	186848	389125	10137091	5886558	16023649
58	515000	Broadcasting (except Internet)	202448	130463	332910	9545119	4949796	14494915
59	516000	Internet Publishing and Broadcasting	27543	5083	32625	1770278	230822	2001099
60	517000	Telecommunications	666383	447583	1113965	33716580	19845784	53562363
61	518000	Internet Service Providers, Web Search Portals, and Data Processing Service	360355	64845	425200	19823720	2257092	22080812
62	519000	Other Information Services	35500	10495	45995	1266516	311236	1577752
63	521000	Monetary Authorities - Central Bank	18065	5040	23105	901196	170930	1072126
64	522000	Credit Intermediation and Related Activities	2202483	484393	2686875	91852554	13407226	105259780
65	523000	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	644843	135048	779890	46409152	7550531	53959683
66	524000	Insurance Carriers and Related Activities	1746478	370308	2116785	83866217	13673817	97540034
67	525000	Funds, Trusts, and Other Financial Vehicles	70545	14275	84820	3938964	536937	4475901
68	531000	Real Estate	683118	683963	1367080	27588824	17783287	45372111
69	532000	Rental and Leasing Services	357728	282428	640155	10486297	7296892	17783189
70	533000	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	19705	6730	26435	1143976	229857	1373833
71	541000	Professional, Scientific, and Technical Services	5124403	1512723	6637125	304933058	58861125	363794182
72	551000	Management of Companies and Enterprises	1283200	403530	1686730	73911456	14273980	88185436
73	561000	Administrative and Support Services	2831468	4616943	7448410	92127535	101102679	193230214
74	562000	Waste Management and Remediation Services	102900	214620	317520	4523045	6978332	11501377
75	611000	Educational Services	9260448	2470443	11730890	389130248	68069270	457199517
76	621000	Ambulatory Health Care Services	2088400	2639035	4727435	83541662	128137220	211678882
77	622000	Hospitals	1895543	3217538	5113080	76879432	125654308	202533740
78	623000	Nursing and Residential Care Facilities	832993	1930243	2763235	24613359	44626606	69239965
79	624000	Social Assistance	1192143	744343	1936485	30997767	15165393	46163160
80	711000	Performing Arts, Spectator Sports, and Related Industries	174930	208630	383560	7593252	6393790	13987042
81	712000	Museums, Historical Sites, and Similar Institutions	63998	51178	115175	2153689	1163366	3317055
82	713000	Amusement, Gambling, and Recreation Industries	366873	906043	1272915	10127600	19062454	29190055
83	721000	Accommodation	426133	1339383	1765515	11999805	26091297	38091101
84	722000	Food Services and Drinking Places	713720	7745525	8459245	21590383	128911263	150501646
85	811000	Repair and Maintenance	287378	943503	1230880	9816211	27282798	37099009
86	812000	Personal and Laundry Services	425148	837113	1262260	11569706	17825055	29394761
87	813000	Religious, Grantmaking, Civic, Professional, and Similar Organizations	791933	499883	1291815	29824795	11522977	41347772
88	999000	Federal, State, and Local Government (OES Designation)	5499838	4646283	10146120	240333446	173788108	414121554
		<b>Total</b>	<b>60828540</b>	<b>66457780</b>	<b>127286320</b>	<b>2557627361</b>	<b>1966789250</b>	<b>4524416612</b>

Table 13. Employment and wages of information and non-information (physical) workers by 3-digit NAICS industries, 2003

Sl. No.	3-digit NAICS CODE	Industry Title	Employment			Total Wage Bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	113000	Forestry and Logging	18893	48113	67005	615038	1419805	2034843
2	115000	Support Activities for Agriculture and Forestry	86393	219698	306090	2062671	3979644	6042315
3	211000	Oil and Gas Extraction	60333	57518	117850	4299863	2637828	6937691
4	212000	Mining (except Oil and Gas)	40828	164408	205235	1969244	6181520	8150763
5	213000	Support Activities for Mining	36083	139248	175330	1976788	4677946	6654734
6	221000	Utilities	251270	329300	580570	14695160	16527403	31222563
7	236000	Construction of Buildings	415773	1156513	1572285	23630414	42037291	65667705
8	237000	Heavy and Civil Engineering Construction	189165	742775	931940	10515766	26467047	36982813
9	238000	Specialty Trade Contractors	655295	3602000	4257295	32718963	132778391	165497354
10	311000	Food Manufacturing	294275	1226340	1520615	12410318	31043521	43453838
11	312000	Beverage and Tobacco Product Manufacturing	67600	134800	202400	3100052	4335978	7436029
12	313000	Textile Mills	45883	230508	276390	2180519	5798125	7978644
13	314000	Textile Product Mills	36773	152048	188820	1518737	3530852	5049589
14	315000	Apparel Manufacturing	60645	266955	327600	2661567	5498180	8159746
15	316000	Leather and Allied Product Manufacturing	9218	37998	47215	389246	864796	1254042
16	321000	Wood Product Manufacturing	103613	438658	542270	4368740	11286696	15655436
17	322000	Paper Manufacturing	111730	414270	526000	5836164	13895483	19731647
18	323000	Printing and Related Support Activities	212478	475993	688470	9627165	14804596	24431761
19	324000	Petroleum and Coal Products Manufacturing	37190	81775	118965	2462722	3651956	6114678
20	325000	Chemical Manufacturing	338923	575238	914160	21396625	21940652	43337277
21	326000	Plastics and Rubber Products Manufacturing	164218	665158	829375	8235154	18722546	26957699
22	327000	Nonmetallic Mineral Product Manufacturing	120670	387935	508605	5472222	11784325	17256547
23	331000	Primary Metal Manufacturing	88435	401685	490120	4677501	13628420	18305921
24	332000	Fabricated Metal Product Manufacturing	343663	1159073	1502735	17837628	35394121	53231748
25	333000	Machinery Manufacturing	360048	812683	1172730	20351311	27170239	47521550
26	334000	Computer and Electronic Product Manufacturing	718358	677823	1396180	49295891	23546208	72842099
27	335000	Electrical Equipment, Appliance, and Component Manufacturing	121678	349093	470770	6669542	10442387	17111929
28	336000	Transportation Equipment Manufacturing	479083	1314563	1793645	29562814	51208778	80771592
29	337000	Furniture and Related Product Manufacturing	109038	474133	583170	4906434	12494276	17400710
30	339000	Miscellaneous Manufacturing	198045	477080	675125	10239111	13560194	23799305
31	423000	Merchant Wholesalers, Durable Goods	1676805	1277580	2954385	84055324	42576379	126631703
32	424000	Merchant Wholesalers, Nondurable Goods	1080110	944215	2024325	48179945	29032613	77212557
33	425000	Wholesale Electronic Markets and Agents and Brokers	415743	239748	655490	22883589	9338379	32221968
34	441000	Motor Vehicle and Parts Dealers	915865	961235	1877100	38499446	31130108	69629554
35	442000	Furniture and Home Furnishings Stores	337995	213295	551290	10800053	5728778	16528831
36	443000	Electronics and Appliance Stores	334983	188578	523560	11816285	5410021	17226307
37	444000	Building Material and Garden Equipment and Supplies Dealers	736605	464415	1201020	21647376	11933388	33580764
38	445000	Food and Beverage Stores	1547508	1320208	2867715	35254508	28232945	63487453
39	446000	Health and Personal Care Stores	528168	406128	934295	14513664	13369885	27883549
40	447000	Gasoline Stations	538198	349448	887645	10255878	6611700	16867577
41	448000	Clothing and Clothing Accessories Stores	956903	370918	1327820	22169985	8209162	30379147
42	451000	Sporting Goods, Hobby, Book, and Music Stores	470408	202218	672625	10661033	4187035	14848068
43	452000	General Merchandise Stores	1867980	973230	2841210	38407758	20422004	58829762
44	453000	Miscellaneous Store Retailers	624138	332133	956270	15557391	7461084	23018475
45	454000	Nonstore Retailers	246035	192750	438785	8414842	5330860	13745702

