

Labor Cost Inputs Used in the Employee Benefits Security Administration, Office of Policy and Research’s Regulatory Impact Analyses and Paperwork Reduction Act Burden Calculations

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Labor Cost Estimation

This document describes the data and methodology used to estimate labor costs in regulatory impact analyses (RIAs) and Paperwork Reduction Act (PRA) burden calculations prepared by the Employee Benefits Security Administration’s Office of Policy and Research (OPR). It includes a brief general description of labor cost and the data and methodology, followed by a more detailed description how labor costs are calculated. Calculations for specific occupations can be found in Table 3, “EBSA OPR Labor Cost Inputs,” located at the end of this document.

Labor Cost

OPR defines labor cost as the sum of total compensation and overhead cost.

Total Hourly Compensation

Total compensation includes wages and nonwage benefits. Nonwage benefits include:

- Paid leave (e.g., vacations, holidays, sick leave);
- Supplementary pay (premium pay for overtime and work on holidays and weekends, shift differentials, and nonproduction bonuses);
- Retirement (defined benefit and defined contribution plans); insurance (life insurance, health benefits, short-term disability, and long- term disability insurance); and Legally required benefits (Social Security and Medicare, federal and state unemployment insurance taxes, and workers’ compensation).

Total Hourly Compensation Data

Mean hourly wages by occupation for 2018 come from the U.S. Bureau of Labor Statistics (BLS) National Occupational Employment and Wage Estimates.¹ Estimates of wages and salaries as a percentage of total compensation for certain occupations come from the BLS National Compensation Survey’s Employee Cost for Employee Compensation (ECEC).² Total hourly compensation is then calculated by dividing the mean hourly wage rate from the Occupational Employment Statistics (OES) (Column 1 in the Table 3, “EBSA OPR Labor Cost Inputs,”) by wage and salary’s share of total compensation from the ECEC (Column 2 in Table 3. “EBSA OPR Labor Cost Inputs”).

Overhead Costs

Overhead costs are costs incurred that are not related to direct labor or direct materials and that must be paid on an ongoing basis regardless of the output of a firm. Because overhead is a factor of total production costs, it must be incorporated into labor cost estimates.

Overhead Cost Data

The U.S. Census Bureau (Census) provides detailed total cost estimates for manufacturers by

¹ This is a product of the Occupational Employment Statistics (OES) survey from May 2018 found at https://www.bls.gov/news.release/archives/ocwage_03292019.pdf

² Taken from Table 2 of the December 2018 release found at https://www.bls.gov/news.release/archives/ecec_03192019.pdf.

industry in its Annual Survey of Manufacturers (ASM).³ The ASM provides data for each 6-digit (North American Industry Classification System (NAICS) code within the manufacturing sector. Census also provides detailed cost estimates for service the industry in its Service Annual Survey (SAS).⁴ While the SAS does not provide as much detail as the ASM, it does provide detailed cost data for every 2-digit NAICS industry with the exception of government industries (NAICS code 90) and NAICS 55, management of companies and enterprises (NAICS code 55). Given the detailed cost breakdown from the ASM and the SAS, total overhead cost for each 2-digit NAICS industry can be estimated.⁵

Table 1 below shows how the industry-level overhead cost is calculated for NAICS 524, the insurance carriers and related activities industry.

Table 1. Breakdown of Costs for Insurance Carriers and Related Activities Industry

Item	2017 Estimate (millions)
Expenses	\$702,844
Gross annual payroll	\$219,289
Health insurance	\$17,723
Defined benefit pension plans	\$7,436
Defined contribution plans	\$9,194
Payroll taxes, employer paid insurance premiums (except health), and other employer benefits	\$17,366
Temporary staff and leased employee expense	\$11,205
Expensed equipment	\$2,762
Expensed purchases of other materials, parts, and supplies	\$10,573
Expensed purchases of software	\$10,039
Purchased electricity	\$790
Purchased fuels (except motor fuels)	\$86
Lease and rental payments for machinery, equipment, and other tangible items	\$1,480

³ The 2016 survey, the most recent, published in December 2017 can be found at <https://www.census.gov/data/Tables/2016/econ/asm/2016-asm.html>. Data that are not in 2018 dollars are adjusted using the BLS Producer Price Index for Final Demand (https://www.bls.gov/news.release/archives/ppi_04112019.pdf) so that all overhead cost is in 2018 dollars.

⁴ The 2017 survey, the most recent, published in November 2018 can be found at <https://www.census.gov/data/Tables/2017/econ/services/sas-naics.html>. Data that are not in 2018 dollars are adjusted using the BLS Producer Price Index for Final Demand (https://www.bls.gov/news.release/archives/ppi_04112019.pdf) so that all overhead cost is in 2018 dollars.

⁵ For NAICS 52, 3-digit NAICS codes 521, 522, 523, and 524 are used instead of the 2-digit NAICS codes because a separate SAS survey is used to collect data for NAICS 524, insurance carriers and related activities, than is used for the other 3-digit NAICS codes within NAICS 52. For NAICS 62, family practitioners and registered nurses, 4-digit NAICS codes are used because most of the occupation's employment is in this industry and the detailed industries gave a more accurate representation of the overhead costs.

Lease and rental payments for land, buildings, structures, store spaces, and offices	\$12,277
Purchased repairs and maintenance to machinery and equipment	\$1,493
Purchased repairs and maintenance to buildings, structures, and offices	\$1,395
Purchased advertising and promotional services	\$15,435
Depreciation and amortization charges	\$19,244
Governmental taxes and license fees	\$25,987
Operating interest expense	\$11,423
Data processing and other purchased computer services	\$5,426
Purchased communication services	\$3,698
Water, sewer, refuse removal, and other utility payments	\$235
Purchased professional and technical services	\$30,579
All other operating expenses	\$267,709

Note: The cost items within the shaded section are considered overhead, while the cost items outside the shaded section are considered direct costs.

