



COVID-19 and Life-Sustaining Employment in Pennsylvania

In response to the COVID-19 pandemic, the Pennsylvania state government ordered businesses classified as “non-life-sustaining” to close their physical locations. Business closures came into effect in mid-March of 2020.

This report provides a summary of the number of jobs in sectors classified as life sustaining and non-life-sustaining based on Pennsylvania Governor Tom Wolf’s order. It also details how much of the total payroll potentially comes from jobs in life-sustaining and non-life sustaining sectors. State- and county-level summaries illustrate how the mandated closures may have affected employment and payroll across the state. The governor’s list of life-sustaining businesses was regularly updated since it was originally issued. The analysis in this report is based on the May 28, 2020 version of the governor’s “Industry Operation Guidance” list.

Looking at the jobs and payroll that may have been impacted by the mandated business closures offers one way of exploring the potential impacts of the COVID-19 pandemic in Pennsylvania. While the longer-term economic impacts of the business shutdowns and reopening are not yet known, this report sheds light on the business environment during the most severe point of the shutdown to date (*as of late September, 2020*).

Context: Business shutdown timeline (March – September 2020)

Beginning on March 19, 2020, Pennsylvania businesses not classified as “life-sustaining” were required by the state government to close their physical locations and cease in-person operations. When possible, many businesses transitioned to working virtually, such as by having their employees work from home. Businesses determined to be life sustaining were required to comply with strict health and safety regulations, such as following new cleaning protocol, enabling physical distancing, or operating at a reduced capacity.

Following a slowing in the spread of COVID-19 during April and May 2020, Governor Wolf announced a phased approach to reopening businesses. In early May, non-life-sustaining



businesses in many counties began to reopen while adhering to various social distancing and safety orders. As of July 3, all counties had reopened with certain restrictions still in place. During summer 2020, the number of daily cases in the state remained lower than the April peak, but the virus is still present. It is unclear how the virus will impact future business operations.

Potential Impacts of Government Mandated Closures

Based on news reports and stories from communities throughout Pennsylvania, it is clear that mandated business closures and social distancing guidelines have had and continue to have significant impacts on Pennsylvania's economy. For example, non-life-sustaining businesses that traditionally conducted most of their business through in-person services may have been more likely to lay off their workers or reduce employees' hours or pay. Additionally, some business owners may have had difficulties staying in business if they could not open their physical locations.

Workers in some of the sectors classified as non-life-sustaining may have the ability to continue their work remotely, including, for example, teachers, customer service workers, or information technology staff who can adapt to web-based work. Remote work options and telecommuting allow employees to continue earning their wages or salary while working from home. Though working remotely can enable businesses to stay open, they still may not be able to work at full capacity, and this option may not be available to all types of work.

In addition, consumers may behave in new ways due to the mandated business closures. With a reduced ability to purchase items in stores, consumers may make more frequent online purchases, potentially reducing sales from local retail businesses. Such changes can affect wholesalers and other businesses supporting the retail sector and increase the demand on industries such as transportation and warehousing. Even if the mandated business closures hadn't occurred, many consumers may have changed behavior out of fear of catching COVID-19, which similarly would have reduced their spending and thus decreased economic activity in Pennsylvania.

The impacts of business closures differ across counties due to the varying composition of county economies. For example, counties heavily dependent upon in-person businesses such as tourism, restaurants, and retail may be more likely to experience layoffs rather than a shift to remote work. Businesses in counties lacking strong broadband similarly may have a more difficult time transitioning to remote work.

Take note that this report displays only whether jobs are in sectors classified as life sustaining or not, and thus allowed to continue to operate their physical locations. Available data does not allow identifying how many jobs were actually lost in non-life-sustaining sectors; some work in these sectors could be shifted to being done remotely, so simply being non-life-sustaining doesn't automatically mean the jobs were lost. This report thus does not represent the actual number of jobs lost, the true number of unemployment claims, nor the real changes in payroll based on reduced hours or reduced pay, but it does show the magnitude of the potential changes. It offers a starting place for understanding the potential economic impacts of the COVID-19 shutdown. Looking statewide and at the county level, this report highlights which sectors may be affected the most and where targeted rebuilding may be most impactful down the road.