46	481000	Air Transportation	236768	307093	543860	11323951	18109614	29433565
47	482000	Rail Transportation	65625	153470	219095	3403982	6888257	10292239
48	483000	Water Transportation	22975	29990	52965	1169594	1206561	2376156
49	484000	Truck Transportation	460388	877093	1337480	17589582	29890075	47479657
50	485000	Transit and Ground Passenger Transportation	125710	267915	393625	3579661	6777202	10356863
51	486000	Pipeline Transportation	15810	25440	41250	1009718	1203727	2213445
52	487000	Scenic and Sightseeing Transportation	8743	17748	26490	284197	455377	739574
53	488000	Support Activities for Transportation	217565	296745	514310	9075709	9960340	19036049
54	492000	Couriers and Messengers	223525	344060	567585	7721872	11660456	19382329
55	493000	Warehousing and Storage	229325	297250	526575	7714558	8267443	15982001
56	511000	Publishing Industries (except Internet)	620875	317545	938420	34295135	11250954	45546089
57	512000	Motion Picture and Sound Recording Industries	197763	185658	383420	10048010	5897627	15945637
58	515000	Broadcasting (except Internet)	201325	126760	328085	9874666	4954228	14828894
59	516000	Internet Publishing and Broadcasting	25403	4698	30100	1670433	216695	1887128
60	517000	Telecommunications	665848	434473	1100320	34581305	19504019	54085323
61	518000	Internet Service Providers, Web Search Portals, and Data Processing Service	348810	61805	410615	19909751	2227064	22136815
62	519000	Other Information Services	37238	10638	47875	1391345	306448	1697792
63	521000	Monetary Authorities - Central Bank	17145	4695	21840	902037	164159	1066197
64	522000	Credit Intermediation and Related Activities	2251800	496640	2748440	96693947	13815487	110509434
65	523000	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	635675	131240	766915	46040980	7294156	53335135
66	524000	Insurance Carriers and Related Activities	1766693	372298	2138990	85790916	13605321	99396237
67	525000	Funds, Trusts, and Other Financial Vehicles	69508	14598	84105	3939997	540958	4480955
68	531000	Real Estate	699378	670773	1370150	28647636	17498867	46146503
69	532000	Rental and Leasing Services	357255	283330	640585	10598604	7492860	18091464
70	533000	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	20293	6243	26535	1195861	228662	1424523
71	541000	Professional, Scientific, and Technical Services	5125283	1487978	6613260	312808955	59543684	372352640
72	551000	Management of Companies and Enterprises	1275058	398373	1673430	74998693	13962431	88961124
73	561000	Administrative and Support Services	2761340	4613720	7375060	93359098	103952175	197311273
74	562000	Waste Management and Remediation Services	103665	217765	321430	4565274	7087029	11652303
75	611000	Educational Services	9383833	2478903	11862735	399678510	69668447	469346957
76	621000	Ambulatory Health Care Services	2095825	2650010	4745835	85329636	130987762	216317398
77	622000	Hospitals	1901105	3232035	5133140	79140441	129091294	208231734
78	623000	Nursing and Residential Care Facilities	830275	1945255	2775530	25160431	46065575	71226006
79	624000	Social Assistance	1203910	764225	1968135	32016862	15759643	47776505
80	711000	Performing Arts, Spectator Sports, and Related Industries	180173	208723	388895	7987551	6522311	14509862
81	712000	Museums, Historical Sites, and Similar Institutions	64440	51700	116140	2235513	1195146	3430658
82	713000	Amusement, Gambling, and Recreation Industries	365588	925463	1291050	10316898	19861138	30178036
83	721000	Accommodation	421693	1330928	1752620	12175515	26395605	38571121
84	722000	Food Services and Drinking Places	668038	7907483	8575520	20317263	132697145	153014407
85	811000	Repair and Maintenance	280338	953608	1233945	9600026	27948620	37548646
86	812000	Personal and Laundry Services	426560	843480	1270040	11632596	18036854	29669450
87	813000	Religious, Grantmaking, Civic, Professional, and Similar Organizations	794845	502315	1297160	30662072	11677167	42339239
88	999000	Federal, State, and Local Government (OES Designation)	5495575	4670090	10165665	247189189	178275260	425464450
		Total	60952005	66569710	127521715	2616428411	1998427387	4614855798

Table 14. Employment and wages of information and non-information (physical) workers by 3-digit NAICS industries, 2004

