Appendix H: Detailed Burden Calculations

Overview

This appendix provides supplemental details on the burden calculations discussed in Sections A.12 and A.15 of Supporting Statement Part A. The exhibits in this appendix present burden estimates separately for each year in the December 2021–November 2024 burden period. The estimates presented for each year were averaged together to derive the annual average estimates presented in Exhibits A-2 (Section A.12) and A-4 (Section A.15). Minor differences may exist between the annualized averages presented in Exhibit A-2 and the averages derived directly from Appendix Exhibit H-1, because Exhibit A-2 does not include intermediate calculations and rounding steps. For the same reason, there may be minor differences between the annualized averages presented in Exhibit A-4 and the averages derived directly from Appendix Exhibit H-2.

Details on the Calculation of Burden

As described in Section A.3.1, there are two protocols for O*NET data collection—the Establishment Method and the Occupation Expert (OE) Method. Most occupations are completed by the Establishment Method. The OE Method is used for occupations as necessary to improve sampling efficiency and avoid excessive burden, as when it is difficult to locate industries or establishments with occupation incumbents; employment is low; or employment data are not available, as is the case for many new and emerging occupations.

The Establishment Method uses a two-stage sample, with establishments selected at the first stage and employees selected at the second stage. Thus, there are burden hours associated with both establishments and employees. For each participating establishment, a point of contact (POC) is identified to coordinate data collection activities in the establishment. In Appendix Exhibit H-1, the first and second columns of the Establishment Activity section present the number of responses and assumed average burden per response for the POC's activities; these averages were obtained from previous years of O*NET data collection experience. When the total establishment burden was estimated, the estimated number of establishments that will complete each activity was multiplied by the average burden and summed across the activities. O*NET Establishment Method data collection has been designed to minimize the burden on the selected establishments:

- Establishments are asked about no more than 10 occupations each, with questioning terminated once 5, or sometimes fewer, occupations are identified at an establishment.

- Establishments are asked to complete rosters of employees only for the 5 or fewer occupations identified.

- Establishments are selected no more than once within a 12-month period.

- No more than 20 employees are selected from an establishment across all of its selected occupations.

- If an occupation proves difficult to complete under the Establishment Method, the dual-frame approach may be used to supplement it. For occupations that are difficult to sample, the alternative OE Method may be used.

The Employee Activity section of Appendix Exhibit H-1 is based on the fact that selected employees under the Establishment Method will complete one domain questionnaire, requiring an average of 30 minutes of effort, whereas occupation experts will complete all three domain questionnaires, requiring an average of 90 minutes of effort.

Appendix Exhibit H-1 also displays the estimated number of sampling units and the estimated burden hours. We assume that 60 occupations will be completed under the Establishment Method and 40 will be completed under the OE Method each year. From December 2021 through November 2022, establishments are estimated to expend 8,160 burden hours, and employees are estimated to expend 7,280 burden hours, for a total of 15,440 burden hours. From December 2022 through November 2023, establishments are estimated to expend 8,516 burden hours, and employees are estimated to expend 8,459 burden hours, for a total of 16,975 burden hours. From December 2023 through November 2024, establishments are estimated to expend 8,516 burden hours, and employees are estimated to expend 8,363 burden hours are estimated for employees, for a total of 16,879 burden hours. The slight variation in total burden hours across the 3-year period December 2021 through November 2024 (15,440; 16,975; 16,879) results from minor differences in the data collection schedule assumed for each year of the burden period. The data collection schedule for each year of the burden period is determined by the sampling characteristics of the specific set of occupations being studied.[1]

The Total Respondents section of Appendix Exhibit H-1 shows the estimated annual number of respondents by category and overall. The respondent totals include the number of POCs (the row name is "Screening call to POC"), the number of Establishment Method

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[1] OMB Supporting Statement Part B includes a detailed description of the sampling methodology used to select establishments. For each set of occupations being studied, the establishment sample is released periodically over time as subwaves. The schedule of subwaves can vary depending on the difficulty of the occupations of interest, which causes fluctuations in the burden estimates for each year of the burden period.

employee respondents, and the number of OE Method respondents. The category totals are based on prior sampling experience. The total number of respondents across all 3 years is 122,824.

