

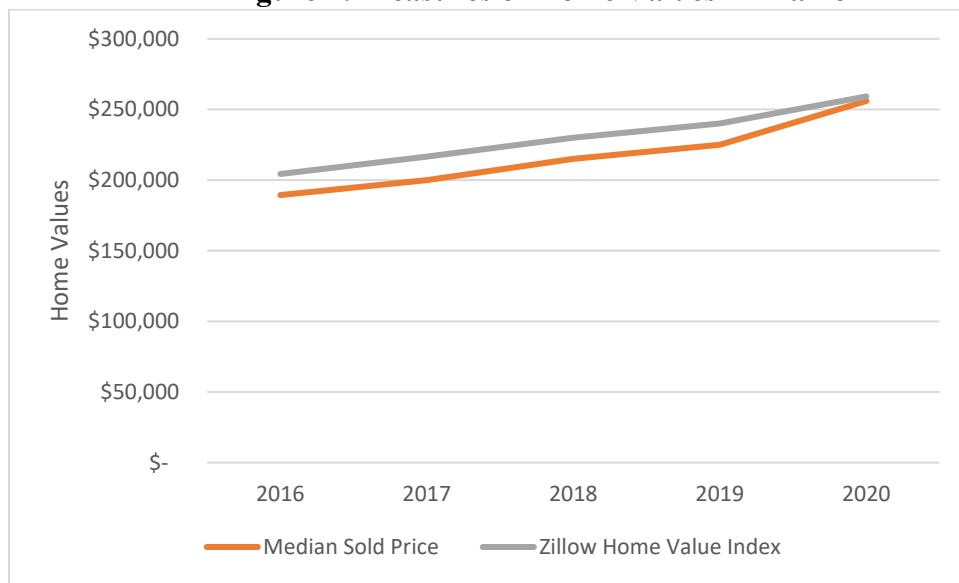
## The Unequal Economic Impact of COVID-19 in Maine

Michael Cauvel<sup>1</sup>

The COVID-19 pandemic has caused massive disruptions to the economy in Maine, as it has in the rest of the country and the world, bringing a mix of unique challenges and undesirable dynamics that are typical in any economic downturn. Although the pandemic has impacted everyone to some extent, the economic burden has been far from evenly distributed. There are key differences in the experiences of renters and homeowners, and the data suggest that low-wage workers in the service sector, especially those in leisure and hospitality, bore the heaviest costs, and that counties with a greater proportion of these workers were more heavily affected. In some contrast, some counties saw modest gains in 2020, while some industries appear to be thriving in the pandemic-era economy.

One big trend in 2020 was the increase in the number of people moving to Maine from out of state.<sup>2</sup> This was good news for homeowners, who saw increases in their wealth as their home values increased. Figure 1 shows two different metrics of home values in Maine, the median sold price, as calculated by the Maine Association of Realtors, and Zillow's Home Value Index. Both show that housing prices, which had already been rising, grew at a faster rate in 2020. The median sold price increased by 14%, while the Zillow Home Value Index increased by 8%. In the previous year, they had grown by only 5% and 4%, respectively.

**Figure 1: Measures of Home Values in Maine**



Source: Maine Association of Realtors and Zillow

Although homeowners benefit from higher housing values (albeit with higher property taxes), the relative scarcity of housing makes it more difficult for others to accumulate wealth by becoming first-time homeowners. It also tends to make renting more costly. Housing affordability remains a large concern in Maine, as the Maine State Housing Authority estimates that there are over 93,000 households in Maine that are unable

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<sup>2</sup> See e.g. Wlodkowski, "People Are Moving to Maine in Record Numbers; Renters and Buyers are Struggling." *New England Cable News*, February 8, 2021. <https://www.necn.com/news/local/people-are-moving-to-maine-in-record-numbers-renters-and-buyers-are-struggling/2401609>.

to afford a two-bedroom apartment, a number that represents more than 57% of households in the state.<sup>3</sup> It is difficult to gauge the effect of the pandemic on housing affordability due to data constraints, but a smaller percentage of households statewide were unable to afford a two-bedroom apartment in 2020, relative to 2017. However, as Table 1 shows this is not the case for all counties. This number increased in Cumberland, Hancock, Knox, Lincoln, and York counties, with over 65% of households unable to afford this type of housing in Cumberland, Hancock, and York counties.