Sl. No.	3-digit NAICS CODE	Industry Title	Employment			Total Wage Bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	113000	Forestry and Logging	18065	47975	66040	591854	1420773	2012627
2	115000	Support Activities for Agriculture and Forestry	88460	225665	314125	2101519	4139952	6241472
3	211000	Oil and Gas Extraction	63708	55493	119200	4485679	2602065	7087744
4	212000	Mining (except Oil and Gas)	39378	164868	204245	1905930	6185561	8091491
5	213000	Support Activities for Mining	37758	146253	184010	2082600	5089052	7171652
6	221000	Utilities	239873	327123	566995	13997838	16457982	30455820
7	236000	Construction of Buildings	417708	1177813	1595520	24161101	44288909	68450010
8	237000	Heavy and Civil Engineering Construction	183220	735520	918740	10237217	27066547	37303765
9	238000	Specialty Trade Contractors	660950	3715850	4376800	33121086	139615769	172736855
10	311000	Food Manufacturing	280088	1218058	1498145	11806469	31390300	43196769
11	312000	Beverage and Tobacco Product Manufacturing	64668	129923	194590	3056111	4244563	7300674
12	313000	Textile Mills	42680	200980	243660	2076086	5157560	7233646
13	314000	Textile Product Mills	34745	147110	181855	1445492	3499409	4944901
14	315000	Apparel Manufacturing	58325	234470	292795	2739231	5030102	7769333
15	316000	Leather and Allied Product Manufacturing	8600	34395	42995	384970	789643	1174613
16	321000	Wood Product Manufacturing	102925	439805	542730	4382674	11622671	16005346
17	322000	Paper Manufacturing	104330	393695	498025	5520015	13548227	19068241
18	323000	Printing and Related Support Activities	203085	463360	666445	9199499	14617517	23817016
19	324000	Petroleum and Coal Products Manufacturing	33280	78825	112105	2197279	3577809	5775087
20	325000	Chemical Manufacturing	324370	563410	887780	20498161	21783923	42282084
21	326000	Plastics and Rubber Products Manufacturing	159860	646865	806725	8062085	18687492	26749577
22	327000	Nonmetallic Mineral Product Manufacturing	116173	384828	501000	5320190	11898748	17218937
23	331000	Primary Metal Manufacturing	82888	380378	463265	4497244	13104335	17601580
24	332000	Fabricated Metal Product Manufacturing	339540	1140210	1479750	17706892	35712433	53419325
25	333000	Machinery Manufacturing	342865	787360	1130225	19703370	26815672	46519042
26	334000	Computer and Electronic Product Manufacturing	710830	606555	1317385	51225542	22134305	73359847
27	335000	Electrical Equipment, Appliance, and Component Manufacturing	119265	326130	445395	6741309	10051631	16792940
28	336000	Transportation Equipment Manufacturing	474278	1287078	1761355	30041896	50295732	80337628
29	337000	Furniture and Related Product Manufacturing	108283	461718	570000	4973490	12362106	17335596
30	339000	Miscellaneous Manufacturing	198390	459145	657535	10463854	13439074	23902928
31	423000	Merchant Wholesalers, Durable Goods	1649048	1277518	2926565	83310629	43319813	126630442
32	424000	Merchant Wholesalers, Nondurable Goods	1068413	945343	2013755	48514561	29743435	78257996
33	425000	Wholesale Electronic Markets and Agents and Brokers	431775	254540	686315	23994495	9930849	33925345
34	441000	Motor Vehicle and Parts Dealers	918628	982478	1901105	38994504	32386134	71380639
35	442000	Furniture and Home Furnishings Stores	345710	219625	565335	11178114	6031400	17209514
36	443000	Electronics and Appliance Stores	338130	187295	525425	11750681	5452823	17203504
37	444000	Building Material and Garden Equipment and Supplies Dealers	759218	477508	1236725	22276969	12404565	34681535
38	445000	Food and Beverage Stores	1510640	1316710	2827350	34935864	28708966	63644831
39	446000	Health and Personal Care Stores	523205	418320	941525	14945388	14572056	29517444
40	447000	Gasoline Stations	537160	342360	879520	10330118	6443699	16773818
41	448000	Clothing and Clothing Accessories Stores	992845	379585	1372430	23563164	8534231	32097394
42	451000	Sporting Goods, Hobby, Book, and Music Stores	462818	199513	662330	10584869	4170941	14755810
43	452000	General Merchandise Stores	1879110	1001020	2880130	39854962	21544017	61398979
44	453000	Miscellaneous Store Retailers	603638	328263	931900	15137095	7468255	22605350
45	454000	Nonstore Retailers	241060	190250	431310	8387084	5440032	13827115