A Note About the Data

The data analyzed in this report is from the U.S. Census Bureau's County Business Patterns (CBP) Dataset, which describes the makeup of counties' economies at a detailed level close to that used in the governor's order. The county data is from 2018, the most up-to-date version available, so our analysis examines the breakdowns as if the governor's order had occurred in that year. The makeup of county economies in early 2020 is likely a bit different than what is represented in this 2018 data, so it is important to view the calculations as ballpark estimates rather than a totally accurate reflection of current conditions in each county.

This analysis uses subsector-level data to determine the life-sustaining status of jobs and payroll within each broad economic sector appearing in the tables in this report. The governor's list primarily classifies businesses by industry group, which is more precise than the subsector. As a result, some subsectors considered life sustaining for the purpose of this analysis may, in reality, contain some jobs in non-life sustaining industry groups, and vice versa. More information on nondisclosure rules and the data used in this analysis is located at the end of the report.

I. Statewide Share of Employment by Life-Sustaining Status

Nearly 59% of jobs in Pennsylvania occur within subsectors considered life sustaining based on the governor's May 28, 2020 order. In some smaller counties, the County Business Pattern (CBP) data does not provide enough detail due to federal confidentiality rules to determine life-sustaining status for many of the jobs. The percentage of jobs in life-sustaining subsectors varies across counties, ranging from 80.9% in Fulton County to around 38% in Elk County in the counties where the CBP data provides sufficient detail (see Table 1). While counties have relatively small economies, Fulton county is largely dependent on machinery manufacturing which is life-sustaining, while Elk is rather dependent on fabricated metal manufacturing (powdered metal), which is considered non-life-sustaining. Because these jobs are in life-sustaining subsectors, many workers may have been able to continue in their jobs in some capacity during the COVID-19 shutdown.

On the other hand, workers with jobs within non-life-sustaining subsectors were at a higher risk of losing employment due to the mandated closure of physical business locations. It is likely that some of the workers with these jobs could work remotely. About 41% of Pennsylvania jobs are in subsectors considered non-life-sustaining by the governor's order. Of the counties where the CBP data provides enough detail, Elk County has the highest percentage of jobs in non-life-sustaining subsectors, at 54.1%, and Fulton County has the lowest percentage, at 9.2% (see Table 1).

Some of the job data can't be classified by life-sustaining status because it is missing or nondisclosed in the CPB dataset due to federal confidentiality rules, which are based upon the number and size of firms in each sector. The percentage of total jobs in the county which could not be identified as life-sustaining or non-life-sustaining at the subsector level appears in Table 1. Smaller counties are more likely to have a higher percentage of jobs not identified by subsector as they likely have a smaller number of businesses in each sector, and thus are more likely to violate the confidentiality rules. Note that the number of jobs refers to the total jobs in that county, not the number of people employed, as one person can have multiple jobs. This data includes both part-time and full-time jobs.

Table 1. Percent of Jobs by Life-Sustaining Status by County: Pennsylvania, 2018
(based on Governor Tom Wolf's May 28, 2020 Industry Operation Guidance classifications)