Overhead Cost Methodology

While the approach in Table 1 provides an estimate for total overhead cost by industry, OPR estimates costs in its Regulatory Impact Analysis (RIA) and Paper Reduction Act (PRA) burden calculations by occupation, which requires overhead costs to be assigned across occupations. To estimate overhead cost on an occupational basis, OPR allocates total industry overhead cost to unique occupations using a matrix of detailed occupational employment for each NAICS industry.⁶ This matrix reports total industry employment as well as the percentage of total employment for each occupation within the industry. The overhead cost corresponding to each 2-digit NAICS code is multiplied by the percent of each occupation within that NAICS industry code. The allocated shares of overhead cost for each NAICS code within an occupation is then summed to estimate the yearly total overhead cost for all employees within an occupation.

⁶ The BLS Office of Employment Projections. The 2016 full matrix can be found at <https://www.bls.gov/emp/data/occupational-data.htm> (accessed June 4, 2019).

Table 2 below shows how industry-level overhead costs are converted to occupation-level overhead costs for the actuary occupation.⁷

Table 2. Overhead Costs for the Actuary Occupation

Industry	Employment (thousands)	Percent of Industry Employment	Overhead Cost for Industry (millions)	Overhead for Occupation (millions)
Securities, commodity contracts, and other financial investments and related activities	0.3	0	\$224,845	\$0
Insurance carriers and related activities	16.1	0.6	\$432,543	\$5,595
Professional, scientific, and technical services	3.9	0	\$574,672	\$0
Management of companies and enterprises	1.6	0.1	\$391,206	\$391
Administrative and support and waste management and remediation services	0.1	0	\$230,432	\$0
Healthcare and social assistance	0.1	0	\$753,694	\$0
Other services (except public administration)	0.1	0	\$269,676	\$0
Total Employment	22.2	Total Overhead Cost for all Employees		\$2,987

The annual total overhead cost for all employees within an occupation is divided by the number of employees in the occupation to generate yearly total overhead cost per employee. Total overhead cost, which is listed in millions, is converted to thousands so that the unit of measure is consistent with employment.

Hourly Overhead Cost Calculation

In Table 2 above, annual overhead cost per employee equals \$134,525 ($\$2,987 \times 1000 \div 22.2$). To

⁷ For some industries, the employment is low enough to round to zero on a percentage basis for the purposes of these calculations.

calculate an hourly overhead cost per employee, the annual overhead cost per employee is divided by 2,080, the approximate number of work hours in 1 year, to estimate the hourly overhead cost for each employee within an occupation.⁸ Applied to the actuaries in Table 2, hourly overhead cost per employee equals \$64.68 per hour ($\$134,525 \div 2020$ hours).

Total Hourly Labor Costs

As stated above, total hourly labor cost is equal to the sum of the hourly total compensation and the hourly overhead cost for an occupation in 2018. In most circumstances, these 2018 values will serve as OPR’s labor cost inputs for regulatory impact analyses until more current data are available. Table 3 shows the total hour labor costs for the occupations that OPR uses in its burden calculations for RIA PRA cost estimates.

Table 3. OPR Labor Cost Inputs

Occupation	Standard Occupational Classification Code	Mean Hourly Wage	Wages and Salaries as Percentage of Total Compensation	Total Compensation = (1)/(2)	Overhead	Total Labor Cost 2018
						(3) + (4)
		(1)	(2)	(3)	(4)	(5)
Management, business, and financial						
Financial Managers	11-3031	\$70.59	68.40	\$103.20	\$62.43	\$165.63
Professional and related						
Family and General Practitioners	29-1062	\$101.82	68.40	\$148.86	\$21.10	\$169.96
Computer Programmers	15-1131	\$43.07	68.40	\$62.97	\$47.37	\$110.34
Computer Systems Analysts	15-1121	\$45.01	68.40	\$65.80	\$52.83	\$118.63
Lawyers	23-1011	\$69.34	68.40	\$101.37	\$37.04	\$138.41
Compensation and Benefits Manager	11-3111	\$63.86	68.40	\$93.36	\$40.85	\$134.21

⁸ 2,080 hours assumes that an employee works 40 hours per week for 52 weeks per year. As this may overstate average employee hours, actual overhead costs may be greater than our estimate.

Compensation, benefits, and job analysis specialists	13-1141	\$32.65	68.40	\$47.73	\$45.47	\$93.20
Accountants and Auditors	13-2011	\$37.89	68.40	\$55.39	\$45.35	\$100.74
Actuaries	15-2011	\$55.89	68.40	\$81.71	\$64.68	\$146.39
Personal Financial Advisors	13-2052	\$58.54	68.40	\$85.58	\$109.19	\$194.77
Human Resource Specialist	13-1071	\$32.11	68.40	\$46.94	\$35.22	\$82.16
Paraprofessional						
Paralegals and Legal Assistants	23-2011	\$26.20	68.40	\$38.30	\$34.12	\$72.42
Registered nurses						
Licensed Practical and Licensed Vocational Nurses	29-2061	\$22.62	65.60	\$34.48	\$15.76	\$50.24
Office and administrative support						
Secretaries, Except Legal, Medical, and Executive	43-6014	\$18.28	67.20	\$27.20	\$27.94	\$55.14
Receptionists and Information Clerks	43-4171	\$14.59	67.20	\$21.71	\$23.93	\$45.64
Mail Clerks and Mail Machine Operators, Except Postal Service	43-9051	\$15.41	67.20	\$22.93	\$41.18	\$64.11
Medical Secretaries	43-6013	\$17.83	67.20	\$26.53	\$18.06	\$44.59