**Table 1: Percentage of Households Unable to Afford a Two-bedroom Apartment by County**

	2017	2020
Androscoggin	60.8	58.1
Aroostook	60.2	56.6
Cumberland	55.1	66.0
Franklin	70.3	49.9
Hancock	63.7	70.4
Kennebec	61.2	58.7
Knox	54.6	61.9
Lincoln	52.3	59.6
Oxford	65.4	62.5
Penobscot	64.3	60.7
Piscataquis	71.2	60.0
Sagadahoc	57.1	52.8
Somerset	66.7	63.4
Waldo	67.3	64.7
Washington	64.8	50.6
York	56.3	73.0

Source: Maine State Housing Authority

Unequal impacts are also apparent in industry-level data for the state. Table 2 summarizes the growth in total real wages from 2019 to 2020 by industry.<sup>4</sup> This measure provides a useful barometer for the overall strength of an industry, at least from workers' point of view, as it is affected by changes in employment, average hours worked per employee, and real wage rates. The use of annual data obscures some variation within 2020 itself, as most broad industries saw a reduction in the second quarter before the recovery began in the third quarter. However, taking a broad view in this manner is a useful way of highlighting the magnitude of COVID-related disruptions for each industry.

<sup>3</sup> Maine State Housing Authority. 2021. "Rental Affordability Indexes." Accessed October 5, 2021. <https://www.mainehousing.org/policy-research/housing-data/affordability-indexes>.

<sup>4</sup> This is calculated as the percentage change of total nominal wages for the private sector from the U.S. Bureau of Labor Statistics' (BLS) Quarterly Census of Employment and Wages adjusted for inflation using the BLS Consumer Price Index for New England (indexed such that December 2017=100). The industry definition is based on the North American Industry Classification System (NAICS) code at the 2-digit level, and unclassified industries are excluded.

**Table 2: Percentage Change in Total Real Wages from 2019 to 2020 by Industry**

Utilities	8.53
Construction	7.99
Professional and Technical Services	7.69
Mining, Quarrying, and Oil and Gas Extraction	7.43
Agriculture, Forestry, Fishing and Hunting	6.68
Finance and Insurance	6.41
Administrative and Waste Services	5.38
Retail Trade	4.49
Health Care and Social Assistance	4.47
Management of Companies and Enterprises	4.17
Real Estate and Rental and Leasing	4.12
Wholesale Trade	2.02
Transportation and Warehousing	1.16
Manufacturing	1.05
Other Services	0.03
Information	-0.61
Educational Services	-1.34
Arts, Entertainment, and Recreation	-14.30
Accommodation and Food Services	-21.01