County	Percent of jobs in the county from...			County	Percent of jobs in the county from...		
	Life-sustaining subsectors	Non-life-sustaining subsectors	<i>Jobs not identified by subsector*</i>		Life-sustaining subsectors	Non-life-sustaining subsectors	<i>Jobs not identified by subsector*</i>
Adams	66.0%	30.7%	3.3%	Lackawanna	64.8%	34.5%	0.7%
Allegheny	53.0%	47.0%	0.0%	Lancaster	60.8%	39.2%	0.0%
Armstrong	65.4%	20.7%	13.9%	Lawrence	61.0%	34.2%	4.7%
Beaver	61.2%	35.4%	3.4%	Lebanon	67.6%	30.6%	1.8%
Bedford	68.6%	26.3%	5.1%	Lehigh	63.2%	36.8%	0.0%
Berks	60.8%	38.9%	0.4%	Luzerne	67.0%	32.7%	0.2%
Blair	66.4%	32.3%	1.3%	Lycoming	68.1%	30.7%	1.2%
Bradford	76.0%	19.8%	4.2%	McKean	60.2%	29.6%	10.2%
Bucks	58.7%	41.3%	0.0%	Mercer	63.7%	35.8%	0.5%
Butler	60.7%	39.2%	0.1%	Mifflin	60.5%	27.0%	12.5%
Cambria	64.2%	33.8%	2.0%	Monroe	63.3%	32.5%	4.2%
Cameron	22.6%	50.5%	26.9%	Montgomery	51.6%	48.4%	0.0%
Carbon	60.3%	27.1%	12.7%	Montour	74.1%	21.5%	4.3%
Centre	52.6%	42.3%	5.1%	Northampton	64.0%	35.9%	0.1%
Chester	49.7%	50.3%	0.0%	Northumberland	70.6%	26.4%	3.0%
Clarion	64.9%	23.7%	11.5%	Perry	73.0%	25.9%	1.1%
Clearfield	64.4%	26.4%	9.2%	Philadelphia	56.2%	43.6%	0.2%
Clinton	63.2%	28.1%	8.7%	Pike	64.8%	30.8%	4.4%
Columbia	58.3%	34.8%	6.9%	Potter	53.1%	21.4%	25.5%
Crawford	59.7%	34.6%	5.7%	Schuylkill	74.6%	23.5%	1.9%
Cumberland	58.6%	41.2%	0.2%	Snyder	56.4%	39.7%	3.9%
Dauphin	64.1%	35.8%	0.1%	Somerset	67.7%	28.9%	3.3%
Delaware	54.3%	45.7%	0.0%	Sullivan	54.7%	14.5%	30.8%
Elk	38.0%	54.1%	7.9%	Susquehanna	64.7%	23.0%	12.3%
Erie	61.5%	38.4%	0.1%	Tioga	63.7%	24.3%	12.0%
Fayette	62.8%	32.1%	5.2%	Union	50.1%	38.7%	11.2%
Forest	27.8%	2.6%	69.7%	Venango	64.6%	28.1%	7.3%
Franklin	67.9%	32.0%	0.1%	Warren	67.4%	26.5%	6.1%
Fulton	80.9%	9.2%	10.0%	Washington	55.3%	44.3%	0.5%
Greene	60.8%	36.1%	3.1%	Wayne	58.9%	35.1%	6.0%
Huntingdon	51.8%	34.5%	13.7%	Westmoreland	59.1%	40.8%	0.1%
Indiana	60.2%	33.3%	6.4%	Wyoming	53.5%	39.1%	7.4%
Jefferson	62.6%	31.8%	5.6%	York	62.8%	37.2%	0.0%
Juniata	45.6%	36.2%	18.2%	<i>Pennsylvania</i>	<i>58.7%</i>	<i>41.3%</i>	<i>0.0%</i>

Source: U.S. Census Bureau County Business Patterns, 2018; Governor Tom Wolf's Industry Operation Guidance, May 28, 2020

*Jobs not identified by subsector due to federal confidentiality rules and/or missing data.

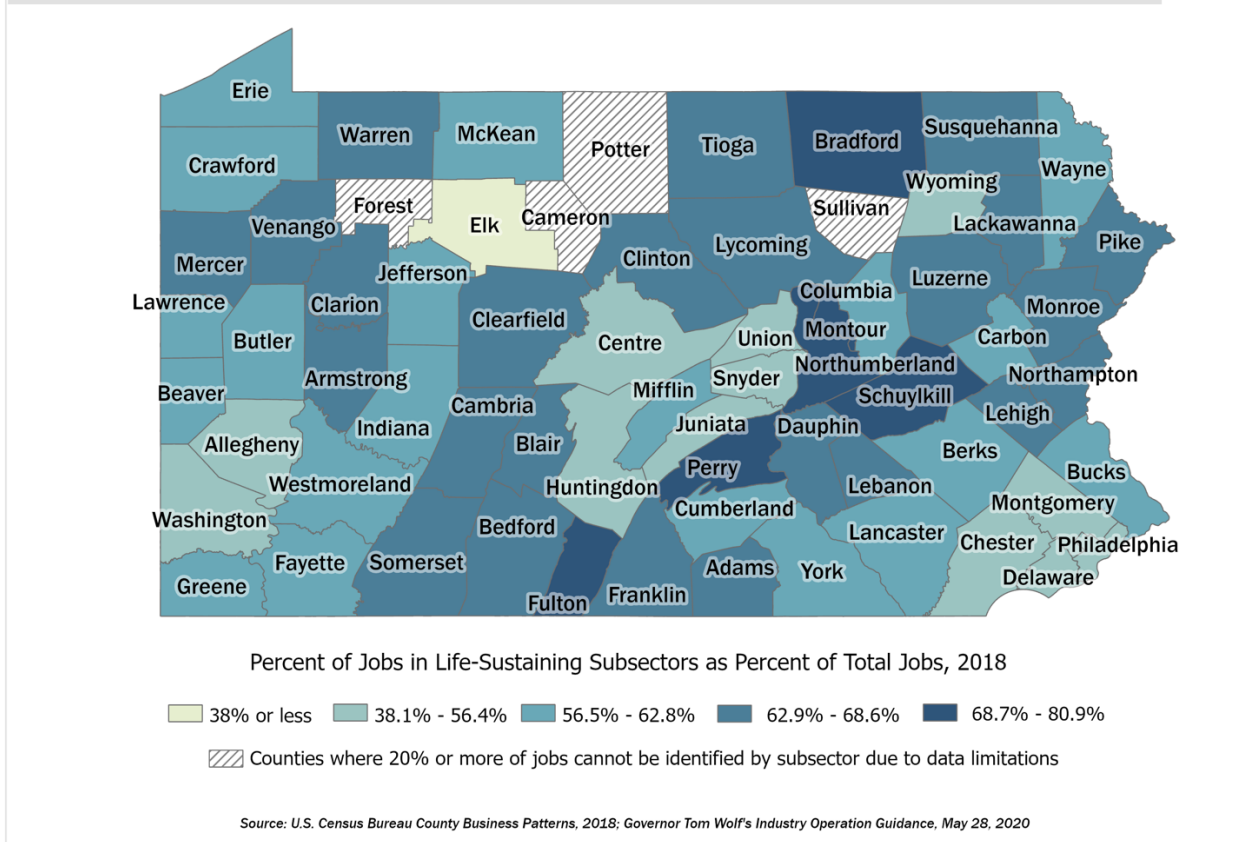
Note: Due to rounding, percentages may not add to 100