The Total Burden Hours section of Appendix Exhibit H-1 shows the annual number of burden hours by category and overall. The burden hour totals include both establishment burden and employee burden. The category totals are based on the estimated number of respondents for each category, the number of responses, and the average burden per response. The total number of burden hours across all 3 years is 49,294. This 3-year total reflects an increase in burden compared with the previous 3-year period of 2018 to 2021, during which 42,878 burden hours were requested (U.S. Department of Labor, Employment and Training Administration, 2018).

The increase in the estimated burden is due to several factors. First, we have increased the assumed number of establishments fielded per month from approximately 1,360 to 3,000 to offset declining response rates and potentially lasting impacts of the COVID-19 pandemic. The AAPOR, the Census Bureau, and others have widely noted the general downward trend in survey participation (American Association of Public Opinion Research, n.d.; Office of Survey Methods Research, 2020; Tourangeau, 2017, May). Over the past decade, O*NET has also experienced a gradual decline in response rates, particularly for the Establishment Method. We further expect that the pandemic may have lasting impacts on participation and eligibility, as U.S. businesses are challenged to remain open and operate at full capacity. Given these uncertainties, we have assumed lower participation and eligibility rates to estimate sample size requirements for the 2021–2024 burden period. While the potential increase in the monthly establishment sample size appears large, the actual sample sizes may be smaller. If production is higher than expected for the Establishment Method, O*NET's Model-Aided Sampling (MAS; discussed in Part B, Section 2.1) paradigm permits early termination of data collection to prevent overproduction and safeguard against burden.

The second factor leading to an increase in the estimated burden is that we have increased the assumed number of OE Method occupations fielded per year from 25 to 40. This adjustment is designed to help ease some of the establishment burden. Like the Establishment Method, the OE Method has experienced some decline in participation but to a lesser extent; this is likely because individuals who are sampled via the OE Method are contacted directly, unlike the Establishment Method, for which selected individuals remain anonymous and questionnaire distribution is coordinated through a POC. Thus, the OE Method provides an efficient approach for collecting and updating occupations that are increasingly difficult to survey under the Establishment Method.

While increasing establishment and OE sample sizes can help with meeting production goals, declining response rates raise the risk of nonresponse bias. O*NET has several strategies in place to monitor and protect data quality. The Establishment Method employs a MAS design, in which target numbers of responding employees are defined by census region, business size, and industry division for each occupation before data collection begins. The progress of each occupation is monitored daily to assess representativeness of the respondent sample with respect to the target cells, and data collection in a cell may be terminated once the target is achieved. MAS ensures that the resulting sample for each occupation is distributed across these target cells approximately in proportion to the population distribution. Additionally, the design-based sampling weights produced for Establishment Method are adjusted for nonresponse at both the establishment and employee levels. These adjustments help to correct for differential nonresponse with respect to the establishment and employee characteristics available from the sampling frame. The effectiveness of these methods at mitigating risk of nonresponse bias is continually monitored; a nonresponse bias analysis is conducted annually to assess unit and item nonresponse for the Establishment Method. Results for the last three analysis cycles are presented in Appendix I; findings suggest that the risk for significant nonresponse bias due to establishment, employee, or item nonresponse is small. Despite declining response rates in recent years, we have not observed increased evidence of nonresponse bias. MAS and O*NET's weighting methods are described in detail in Part B, Section 2.1.

Finally, the last row of Appendix Exhibit H-1 shows that the combined establishment and employee total cost burden is $829,026 for December 2021–November 2022, $922,975 for December 2022–November 2023, and $945,242 for December 2023–November 2024. The slight increase in total cost burden across the 3-year period December 2021–November 2024 results from minor variations in the data collection schedule for each year as well as from the inflation adjustment applied to the assumed average total compensation per hour.