46	481000	Air Transportation	218960	292970	511930	10764921	18054765	28819686
47	482000	Rail Transportation	59930	152990	212920	3240414	7222736	10463150
48	483000	Water Transportation	23473	30993	54465	1193582	1261458	2455040
49	484000	Truck Transportation	456133	884108	1340240	17670417	30382576	48052994
50	485000	Transit and Ground Passenger Transportation	125655	272300	397955	3606988	7002923	10609912
51	486000	Pipeline Transportation	15863	23063	38925	1013868	1107004	2120873
52	487000	Scenic and Sightseeing Transportation	9103	17563	26665	298469	470095	768564
53	488000	Support Activities for Transportation	224773	299573	524345	9548478	10232304	19780782
54	491000	Postal Service	576420	228310	804730	24790635	9723398	34514033
55	492000	Couriers and Messengers	228828	342028	570855	8259079	11535981	19795059
56	493000	Warehousing and Storage	236793	315233	552025	8179695	9042932	17222627
57	511000	Publishing Industries (except Internet)	596935	314395	911330	33872688	11309920	45182608
58	512000	Motion Picture and Sound Recording Industries	187368	199418	386785	9247410	6339792	15587202
59	515000	Broadcasting (except Internet)	197695	126010	323705	9831632	5016819	14848451
60	516000	Internet Publishing and Broadcasting	24658	4533	29190	1618280	216684	1834964
61	517000	Telecommunications	631755	417060	1048815	33762764	19439729	53202492
62	518000	Internet Service Providers, Web Search Portals, and Data Processing Service	328965	57860	386825	19426480	2138845	21565325
63	519000	Other Information Services	38135	11165	49300	1529967	359957	1889923
64	521000	Monetary Authorities - Central Bank	16605	4815	21420	894527	171506	1066033
65	522000	Credit Intermediation and Related Activities	2297168	505333	2802500	100855636	14731936	115587572
66	523000	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	628928	124448	753375	47456520	7425986	54882505
67	524000	Insurance Carriers and Related Activities	1762335	368305	2130640	87861256	14072361	101933618
68	525000	Funds, Trusts, and Other Financial Vehicles	70448	14898	85345	4004436	580206	4584643
69	531000	Real Estate	711965	680045	1392010	30106684	18429473	48536157
70	532000	Rental and Leasing Services	353000	284715	637715	10717898	7750917	18468815
71	533000	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	19765	5760	25525	1166870	221952	1388822
72	541000	Professional, Scientific, and Technical Services	5183200	1489980	6673180	322099368	61539009	383638377
73	551000	Management of Companies and Enterprises	1305095	412860	1717955	79450194	15016758	94466952
74	561000	Administrative and Support Services	2802743	4730298	7533040	98875267	110370296	209245563
75	562000	Waste Management and Remediation Services	103068	221443	324510	4642538	7557881	12200419
76	611000	Educational Services	9493010	2461860	11954870	416154475	70042668	486197143
77	621000	Ambulatory Health Care Services	2154278	2736363	4890640	89523518	136713549	226237067
78	622000	Hospitals	1917605	3270290	5187895	83029520	136357680	219387200
79	623000	Nursing and Residential Care Facilities	836280	1971955	2808235	25959701	48192237	74151938
80	624000	Social Assistance	1206395	805970	2012365	33262570	17239129	50501698
81	711000	Performing Arts, Spectator Sports, and Related Industries	175890	206310	382200	7920573	6547965	14468538
82	712000	Museums, Historical Sites, and Similar Institutions	64433	52593	117025	2321938	1250072	3572010
83	713000	Amusement, Gambling, and Recreation Industries	363563	950848	1314410	10577240	20890097	31467337
84	721000	Accommodation	428548	1336058	1764605	12661784	27159224	39821008
85	722000	Food Services and Drinking Places	629388	8173083	8802470	19504294	139235867	158740161
86	811000	Repair and Maintenance	279163	947158	1226320	9717585	28946467	38664052
87	812000	Personal and Laundry Services	423158	848113	1271270	11793081	18799244	30592325
88	813000	Religious, Grantmaking, Civic, Professional, and Similar Organizations	781145	503955	1285100	30987892	12157477	43145369
89	999000	Federal, State, and Local Government (OES Designation)	4940883	4445728	9386610	230669330	173311906	403981235
		<b>Total</b>	<b>61049468</b>	<b>67043923</b>	<b>128093390</b>	<b>2682555641</b>	<b>2058350859</b>	<b>4740906500</b>

Table 15. Employment and wages of information and non-information (physical) workers by 3-digit NAICS industries, 2005

Sl. No.	3-digit NAICS CODE	Industry	Employment			Total Wage Bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	113000	Forestry and Logging	18355	46655	65010	607043	1418686	2025729
2	115000	Support Activities for Agriculture and Forestry	86018	218193	304210	2080692	4176686	6257378
3	211000	Oil and Gas Extraction	69448	52813	122260	5034717	2689490	7724208
4	212000	Mining (except Oil and Gas)	39153	171413	210565	1898924	6550177	8449101
5	213000	Support Activities for Mining	44828	161893	206720	2484445	5748976	8233420
6	221000	Utilities	227438	324973	552410	13221217	16468627	29689844
7	236000	Construction of Buildings	439465	1241705	1681170	25801455	47391123	73192578
8	237000	Heavy and Civil Engineering Construction	187748	758783	946530	10799808	28336130	39135939
9	238000	Specialty Trade Contractors	686193	3900963	4587155	34689368	148447874	183137242
10	311000	Food Manufacturing	269038	1209838	1478875	11330721	31840023	43170743
11	312000	Beverage and Tobacco Product Manufacturing	62113	128903	191015	2941010	4343793	7284803
12	313000	Textile Mills	38340	186040	224380	1854935	4827339	6682274
13	314000	Textile Product Mills	32808	140073	172880	1363478	3425464	4788942
14	315000	Apparel Manufacturing	51045	217985	269030	2389036	4815970	7205006
15	316000	Leather and Allied Product Manufacturing	7683	32878	40560	344967	778383	1123350
16	321000	Wood Product Manufacturing	103078	454593	557670	4429447	12295623	16725070
17	322000	Paper Manufacturing	100090	385670	485760	5389036	13652623	19041659
18	323000	Printing and Related Support Activities	199733	452573	652305	9326791	14539748	23866539
19	324000	Petroleum and Coal Products Manufacturing	31763	80648	112410	2085260	3664876	5750136
20	325000	Chemical Manufacturing	306988	568438	875425	19384064	22237535	41621599
21	326000	Plastics and Rubber Products Manufacturing	154888	649488	804375	7947650	19206956	27154606
22	327000	Nonmetallic Mineral Product Manufacturing	116425	390865	507290	5344746	12240822	17585567
23	331000	Primary Metal Manufacturing	81965	385520	467485	4542601	13482810	18025412
24	332000	Fabricated Metal Product Manufacturing	337690	1174195	1511885	17830121	37309855	55139976
25	333000	Machinery Manufacturing	341115	809775	1150890	20019269	27876216	47895485
26	334000	Computer and Electronic Product Manufacturing	714335	598500	1312835	53152502	22485415	75637917
27	335000	Electrical Equipment, Appliance, and Component Manufacturing	118875	320360	439235	6846799	10134040	16980839
28	336000	Transportation Equipment Manufacturing	464243	1320303	1784545	29970109	51685537	81655646
29	337000	Furniture and Related Product Manufacturing	107523	460408	567930	5030720	12654847	17685567
30	339000	Miscellaneous Manufacturing	197473	455423	652895	10777222	13796450	24573672
31	423000	Merchant Wholesalers, Durable Goods	1682865	1295215	2978080	86644549	45315299	131959848
32	424000	Merchant Wholesalers, Nondurable Goods	1083788	944983	2028770	50093032	30251303	80344335
33	425000	Wholesale Electronic Markets and Agents and Brokers	468393	260593	728985	26193702	10433123	36626825
34	441000	Motor Vehicle and Parts Dealers	923793	989513	1913305	39309306	32907713	72217019
35	442000	Furniture and Home Furnishings Stores	358040	221330	579370	11489855	6161531	17651386
36	443000	Electronics and Appliance Stores	350043	188278	538320	12365699	5592592	17958291
37	444000	Building Material and Garden Equipment and Supplies Dealers	796130	482955	1279085	23407138	12910432	36317571
38	445000	Food and Beverage Stores	1518730	1303035	2821765	35102594	28862446	63965039
39	446000	Health and Personal Care Stores	516773	431118	947890	14968085	15617124	30585209
40	447000	Gasoline Stations	533868	337568	871435	10245586	6452071	16697657
41	448000	Clothing and Clothing Accessories Stores	1032065	389360	1421425	24352804	8857903	33210707
42	451000	Sporting Goods, Hobby, Book, and Music Stores	462873	197438	660310	10563307	4203850	14767156
43	452000	General Merchandise Stores	1933978	997818	2931795	41686014	21657874	63343888
44	453000	Miscellaneous Store Retailers	599005	323505	922510	14862279	7429521	22291800
45	454000	Nonstore Retailers	242575	192915	435490	8708154	5725758	14433911