Map 1 shows the percentage of jobs in life-sustaining subsectors within all 67 Pennsylvania counties. Many of the counties with the highest percentages of jobs in life-sustaining subsectors, including Schuylkill, Montour, and Northumberland, are located in the eastern half of Pennsylvania. In these counties, shaded darkest on the map, between 68.7% and 80.9% of jobs are in subsectors considered life-sustaining. Across the state, the greatest number of counties have between 62.9% and 68.6% of jobs in life-sustaining subsectors.

Counties with more jobs in non-life-sustaining subsectors may have experienced more business closures and job loss or change. At the same time, it is important to note that this analysis shows only whether jobs are in subsectors classified as life or non-life-sustaining, not what actually happened to those jobs. Depending on the key sectors in a county or region, some jobs may have been conducive to remote work. County-specific information about jobs by life-sustaining status at the sector level appears in Tables 3A and 4A in the [appendix files](#).

Counties where 20% or more of jobs are not identified by subsector due to federal confidentiality rules are labeled on the map with hatching. Due to missing or nondisclosed data in the CBP dataset, a high percentage of jobs in these counties could not reliably be identified as being in life- or non-life sustaining subsectors. When looking at the overall percentage of life-sustaining jobs in these counties, consider that the unavailable data may ‘skew’ the values for these counties. Local knowledge of the types of jobs in these counties can help to fill the gaps in the data.

Map 1. Percent of Jobs in Life-Sustaining Subsectors: Pennsylvania, 2018



II. Statewide Share of Payroll by Life-Sustaining Status

Statewide, about 55% of payroll comes from subsectors considered to be life sustaining (see Table 2 on the next page). In some smaller counties, the County Business Pattern (CBP) data does not provide enough detail due to federal confidentiality rules to determine life-sustaining status of the payroll. As with jobs, the percentage of payroll in life-sustaining subsectors varies significantly across counties, ranging from 30.6% in Elk County to 83.5% in Fulton County in counties where CBP data provides enough detail. About 45% of payroll statewide is in non-life-sustaining subsectors. The percentage of payroll from non-life-sustaining subsectors ranges 60% in Chester County to 7.36% in Fulton County in counties where CBP data provides sufficient detail.

Though this analysis looks at payroll in broad numbers, payroll represents income for workers. Workers in both life-sustaining and non-life sustaining subsectors are at risk of losing some or all their income. Those working within non-life-sustaining subsectors may be or may have been at a higher risk of losing work or income, especially if their jobs aren't conducive to remote work.

As with the employment data, some of the payroll data is unreported or nondisclosed due to federal rules, and it is therefore difficult to classify by life-sustaining status. Note that payroll refers to the salaries, wages, or commissions given to employees before taxes and does not include any additional forms of compensation, such as tips or fringe benefits, like employer contributions to medical insurance or retirement.