Source: BLS Statistics data and author's calculations

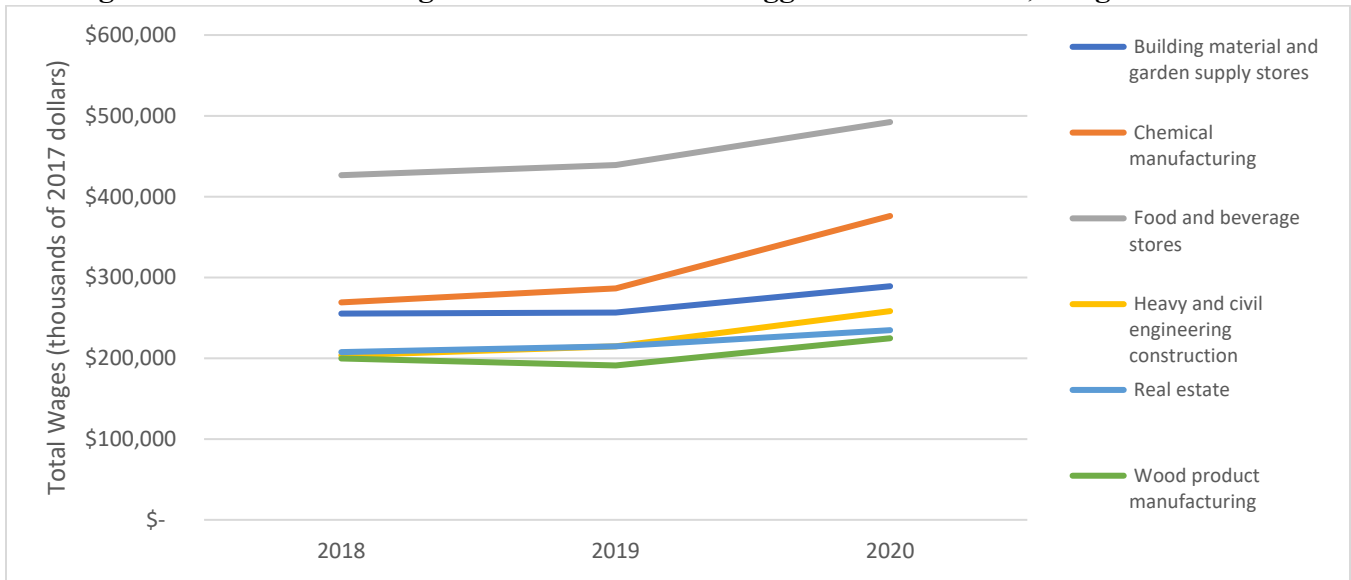
Unsurprisingly, given the nature of the pandemic, the biggest impact was seen in industries centered around in-person services, such as accommodation and food services (e.g. hotels and restaurants), and arts, entertainment, and recreation (e.g. concert venues and movie theaters). Education and information services saw smaller declines for the year as a whole, while others service-providing industries (such as utilities, trade, management, health care, finance, real estate, and various professional and administrative services) saw growth in 2020. Goods-producing industries all saw positive outcomes, ranging from small gains in manufacturing to large gains in construction, resource extraction, and agriculture.

Using narrower industry definitions, we can see that some smaller sectors of the economy saw even larger growth in total wages. The appendix shows the growth of total wages for each private sector industry for which data is available, ranked from highest to lowest.<sup>5</sup> Figures 2a and 2b show trends in total wages for the industries that saw the largest growth in 2020. Separate figures are presented for larger industries and smaller industries to allow for easier interpretation. In a few cases, such as heavy construction, agriculture and forestry support, and textile product mills, this growth does not represent an obvious departure from existing trends. However, in others there are clear deviations that easily attributable to pandemic-related changes in consumer behavior. For example, food and beverage stores saw increased business and people went out to bars and restaurants less frequently, couriers and messengers did well due to an increased preferences for deliveries, and building material and garden supply stores saw more customers who were looking to work on home projects because they were stuck at home. The growth for chemical manufacturing likely reflects increased demand for cleaning products and pharmaceutical goods, and gains for real estate can be attributed to rising housing costs. Some construction, manufacturing, agriculture, and financial service sectors also appear to be thriving.

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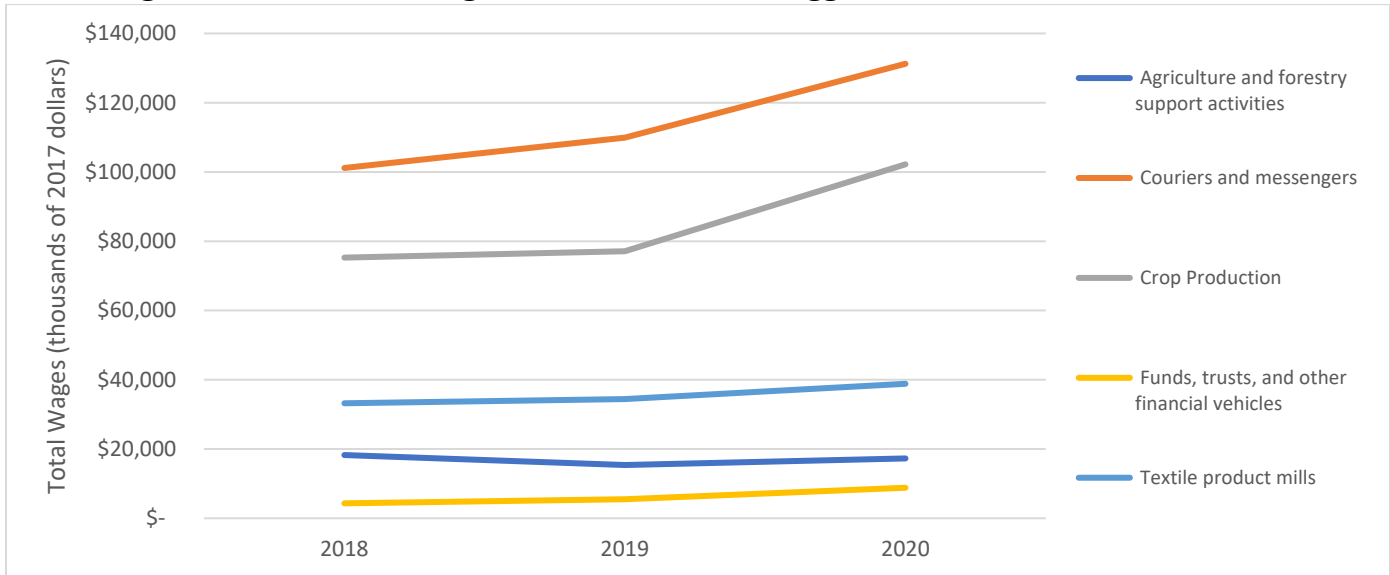
<sup>5</sup> This data comes from the same source but uses 3-digit industry codes.