Detailed Comparison of Projected Burden for 2021–2024 with Previous 3-Year Burden Period

Appendix Exhibit H-2 compares the projected burden hours for each year in the period December 2021–November 2024 with the average annual burden as estimated for the period October 2018–November 2021 in the OMB Supporting Statement, Part A, dated September 2018. The projected total annual burden hours for December 2021–November 2024 range from 15,440 to 16,975. The average annual burden is 16,431 hours, compared with an average annual burden of 14,293 hours requested for the previous 3-year period (2018–2021). In addition, as indicated in Appendix Exhibit H-2, the total burden hours for the December 2021–November

2024 period, 49,294, reflect an increase in burden compared with the 2018–2021 period, for which a total 42,878 hours were requested (U.S. Department of Labor, 2018). The increase in burden hours is primarily due to the increase in monthly establishment sample sizes and increased number of OEs fielded per year.

Appendix Exhibit H-2 also compares the estimated costs to respondents for December 2021–November 2024 with the average annual cost estimated for 2018–2021. The increased annual costs since 2018–2021 are because of the increased sample sizes described above and because of inflation in the benefits portion of employee compensation.

Appendix Exhibit H-1. Estimate of Hour and Cost Burden by Year

	Number of Responses per Sample Unit	Average Burden per Response (Minutes)	Dec 2021 – Nov 2022		Dec 2022 – Nov 2023		Dec 2023 – Nov 2024	
			Sampling Units	Burden Hours	Sampling Units	Burden Hours	Sampling Units	Burden Hours
Establishment Activity								
Verification calls to initial contact at establishment	1	2	34,500	1,150	36,000	1,200	36,000	1,200
Screening call to POC	1	3	26,117	1,306	27,252	1,363	27,252	1,363
Initial recruitment call to POC	1	12	10,708	2,142	11,173	2,235	11,173	2,235
POC creation of occupation lists for sampling	1	20	4,283	1,428	4,469	1,490	4,469	1,490
Call to POC to sample workers	1	10	4,283	714	4,469	745	4,469	745
POC's distribution of questionnaire packets	1	15	3,705	926	3,866	967	3,866	967
Follow-up calls to POC	4	2	3,705	494	3,866	516	3,866	516
Total, establishment[a]	NA	NA	NA	8,160	NA	8,516	NA	8,516
Employee Activity								
Establishment Method employee respondents	1	30	11,561	5,780	13,917	6,959	13,725	6,863
Occupation Expert Method respondents	3	30	1,000	1,500	1,000	1,500	1,000	1,500
Total, employee[b]	NA	NA	NA	7,280	N/A	8,459	NA	8,363
Total Respondents								
Private sector	NA	NA	23,897	NA	24,936	NA	24,936	NA
Federal government	NA	NA	1,658	NA	1,730	NA	1,730	NA
State/local/tribal governments	NA	NA	562	NA	586	NA	586	NA
Subtotal, establishment respondents	NA	NA	26,117	NA	27,252	NA	27,252	NA
Individuals/households	NA	NA	12,561	NA	14,917	NA	14,725	NA
Total, all respondents[c,d]	NA	NA	38,678	NA	42,169	NA	41,977	NA
Total Burden Hours								
Private sector	NA	NA	NA	7,466	NA	7,792	NA	7,792
Federal government	NA	NA	NA	518	NA	541	NA	541

(continued)

Appendix Exhibit H-1.   Estimate of Hour and Cost Burden by Year (continued)

	Number of Responses per Sample Unit	Average Burden per Response (Minutes)	Dec 2021 – Nov 2022		Dec 2022 – Nov 2023		Dec 2023 – Nov 2024	
			Sampling Units	Burden Hours	Sampling Units	Burden Hours	Sampling Units	Burden Hours
State/local/tribal governments	NA	NA	NA	176	NA	183	NA	183
Subtotal, establishment burden hours	NA	NA	NA	8,160	NA	8,516	NA	8,516
Individuals/households	NA	NA	NA	7,280	NA	8,459	NA	8,363
Total, all burden hours[e]	NA	NA	NA	15,440	NA	16,975	NA	16,879

	Dec 2021 – Nov 2022	Dec 2022 – Nov 2023	Dec 2023 – Nov 2024
Establishments[f]	$555,370	$595,950	$612,812
Employees[g]	$273,656	$327,025	$332,430
Total	$829,026	$922,975	$945,242

Note: NA = not applicable.