Table 2. Percent of Payroll by Life-Sustaining Status by County: Pennsylvania, 2018
(based on Governor Tom Wolf's May 28, 2020 Industry Operation Guidance classifications)

County	Percent of payroll in the county from...			County	Percent of payroll in the county from...		
	Life-sustaining subsectors	Non-life-sustaining subsectors	Payroll not identified by subsector*		Life-sustaining subsectors	Non-life-sustaining subsectors	Payroll not identified by subsector*
Adams	63.0%	31.7%	5.3%	Lackawanna	65.7%	33.2%	1.1%
Allegheny	49.5%	50.5%	0.0%	Lancaster	57.4%	42.6%	0.0%
Armstrong	63.4%	23.4%	13.3%	Lawrence	57.2%	37.2%	5.5%
Beaver	57.7%	38.1%	4.1%	Lebanon	68.4%	28.9%	2.6%
Bedford	65.0%	29.0%	6.0%	Lehigh	64.1%	35.9%	0.0%
Berks	59.3%	40.4%	0.3%	Luzerne	67.5%	32.1%	0.4%
Blair	68.7%	29.8%	1.5%	Lycoming	67.7%	30.5%	1.8%
Bradford	77.9%	15.5%	6.6%	McKean	54.9%	31.1%	14.0%
Bucks	54.2%	45.8%	0.1%	Mercer	64.4%	35.0%	0.6%
Butler	56.4%	43.5%	0.1%	Mifflin	49.6%	35.2%	15.2%
Cambria	64.2%	32.2%	3.6%	Monroe	68.3%	25.8%	5.8%
Cameron	15.4%	64.0%	20.6%	Montgomery	46.2%	53.8%	0.0%
Carbon	62.0%	25.5%	12.5%	Montour	79.5%	19.6%	1.0%
Centre	44.7%	47.7%	7.6%	Northampton	61.9%	38.0%	0.1%
Chester	39.9%	60.0%	0.0%	Northumberland	64.7%	31.1%	4.2%
Clarion	62.0%	25.2%	12.8%	Perry	67.0%	31.3%	1.6%
Clearfield	61.2%	25.1%	13.8%	Philadelphia	52.1%	47.6%	0.3%
Clinton	60.5%	26.9%	12.6%	Pike	62.4%	32.2%	5.4%
Columbia	52.1%	39.3%	8.5%	Potter	48.2%	18.3%	33.5%
Crawford	58.3%	33.8%	7.8%	Schuylkill	74.1%	24.1%	1.8%
Cumberland	55.3%	44.5%	0.2%	Snyder	54.4%	41.3%	4.3%
Dauphin	62.4%	37.5%	0.1%	Somerset	59.8%	35.0%	5.2%
Delaware	48.3%	51.6%	0.0%	Sullivan	49.5%	11.5%	39.0%
Elk	30.6%	58.4%	11.0%	Susquehanna	63.5%	21.9%	14.6%
Erie	62.5%	37.4%	0.0%	Tioga	59.4%	24.1%	16.5%
Fayette	62.1%	32.3%	5.6%	Union	48.9%	37.3%	13.7%
Forest	15.9%	3.1%	81.0%	Venango	64.6%	26.5%	8.8%
Franklin	70.7%	29.2%	0.1%	Warren	68.2%	27.3%	4.6%
Fulton	83.5%	7.4%	9.1%	Washington	49.0%	50.6%	0.4%
Greene	65.0%	32.5%	2.5%	Wayne	52.2%	39.4%	8.4%
Huntingdon	47.2%	33.5%	19.3%	Westmoreland	54.8%	45.0%	0.2%
Indiana	60.7%	31.6%	7.7%	Wyoming	51.3%	42.3%	6.4%
Jefferson	59.4%	34.0%	6.6%	York	61.1%	38.8%	0.0%
Juniata	40.8%	40.0%	19.2%	Pennsylvania	54.6%	45.4%	0.0%

Source: U.S. Census Bureau County Business Patterns, 2018; Governor Tom Wolf's Industry Operation Guidance, May 28, 2020