46	481000	Air Transportation	219095	288140	507235	11106546	18384426	29490972
47	482000	Rail Transportation	56808	156073	212880	3301114	7828532	11129646
48	483000	Water Transportation	22635	35055	57690	1171118	1478484	2649602
49	484000	Truck Transportation	468770	918410	1387180	18225991	32171851	50397842
50	485000	Transit and Ground Passenger Transportation	126593	279018	405610	3679030	7295484	10974515
51	486000	Pipeline Transportation	15048	22698	37745	978714	1111026	2089740
52	487000	Scenic and Sightseeing Transportation	9418	18013	27430	312469	498809	811278
53	488000	Support Activities for Transportation	242280	304495	546775	10484043	10681999	21166042
54	491000	Postal Service	573093	226478	799570	26170906	10184629	36355535
55	492000	Couriers and Messengers	223163	341893	565055	8085121	11505296	19590418
56	493000	Warehousing and Storage	245185	336635	581820	8500757	9866921	18367678
57	511000	Publishing Industries (except Internet)	596460	309440	905900	34847567	11449056	46296623
58	512000	Motion Picture and Sound Recording Industries	182173	204698	386870	8756040	6624586	15380626
59	515000	Broadcasting (except Internet)	198548	126838	325385	10268599	5360769	15629368
60	516000	Internet Publishing and Broadcasting	25115	5325	30440	1636580	262934	1899514
61	517000	Telecommunications	598285	403265	1001550	32126170	19258588	51384758
62	518000	Internet Service Providers, Web Search Portals, and Data Processing Service	322865	58080	380945	19403054	2258127	21661180
63	519000	Other Information Services	38753	10828	49580	1613634	392682	2006316
64	521000	Monetary Authorities - Central Bank	15805	4655	20460	892416	171211	1063627
65	522000	Credit Intermediation and Related Activities	2334060	509055	2843115	105356037	15484531	120840568
66	523000	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	654013	126943	780955	49855121	7527234	57382355
67	524000	Insurance Carriers and Related Activities	1763228	366688	2129915	89938856	14535800	104474656
68	525000	Funds, Trusts, and Other Financial Vehicles	73238	15193	88430	4240647	611623	4852270
69	531000	Real Estate	756605	681245	1437850	33297773	19610171	52907944
70	532000	Rental and Leasing Services	354508	290118	644625	10967586	8119642	19087228
71	533000	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	20438	5653	26090	1253181	224709	1477890
72	541000	Professional, Scientific, and Technical Services	5388820	1539215	6928035	340544780	65579211	406123991
73	551000	Management of Companies and Enterprises	1318990	420380	1739370	82449443	15776605	98226048
74	561000	Administrative and Support Services	2894915	4871905	7766820	106684591	119391521	226076112
75	562000	Waste Management and Remediation Services	106028	229338	335365	4883854	8070728	12954582
76	611000	Educational Services	9694348	2443063	12137410	437630872	70775921	508406793
77	621000	Ambulatory Health Care Services	2218615	2844620	5063235	94283593	144769316	239052909
78	622000	Hospitals	1935220	3311405	5246625	87159158	143317350	230476508
79	623000	Nursing and Residential Care Facilities	840155	1999820	2839975	26948781	50200542	77149323
80	624000	Social Assistance	1222898	859773	2082670	34840484	18815514	53655997
81	711000	Performing Arts, Spectator Sports, and Related Industries	179903	205178	385080	8106335	6574335	14680670
82	712000	Museums, Historical Sites, and Similar Institutions	65410	53765	119175	2428171	1307832	3736004
83	713000	Amusement, Gambling, and Recreation Industries	378228	961068	1339295	11309525	21666780	32976305
84	721000	Accommodation	438645	1350795	1789440	13214143	28151921	41366065
85	722000	Food Services and Drinking Places	580340	8472725	9053065	18202257	146841911	165044168
86	811000	Repair and Maintenance	276380	957175	1233555	9755146	30037829	39792976
87	812000	Personal and Laundry Services	425075	852065	1277140	12084007	19600943	31684949
88	813000	Religious, Grantmaking, Civic, Professional, and Similar Organizations	787158	512403	1299560	32644392	12837228	45481620
89	999000	Federal, State, and Local Government (OES Designation)	4926038	4513868	9439905	237611184	179960209	417571393
		<b>Total</b>	<b>61952100</b>	<b>68298960</b>	<b>130251060</b>	<b>2786160045</b>	<b>2147475444</b>	<b>4933635489</b>

Table 16. Employment and wages of information and non-information (physical) workers by 3-digit NAICS industries, 2006