**Figure 2a: Total Real Wages for Industries with Biggest Gains in 2020, Larger Industries**



Source: BLS Statistics data and author's calculations

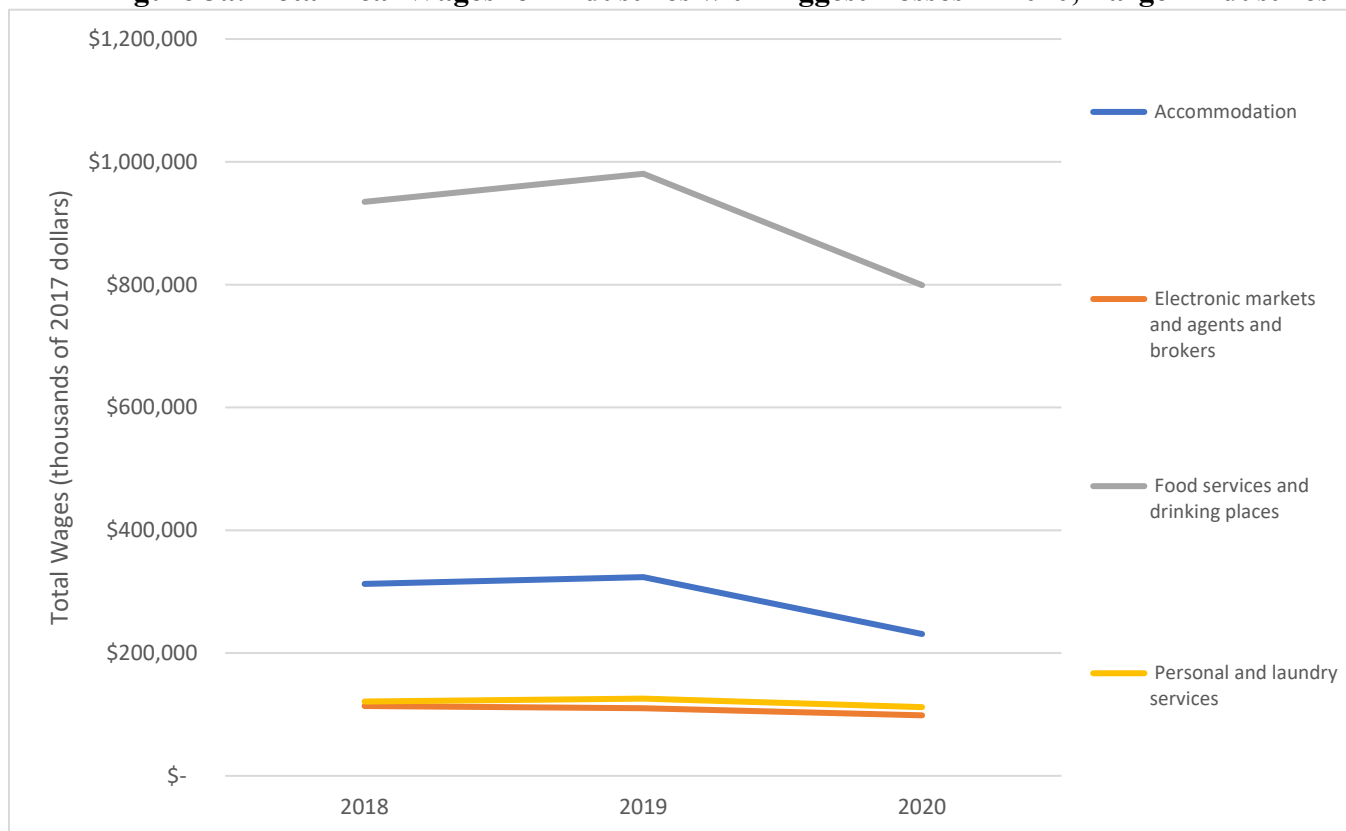
**Figure 2b: Total Real Wages for Industries with Biggest Gains in 2020, Smaller Industries**