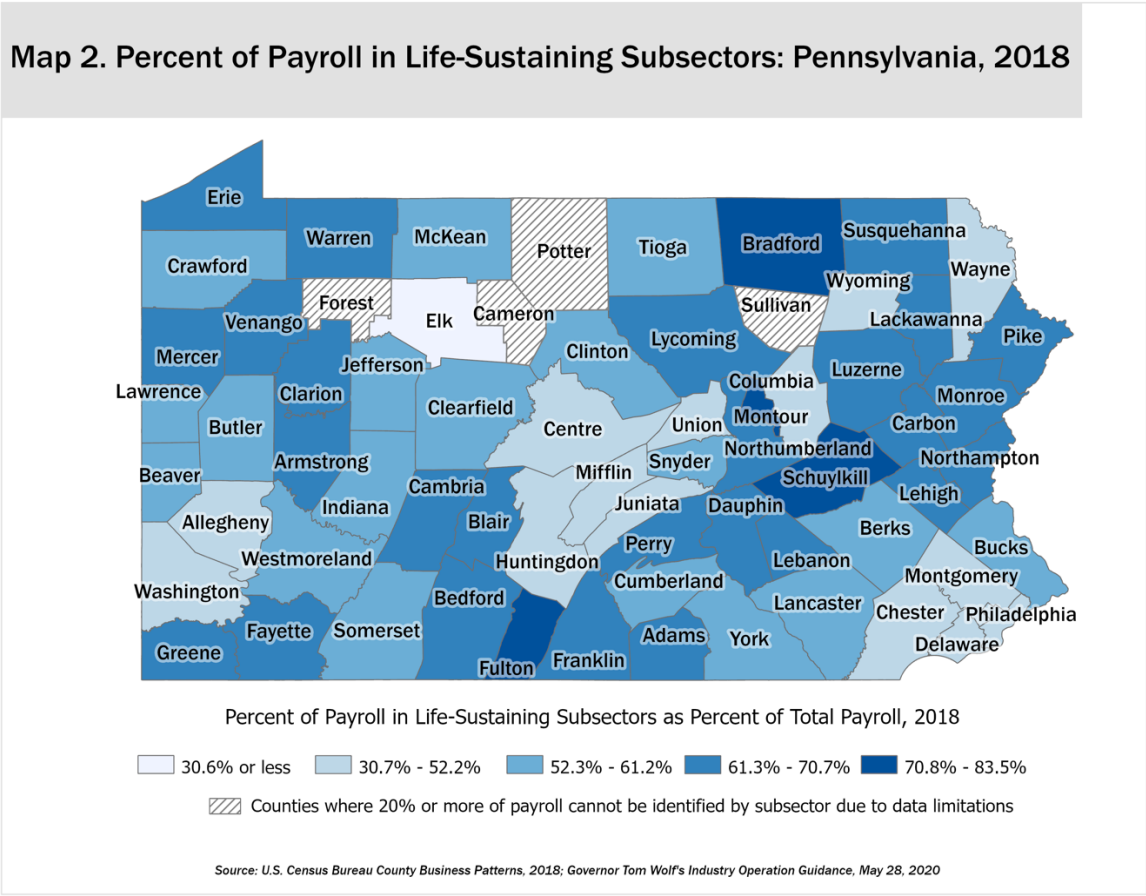
*Payroll not identified by subsector due to federal confidentiality rules and/or missing data

Note: Due to rounding, percentages may not add to 100

Map 2 shows the percentage of payroll that comes from life-sustaining subsectors for each of Pennsylvania’s 67 counties. Many of the counties with between 30.7% and 52.2% of payroll from life-sustaining subsectors are loosely clustered in the southwest, in the southeast, and in the center of Pennsylvania. Statewide, the largest number of counties have between 61.3% and 70.7% of payroll coming from life-sustaining subsectors; these counties are spread across the state. The geographical distribution shows which areas within Pennsylvania may have more employees at risk of losing their income during the mandated closures, as well as which counties may not be affected as severely.

Variations in the percentage of payroll from life-sustaining subsectors reflect the composition of county economies. Understanding the mix of sectors in each county can provide insight into the patterns seen across the state, as well as into how counties may have been impacted. Consider the factors that may underly these patterns, such as population size or the prevalence of high-paying jobs in life-sustaining subsectors. County-specific information about payroll by life-sustaining status at the sector level can be found in Tables 3A and 4A in the [appendixes](#).

Counties where 20% or more of payroll is unidentifiable at the subsector level due to federal confidentiality rules are labeled on the map with hatching. A high percentage of payroll in these counties could not reliably be identified as being in life-sustaining or non-life-sustaining subsectors due to missing or nondisclosed data in the CBP dataset. Local knowledge of the types of businesses and jobs in counties with high percentages of missing or nondisclosed data, such as Forest and Sullivan Counties, can help to fill the gaps.