Sl. No.	3-digit NAICS CODE	Industry Title	Employment			Total Wage Bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	113000	Forestry and Logging	18095	43970	62065	629401	1419662	2049063
2	115000	Support Activities for Agriculture and Forestry	89520	226950	316470	2183161	4442257	6625418
3	211000	Oil and Gas Extraction	73458	55483	128940	5408990	2861622	8270613
4	212000	Mining (except Oil and Gas)	40960	178560	219520	2035700	7065440	9101140
5	213000	Support Activities for Mining	51953	189663	241615	2937116	7020875	9957991
6	221000	Utilities	223633	322753	546385	13587489	16869272	30456761
7	236000	Construction of Buildings	470853	1311428	1782280	28272337	51576726	79849063
8	237000	Heavy and Civil Engineering Construction	198605	793045	991650	11737745	30490546	42228291
9	238000	Specialty Trade Contractors	715855	4142740	4858595	36998359	161413281	198411640
10	311000	Food Manufacturing	266495	1201590	1468085	11397047	32373294	43770341
11	312000	Beverage and Tobacco Product Manufacturing	60968	132088	193055	2956200	4552151	7508351
12	313000	Textile Mills	34370	168185	202555	1688708	4442266	6130974
13	314000	Textile Product Mills	30823	133643	164465	1316632	3360984	4677616
14	315000	Apparel Manufacturing	47493	198933	246425	2269170	4532061	6801231
15	316000	Leather and Allied Product Manufacturing	6625	30895	37520	303589	754189	1057779
16	321000	Wood Product Manufacturing	103708	462178	565885	4540868	12785222	17326090
17	322000	Paper Manufacturing	100503	372803	473305	5631944	13479103	19111048
18	323000	Printing and Related Support Activities	197050	440995	638045	9418046	14497548	23915594
19	324000	Petroleum and Coal Products Manufacturing	30650	81620	112270	2038910	3901094	5940005
20	325000	Chemical Manufacturing	301180	562580	863760	19464925	22540861	42005786
21	326000	Plastics and Rubber Products Manufacturing	157235	645420	802655	8241713	19327759	27569471
22	327000	Nonmetallic Mineral Product Manufacturing	117570	397225	514795	5498432	12681238	18179669
23	331000	Primary Metal Manufacturing	82410	382060	464470	4658916	13609566	18268482
24	332000	Fabricated Metal Product Manufacturing	338943	1198368	1537310	18345842	39037551	57383393
25	333000	Machinery Manufacturing	342133	828393	1170525	20572700	28952556	49525257
26	334000	Computer and Electronic Product Manufacturing	707330	596710	1304040	54373212	23110139	77483351
27	335000	Electrical Equipment, Appliance, and Component Manufacturing	114778	317753	432530	6758676	10196227	16954903
28	336000	Transportation Equipment Manufacturing	474605	1303010	1777615	31826388	52454657	84281045
29	337000	Furniture and Related Product Manufacturing	106483	457273	563755	5116053	13027277	18143330
30	339000	Miscellaneous Manufacturing	197108	453973	651080	11091037	14222226	25313264
31	423000	Merchant Wholesalers, Durable Goods	1723380	1325540	3048920	91968746	47630231	139598977
32	424000	Merchant Wholesalers, Nondurable Goods	1091435	947245	2038680	51814092	31098964	82913056
33	425000	Wholesale Electronic Markets and Agents and Brokers	508123	266463	774585	29580789	11268338	40849126
34	441000	Motor Vehicle and Parts Dealers	927663	986298	1913960	40383938	33421832	73805770
35	442000	Furniture and Home Furnishings Stores	364493	226043	590535	12119328	6457357	18576686
36	443000	Electronics and Appliance Stores	363850	198225	562075	12862703	5933689	18796393
37	444000	Building Material and Garden Equipment and Supplies Dealers	787175	513040	1300215	21363635	14869226	36232861
38	445000	Food and Beverage Stores	1514958	1301468	2816425	35916881	29571943	65488824
39	446000	Health and Personal Care Stores	505633	447848	953480	13951493	17536685	31488178
40	447000	Gasoline Stations	530580	334695	865275	10537934	6593096	17131030
41	448000	Clothing and Clothing Accessories Stores	1057788	394848	1452635	25601743	9081995	34683738
42	451000	Sporting Goods, Hobby, Book, and Music Stores	471438	200108	671545	11149690	4368261	15517952
43	452000	General Merchandise Stores	1956000	1013615	2969615	43383911	22798163	66182074
44	453000	Miscellaneous Store Retailers	586308	314348	900655	14960788	7404436	22365225
45	454000	Nonstore Retailers	239883	193793	433675	8760404	5916817	14677221