Appendix Exhibit H-1 displays the estimated annualized cost to respondents for burden hours by year. The cost burden was estimated with use of average total compensation rates obtained from the March 2020 Employer Costs for Employee Compensation Summary issued by BLS on June 18, 2020. The average total compensation per hour for private industry was $35.34, which was inflated based on the Employment Cost Index to a median hourly total compensation of $37.59 for December 2021–November 2022, $38.66 for December 2022–November 2023, and $39.75 for December 2023–November 2024. These are the total compensation rates used for estimating the employee cost burden. Given that the POC will often be a human resources manager, the March 2020 total compensation rate of $63.98 for the Management, Professional and Related category was inflated to a median hourly total compensation of $68.06 for December 2021–November 2022, $69.98 for December 2022–November 2023, and $71.96 for December 2023–November 2024 for estimating the establishment cost burden.

[a] Includes total burden time for all establishments (private sector, federal government, and state/local/tribal governments).

[b] Includes total burden time for individuals/households.

[c] The total number of respondents across all 3 years = 122,824.

[d] The total number of respondents was derived by summing the number of POCs (row name is "Screening call to POCs"), Establishment employees (row name is "Establishment Method employee respondents"), and occupation experts (row name is "Occupation Expert Method respondents").

[e] The total number of burden hours across all 3 years = 49,294.

[f] Assumed hourly total compensation rates: $68.06 for December 2021–November 2022; $69.98 for December 2022–November 2023; $71.96 for December 2023–November 2024.

[g] Assumed hourly total compensation rates: $37.59 for December 2021–November 2022; $38.66 for December 2022–November 2023; $39.75 for December 2023–November 2024.

Source: Bureau of Labor Statistics, U.S. Department of Labor. (2020, June). Employer costs for employee compensation summary. Available from *Databases, tables and calculators by subject*, https://data.bls.gov/timeseries/CIS2010000000000Q

Appendix Exhibit H-2.   **Comparison of Hour and Cost Burden Between 2018–2021 and December 2021–November 2024**

Establishment Activity	Annual Average 2018–2021[a]		Dec 2021–Nov 2022		Dec 2022–Nov 2023		Dec 2023–Nov 2024	
	Sampling Units	Burden Hours	Sampling Units	Burden Hours	Sampling Units	Burden Hours	Sampling Units	Burden Hours
Verification calls to initial contact at establishment	16,333	544	34,500	1,150	36,000	1,200	36,000	1,200
Screening call to POC	13,557	678	26,117	1,306	27,252	1,363	27,252	1,363
Initial recruitment call to POC	7,415	1,483	10,708	2,142	11,173	2,235	11,173	2,235
POC creates occupation lists for sampling	4,056	1,352	4,283	1,428	4,469	1,490	4,469	1,490
Call to POC to sample workers	4,056	676	4,283	714	4,469	745	4,469	745
POC distributes questionnaire packets	3,691	923	3,705	926	3,866	967	3,866	967
Follow-up calls to POC	3,691	492	3,705	494	3,866	516	3,866	516
Total establishment	NA	6,148	NA	8,160	NA	8,516	NA	8,516
Employee Activity								
Establishment Method employee respondents	14,263	7,132	11,561	5,780	13,917	6,959	13,725	6,863
Occupation Expert Method respondents	675	1,013	1,000	1,500	1,000	1,500	1,000	1,500
Total, employee	NA	8,145	NA	7,280	NA	8,459	NA	8,363
Total		14,293		15,440		16,975		16,879

	Cost Burden			
Respondent Type	Annual Average 2018–2021[a]	Dec 2021–Nov 2022	Dec 2022–Nov 2023	Dec 2023–Nov 2024
Establishments[b]	$390,122	$555,370	$595,950	$612,812
Employees[c]	$291,868	$273,656	$327,025	$332,430
Total	$686,313	$829,026	$922,975	$945,242

[a] From the OMB Supporting Statement, Part A, dated September 2018.

[b] Assumed hourly total compensation rates: $68.06 for December 2021–November 2022; $69.98 for December 2022–November 2023; $71.96 for December 2023–November 2024.

[c] Assumed hourly total compensation rates: $37.59 for December 2021–November 2022; $38.66 for December 2022–November 2023; $39.75 for December 2023–November 2024.