Source: BLS Statistics data and author's calculations

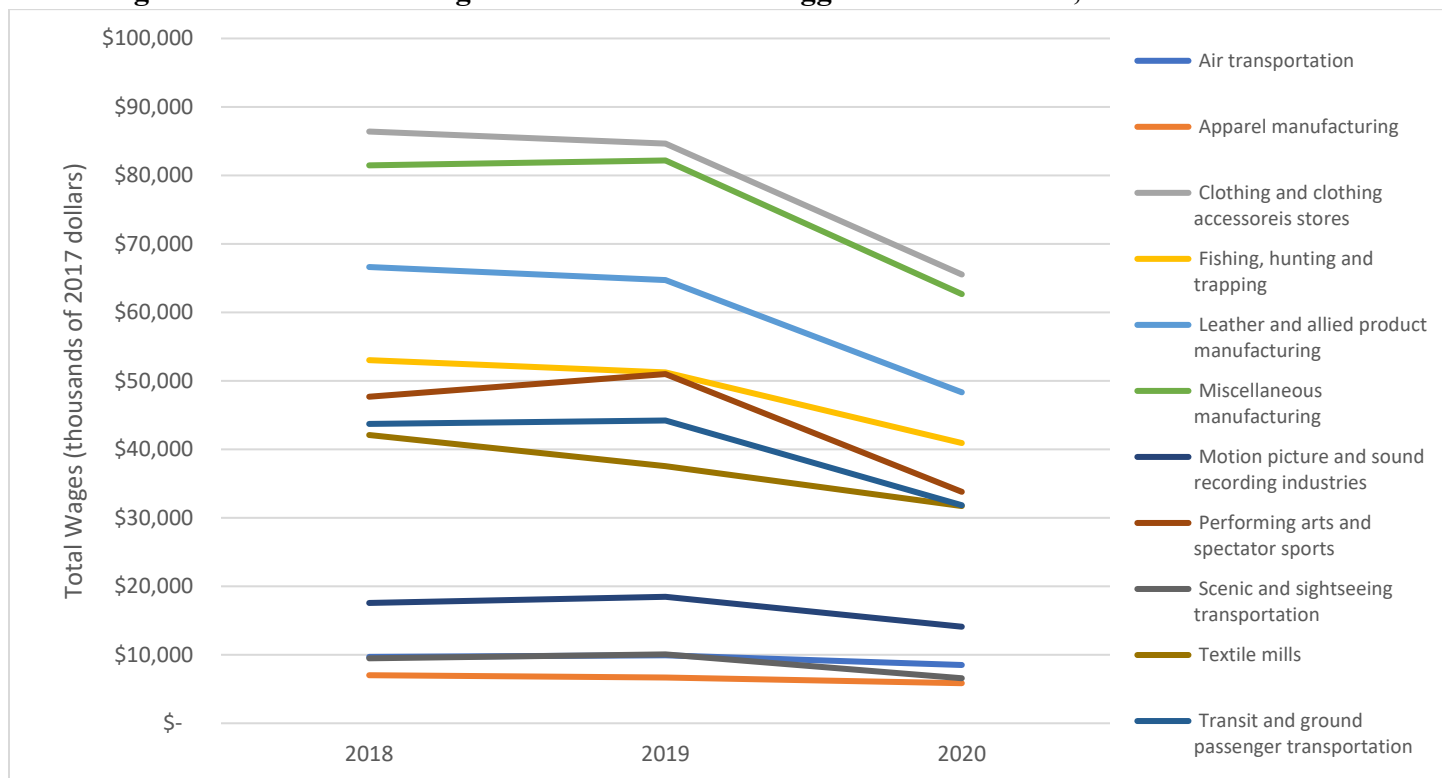
On the other end of the spectrum, many of these more narrowly-defined industries saw a large reduction in total annual pay in 2020. Figures 3a and 3b show trends for the 15 industries with a reduction of 10% or more, relative to 2019. For textile mills and apparel manufacturing these losses may reflect longer-term trends more than pandemic-specific disruptions. However, in most cases there is a clear and stark departure from existing trends. It is not hard to understand why most of these industries saw losses in 2020, as nearly all of them are built around in-person services that were difficult to deliver safely. Consumers' willingness to stay at hotels, dine-in at bars and restaurants, shop in clothing stores, see a live performance, or take transportation with others was greatly diminished.