46	481000	Air Transportation	214220	271285	485505	11037451	18140905	29178357
47	482000	Rail Transportation	56065	151360	207425	3438278	7834216	11272494
48	483000	Water Transportation	24130	37370	61500	1293208	1633085	2926293
49	484000	Truck Transportation	476705	942915	1419620	18866924	34140580	53007504
50	485000	Transit and Ground Passenger Transportation	127388	280273	407660	3775757	7511263	11287020
51	486000	Pipeline Transportation	14848	23763	38610	984010	1215550	2199560
52	487000	Scenic and Sightseeing Transportation	9220	17670	26890	314803	505981	820784
53	488000	Support Activities for Transportation	246495	315430	561925	10860129	11209552	22069681
54	491000	Postal Service	566045	225065	791110	25518085	10088957	35607042
55	492000	Couriers and Messengers	227970	348120	576090	8598239	12055140	20653379
56	493000	Warehousing and Storage	259075	365760	624835	9227839	11005389	20233228
57	511000	Publishing Industries (except Internet)	598855	303085	901940	36163952	11707991	47871943
58	512000	Motion Picture and Sound Recording Industries	181255	202240	383495	8987651	6822743	15810394
59	515000	Broadcasting (except Internet)	196848	130823	327670	10264018	5673017	15937035
60	516000	Internet Publishing and Broadcasting	26940	6105	33045	1780208	310512	2090720
61	517000	Telecommunications	578445	395870	974315	32256774	19518726	51775500
62	518000	Internet Service Providers, Web Search Portals, and Data Processing Service	325038	58758	383795	20523595	2441202	22964797
63	519000	Other Information Services	38888	11648	50535	1662421	429185	2091606
64	521000	Monetary Authorities - Central Bank	15873	4763	20635	902643	182340	1084983
65	522000	Credit Intermediation and Related Activities	2405070	516110	2921180	113583607	16486726	130070333
66	523000	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	664550	134080	798630	48952739	10228530	59181269
67	524000	Insurance Carriers and Related Activities	1778460	373405	2151865	93246138	15309529	108555667
68	525000	Funds, Trusts, and Other Financial Vehicles	75365	16485	91850	4481277	677920	5159197
69	531000	Real Estate	786115	696135	1482250	35530829	20769868	56300697
70	532000	Rental and Leasing Services	349820	289250	639070	11194726	8404502	19599228
71	533000	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	20920	6375	27295	1252338	230267	1482605
72	541000	Professional, Scientific, and Technical Services	5635905	1607225	7243130	367977167	71276638	439253805
73	551000	Management of Companies and Enterprises	1368490	417955	1786445	89079471	16477961	105557432
74	561000	Administrative and Support Services	2962863	5028808	7991670	112401671	126323537	238725208
75	562000	Waste Management and Remediation Services	108653	239123	347775	5013561	8578440	13592001
76	611000	Educational Services	9844413	2446908	12291320	462473057	73693329	536166386
77	621000	Ambulatory Health Care Services	2281515	2951285	5232800	100259497	155110891	255370388
78	622000	Hospitals	1963733	3352273	5316005	93260779	152983393	246244172
79	623000	Nursing and Residential Care Facilities	855858	2013823	2869680	28424892	52322088	80746980
80	624000	Social Assistance	1267478	899013	2166490	37230433	20500178	57730612
81	711000	Performing Arts, Spectator Sports, and Related Industries	187023	207938	394960	9152267	7254831	16407098
82	712000	Museums, Historical Sites, and Similar Institutions	65403	54828	120230	2477863	1403837	3881701
83	713000	Amusement, Gambling, and Recreation Industries	378363	973378	1351740	11614274	22662067	34276341
84	721000	Accommodation	439350	1360055	1799405	13592350	29468652	43061003
85	722000	Food Services and Drinking Places	552340	8695895	9248235	18013237	155469305	173482542
86	811000	Repair and Maintenance	279325	964220	1243545	10244146	31077419	41321565
87	812000	Personal and Laundry Services	432788	855018	1287805	12459253	20161488	32620741
88	813000	Religious, Grantmaking, Civic, Professional, and Similar Organizations	785010	515750	1300760	33760324	13521816	47282140
89	999000	Federal, State, and Local Government (OES Designation)	5031943	4450783	9482725	253068842	183411881	436480723
		<b>Total</b>	<b>63035135</b>	<b>69452265</b>	<b>132487400</b>	<b>2930856110</b>	<b>2257180106</b>	<b>5188036216</b>

Table 17. Employment and wages of information and non-information (physical) workers by 3-digit NAICS industries, 2007

Sl. No.	3-digit NAICS CODE	Industry Title	Employment			Total Wage Bill (Thousands of dollars)		
			Information	Non-information	Total	Information	Non-information	Total
			1	2	3	4	5	6
1	113000	Forestry and Logging	17278	42963	60240	627851	1442103	2069955
2	115000	Support Activities for Agriculture and Forestry	91220	234195	325415	2303571	4746004	7049575
3	211000	Oil and Gas Extraction	76085	64135	140220	5936937	3424085	9361022
4	212000	Mining (except Oil and Gas)	41670	179785	221455	2141942	7333662	9475604
5	213000	Support Activities for Mining	54873	226613	281485	3203680	8927602	12131282
6	221000	Utilities	224348	317853	542200	14167590	17194464	31362055
7	236000	Construction of Buildings	473840	1305240	1779080	29253635	53371910	82625545
8	237000	Heavy and Civil Engineering Construction	201198	810123	1011320	12352366	32326364	44678730
9	238000	Specialty Trade Contractors	727290	4152135	4879425	38801526	166524802	205326328
10	311000	Food Manufacturing	269948	1197733	1467680	12054715	33270251	45324966
11	312000	Beverage and Tobacco Product Manufacturing	60473	135113	195585	2975379	4827750	7803128
12	313000	Textile Mills	29400	145995	175395	1498344	3956900	5455244
13	314000	Textile Product Mills	30035	125895	155930	1329299	3259276	4588575
14	315000	Apparel Manufacturing	42308	182273	224580	2131701	4328175	6459876
15	316000	Leather and Allied Product Manufacturing	5670	28335	34005	266853	712474	979327
16	321000	Wood Product Manufacturing	97415	433525	530940	4402839	12285173	16688012
17	322000	Paper Manufacturing	94935	363915	458850	5494088	13455372	18949459
18	323000	Printing and Related Support Activities	192268	436618	628885	9433992	14701120	24135113
19	324000	Petroleum and Coal Products Manufacturing	34115	80550	114665	2460872	3975867	6436739
20	325000	Chemical Manufacturing	306313	551473	857785	20906855	22937176	43844031
21	326000	Plastics and Rubber Products Manufacturing	150430	611650	762080	8227865	18921712	27149578
22	327000	Nonmetallic Mineral Product Manufacturing	116270	393760	510030	5605570	13010883	18616453
23	331000	Primary Metal Manufacturing	78110	378075	456185	4591039	13843154	18434194
24	332000	Fabricated Metal Product Manufacturing	342238	1216848	1559085	19231362	40547405	59778768
25	333000	Machinery Manufacturing	344053	834853	1178905	21402043	29801686	51203729
26	334000	Computer and Electronic Product Manufacturing	704713	584378	1289090	56359860	23397826	79757686
27	335000	Electrical Equipment, Appliance, and Component Manufacturing	115745	316070	431815	7174153	10449080	17623233
28	336000	Transportation Equipment Manufacturing	463323	1271513	1734835	32370439	52519865	84890305
29	337000	Furniture and Related Product Manufacturing	102260	437660	539920	5124065	12921178	18045243
30	339000	Miscellaneous Manufacturing	197230	454895	652125	11495632	14716561	26212193
31	423000	Merchant Wholesalers, Durable Goods	1765678	1327228	3092905	98011693	49523651	147535344
32	424000	Merchant Wholesalers, Nondurable Goods	1106608	953478	2060085	54657614	32550037	87207651
33	425000	Wholesale Electronic Markets and Agents and Brokers	535878	275793	811670	32573667	12172463	44746130
34	441000	Motor Vehicle and Parts Dealers	931558	980563	1912120	41305866	34009408	75315274
35	442000	Furniture and Home Furnishings Stores	365025	223340	588365	12394737	6611051	19005788
36	443000	Electronics and Appliance Stores	363015	194735	557750	12902904	5945878	18848782
37	444000	Building Material and Garden Equipment and Supplies Dealers	829875	500035	1329910	25994451	14088430	40082881
38	445000	Food and Beverage Stores	1541438	1292473	2833910	37129907	30277149	67407055
39	446000	Health and Personal Care Stores	528378	457193	985570	16646629	18330406	34977035
40	447000	Gasoline Stations	523735	331010	854745	10558267	6750818	17309085
41	448000	Clothing and Clothing Accessories Stores	1109478	414078	1523555	27129284	9784772	36914057
42	451000	Sporting Goods, Hobby, Book, and Music Stores	470710	197860	668570	11441760	4500685	15942445
43	452000	General Merchandise Stores	1986920	1071005	3057925	45288094	25195811	70483905
44	453000	Miscellaneous Store Retailers	575190	304880	880070	14981282	7419000	22400282
45	454000	Nonstore Retailers	244478	195623	440100	9370013	6190838	15560851