III. Pennsylvania Employment & Payroll by Sector

Tables 3 and 4 look at the breakdown of jobs and payroll at the sector level, zooming in to see what types of businesses are in the state and county economies. The impact of the business closures varies depending on what sectors are the most prominent in an economy, as well as how many workers have jobs in subsectors considered to be life sustaining. Understanding the mix of sectors in an area can help to identify strengths, vulnerabilities, and where targeted rebuilding may be most impactful. Tables 3A and 4A in the [appendixes](#) show county-specific data alongside state data.

Pennsylvania Employment by Sector

Of the 5.4 million jobs in Pennsylvania, around 3.2 million of them are in subsectors considered life sustaining (see Table 3). Statewide, about 59% of jobs are in life-sustaining subsectors, while 41% are in non-life-sustaining subsectors. With over 1 million jobs, the Health Care and Social Assistance sector has the most jobs in life-sustaining subsectors. Note that all jobs in some sectors, such as Construction, are in subsectors considered to be non-life-sustaining. Other sectors, such as Information or Finance and Insurance, have jobs in both life-sustaining and non-life-sustaining subsectors. Retail Trade has the highest number of jobs within non-life-sustaining subsectors in Pennsylvania. Over 400,000 jobs in the Retail Trade sector are in non-life-sustaining subsectors.

NAICS Code	Sector	Number of jobs in...	
		Life-sustaining subsectors	Non-life-sustaining subsectors
11	Agriculture, Forestry, Fishing and Hunting	2,670	0
21	Mining, quarrying, and oil and gas extraction	24,045	0
22	Utilities	30,868	0
23	Construction	0	242,905
31-33	Manufacturing	359,302	195,704
42	Wholesale trade	250,999	0
44-45	Retail trade	244,713	411,645
48-49	Transportation and warehousing	231,930	564
51	Information	76,623	37,683
52	Finance and insurance	227,620	57,804
53	Real estate and rental and leasing	20,409	47,236
54	Professional, scientific, and technical services	0	332,115
55	Management of companies and enterprises	0	174,928
56	Administrative and support and waste management and remediation services	19,337	314,003
61	Educational services	0	268,297
62	Health care and social assistance	1,062,966	0
71	Arts, entertainment, and recreation	0	109,591
72	Accommodation and food services	489,939	0
81	Other services (except government & government enterprises)	172,870	70,951
99	Industries not classified	308	0
	<i>Total</i>	3,214,291	2,263,426
	<i>Percent of total</i>	58.7%	41.3%
	<i>Total employment in Pennsylvania</i>	5,477,717	

Source: U.S. Census Bureau County Business Patterns, 2018; Governor Tom Wolf's Industry Operation Guidance, May 28, 2020
*Jobs not identified by subsector due to federal confidentiality rules and/or missing data

Pennsylvania Payroll by Sector

The total payroll across all sectors in Pennsylvania is around \$282 billion, which is divided among life-sustaining (54.6%) and non-life-sustaining subsectors (45.4%) (see Table 4). The Health Care and Social Assistance sector has \$51.3 billion in payroll from life-sustaining subsectors, which is the largest amount of payroll that any sector holds. Note that the Health Care and Social Assistance sector also has the highest number of jobs in life-sustaining subsectors (see Table 3). Just like employment, many sectors have payroll in both life-sustaining and non-life-sustaining subsectors. A few sectors are have payroll solely in non-life-sustaining subsectors. With over \$27 billion in payroll, the Professional, Scientific, and Technical Services sector has the largest amount of payroll in solely non-life-sustaining subsectors. Note that payroll from non-life-sustaining sectors may have been paid if workers were able to complete work remotely.

Note that payroll refers to the salaries, wages, or commissions given to employees before taxes and does not include any additional forms of compensation, such as tips or fringe benefits, like employer contributions to medical insurance or retirement.

Comparable tables for each Pennsylvania county appear in the [appendixes](#).

NAICS Code	Sector	Payroll (in thousands) in...	
		Life-sustaining subsectors	Non-life-sustaining subsectors
11	Agriculture, Forestry, Fishing and Hunting	\$106,158	\$0
21	Mining, quarrying, and oil and gas extraction	\$2,243,541	\$0
22	Utilities	\$3,486,230	\$0
23	Construction	\$0	\$16,119,586
31-33	Manufacturing	\$20,823,373	\$11,713,958
42	Wholesale trade	\$18,197,246	\$0
44-45	Retail trade	\$5,565,928	\$12,406,469
48-49	Transportation and warehousing	\$10,819,043	\$13,354
51	Information	\$6,825,458	\$3,538,133
52	Finance and insurance	\$18,727,360	\$8,065,576
53	Real estate and rental and leasing	\$1,111,019	\$2,644,058
54	Professional, scientific, and technical services	\$0	\$27,542,828
55	Management of companies and enterprises	\$0	\$17,611,163
56	Administrative and support and waste management and remediation services	\$1,016,498	\$11,783,119
61	Educational services	\$0	\$11,426,514
62	Health care and social assistance	\$51,341,602	\$0
71	Arts, entertainment, and recreation	\$0	\$3,587,505
72	Accommodation and food services	\$8,660,980	\$0
81	Other services (except government & government enterprises)	\$5,501,303	\$1,709,329
99	Industries not classified	\$9,904	\$0
	<i>Total</i>	\$154,425,739	\$128,161,592
	<i>Percent of total</i>	54.6%	45.4%
	<i>Total payroll in Pennsylvania (in thousands)</i>	\$282,587,331	

Source: U.S. Census Bureau County Business Patterns, 2018; Governor Tom Wolf's Industry Operation Guidance, May 28, 2020
*Payroll not identified by subsector due to federal confidentiality rules and/or missing data

Data in this Report

The data in this report is from the U.S. Census Bureau's County Business Patterns (CPB) Dataset. The CPB data describes the makeup of counties' economies by sector, including the number of business establishments, the number of jobs, and payroll statistics for each economic sector. Every establishment is classified by an industrial code according to the North American Industrial Classification System (NAICS). Our analysis compares this 2018 CPB data with Governor Tom Wolf's May 28, 2020 Industry Operation Guidance classifications. The governor's order follows the organization of the NAICS codes in declaring which businesses are permitted to stay open and which are ordered to close.

This report displays data at the sector level based on data from the subsector level. The governor's list classifies businesses to be life sustaining or non-life-sustaining by industry group, which is even more specific than the subsector level. The governor's list also notes many specific exceptions within subsectors. It is possible that there is imprecision within this report due to differences between the levels of classification in the CPB data and the governor's order, as some subsectors classified as life sustaining for the purpose of this analysis may contain jobs or payroll from non-life-sustaining industry groups.

Federal Data Disclosure Rules

The CPB data is subject to federal confidentiality rules. By law, the Census Bureau cannot release information that could violate the businesses' privacy, which would occur when there are only a few businesses in that subsector or if one business accounted for a majority of employment or payroll in that subsector. In these instances, federal nondisclosure rules require information about these businesses to be excluded from the CPB dataset. Nondisclosure rules are more likely to affect data from smaller counties, as these counties are more likely to have a smaller amount of businesses in each sector. This report displays all sectors not appearing in the dataset using the label "-". These sectors may be excluded from the dataset because they fail to meet the minimum number of establishments in a county set by federal confidentiality rules, or they may not be present in the county at all. Local knowledge will be important in making this distinction in counties where many sectors do not appear in the dataset.

References

Commonwealth of Pennsylvania:

- Information on Pennsylvania’s COVID-19 response: <https://www.pa.gov/guides/responding-to-covid-19/>
- Information on Pennsylvania’s business reopening: <https://www.pa.gov/guides/responding-to-covid-19/#ReopeningPennsylvania>
- Guidance for Pennsylvania businesses and industries: <https://www.pa.gov/guides/responding-to-covid-19/#ResourcesforBusinesses>

Governor Tom Wolf’s March 19 Order (directing non-life-sustaining businesses to close their physical locations): <https://www.governor.pa.gov/newsroom/all-non-life-sustaining-businesses-in-pennsylvania-to-close-physical-locations-as-of-8-pm-today-to-slow-spread-of-covid-19/>

Governor Tom Wolf’s Life-Sustaining Business List (May 28, 2020): <https://www.scribd.com/document/452553026/UPDATED-9-00am-May-28-2020-Industry-Operation-Guidance>

Pennsylvania Department of Health’s COVID-19 Data Dashboard: <https://www.health.pa.gov/topics/disease/coronavirus/Pages/Coronavirus.aspx>

U.S. Census Bureau County Business Patterns, 2018: <https://www.census.gov/programs-surveys/cbp.html>

To access county tables in the appendixes, visit:

<https://aese.psu.edu/research/centers/cecd/publications/coronavirus-analysis/county-tables-covid-19-and-life-sustaining-employment-in-pa>

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