46	481000	Air Transportation	218375	267485	485860	11685170	18860155	30545324
47	482000	Rail Transportation	59295	153155	212450	3855691	8336241	12191933
48	483000	Water Transportation	23330	38260	61590	1327611	1836730	3164341
49	484000	Truck Transportation	481763	962943	1444705	19689708	35969107	55658814
50	485000	Transit and Ground Passenger Transportation	130823	289178	420000	4025877	8031709	12057587
51	486000	Pipeline Transportation	14605	23580	38185	1002878	1234621	2237499
52	487000	Scenic and Sightseeing Transportation	9500	18275	27775	336789	536239	873028
53	488000	Support Activities for Transportation	250540	324785	575325	11273343	12109041	23382384
54	491000	Postal Service	562355	223540	785895	25577656	10117030	35694686
55	492000	Couriers and Messengers	229223	350813	580035	9201337	12864140	22065477
56	493000	Warehousing and Storage	277730	394900	672630	10260889	12262595	22523484
57	511000	Publishing Industries (except Internet)	602653	293578	896230	37697798	11871418	49569216
58	512000	Motion Picture and Sound Recording Industries	193255	183290	376545	11837597	6508690	18346287
59	515000	Broadcasting (except Internet)	195213	130763	325975	10719758	6075939	16795698
60	516000	Internet Publishing and Broadcasting	32025	7630	39655	2203133	405709	2608842
61	517000	Telecommunications	576488	394248	970735	32773413	19863906	52637320
62	518000	Internet Service Providers, Web Search Portals, and Data Processing Service	303798	51343	355140	20358041	2182395	22540436
63	519000	Other Information Services	42300	12165	54465	1953385	458203	2411589
64	521000	Monetary Authorities - Central Bank	15740	4225	19965	980144	166426	1146570
65	522000	Credit Intermediation and Related Activities	2376448	506703	2883150	115234907	16511121	131746028
66	523000	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	714038	126568	840605	59411126	7912698	67323824
67	524000	Insurance Carriers and Related Activities	1785495	370840	2156335	97304707	15681323	112986030
68	525000	Funds, Trusts, and Other Financial Vehicles	65555	19230	84785	2890093	1541880	4431973
69	531000	Real Estate	797855	687405	1485260	37356824	21304204	58661028
70	532000	Rental and Leasing Services	345215	285215	630430	11325550	8562894	19888444
71	533000	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	20545	6205	26750	1317844	222819	1540663
72	541000	Professional, Scientific, and Technical Services	5859618	1659443	7519060	400661575	76507965	477169540
73	551000	Management of Companies and Enterprises	1487415	427835	1915250	101658195	17652598	119310793
74	561000	Administrative and Support Services	3056240	5099150	8155390	120261813	133161739	253423552
75	562000	Waste Management and Remediation Services	109545	241660	351205	5167423	8832885	14000308
76	611000	Educational Services	9987833	2467723	12455555	484373434	76968218	561341652
77	621000	Ambulatory Health Care Services	2356390	3054140	5410530	107125448	165690370	272815818
78	622000	Hospitals	1994903	3415143	5410045	99477945	163393392	262871337
79	623000	Nursing and Residential Care Facilities	871063	2057108	2928170	29880338	55431763	85312101
80	624000	Social Assistance	1326493	930078	2256570	40203196	21789937	61993133
81	711000	Performing Arts, Spectator Sports, and Related Industries	196235	214460	410695	9858835	7688518	17547353
82	712000	Museums, Historical Sites, and Similar Institutions	67953	57423	125375	2654027	1520794	4174821
83	713000	Amusement, Gambling, and Recreation Industries	390450	996820	1387270	12327996	24258043	36586040
84	721000	Accommodation	447683	1386133	1833815	14342951	31469466	45812417
85	722000	Food Services and Drinking Places	562838	8945148	9507985	18940487	168323798	187264286
86	811000	Repair and Maintenance	276295	972340	1248635	10355926	31997777	42353704
87	812000	Personal and Laundry Services	448580	858625	1307205	13331567	20984186	34315753
88	813000	Religious, Grantmaking, Civic, Professional, and Similar Organizations	803230	522185	1325415	36348528	14289493	50638021
89	999000	Federal, State, and Local Government (OES Designation)	5032610	4500775	9533385	262689261	193756953	456446215
		<b>Total</b>	<b>64162535</b>	<b>70165955</b>	<b>134328490</b>	<b>3104972452</b>	<b>2361625407</b>	<b>5466597859</b>

## **A.5 Conclusion**

In this technical appendix, we have discussed the definitions and conceptual framework, and described the data sources and the detailed calculations used to measure the size and structure of the U.S. information economy in 2002. Furthermore, the details of an information-intensity based classification of occupations into information and physical (material/non-information) categories to analyze the growth of information employment and wages in various product and service industries of the U.S. economy were covered.