**Figure 3a: Total Real Wages for Industries with Biggest Losses in 2020, Larger Industries**



Source: BLS Statistics data and author's calculations

**Figure 3b: Total Real Wages for Industries with Biggest Losses in 2020, Smaller Industries**



Source: BLS Statistics data and author's calculations

A closer look at the underlying data indicates that declines in total wages are largely the result of reduced employment, rather than a reduction in wage rates. This suggests that most workers who kept their jobs did not lose income. As in most recessions, the biggest burden was faced by those who became unemployed, though government policies helped to mitigate that burden. Table 3 summarizes the change in employment by major industry in Maine.<sup>6</sup> Quarterly data is shown to illustrate how the employment situation evolved throughout the first three quarters of the pandemic, and comparisons are made to the same quarter in the previous year in order to prevent distortions that arise due to seasonal patterns in labor markets. Employment declined in all major industries but one—the lone exception being the natural resource sector that includes agriculture. However, some industries were impacted far more than others. Although changes in employment occurred in nearly every industry, the most heavily impacted industries were all service-providing fields. The decline in employment in leisure and hospitality, which includes businesses such as hotels and restaurants, was double that in the next closest industry, followed by “other services,” information services, and trade, transportation, and utilities. There were also large losses in manufacturing, as well as education and health services.

**Table 3: Percentage Change in Employment from Previous Year by Industry**

	Percentage Change in Employment from Previous Year		
	2020 Q2	2020 Q3	2020 Q4
<b>Goods-producing Total</b>	<b>-6.5%</b>	<b>-4.7%</b>	<b>-0.4%</b>
Natural Resources	4.1%	6.7%	8.8%
Construction	-2.3%	-0.1%	2.0%
Manufacturing	-10.3%	-9.2%	-3.1%
<b>Service-providing Total</b>	<b>-15.4%</b>	<b>-9.4%</b>	<b>-5.4%</b>
Trade, Transportation, and Utilities	-11.8%	-6.1%	-2.9%
Information	-15.2%	-13.6%	-10.9%
Financial Activities	-2.5%	-2.5%	-1.5%
Professional and Business Services	-5.4%	-3.2%	0.5%
Education and Health Services	-8.5%	-4.8%	-3.2%
Leisure and Hospitality	-46.5%	-28.1%	-22.4%
Other Services	-22.7%	-11.8%	-8.0%

Source: BLS Statistics data and author’s calculations

<sup>6</sup> This data also comes from the BLS Quarterly Census of Employment and Wages.

Although the impact of the pandemic on the service sector and especially leisure and hospitality is unsurprising, given the restrictions on businesses and the health risk posed by face-to-face interactions, the magnitude remains astounding. Indeed, the second quarter of 2020 saw employment in this industry nearly cut in half from the same point in 2019.

An unfortunate consequence of the heavy impact on these areas of the economy is that the heaviest burden of the recession was placed on the workers who were already the most marginalized and faced the greatest economic insecurity. Table 4 shows the average weekly wages before the pandemic in these broad areas of the economy. As the table below illustrates, the industries that saw the largest reductions in employment tended to be those in which workers are paid the lowest wages. Leisure and hospitality workers in particular have the lowest pay of any industry's workforce, and the other service industries that were heavily affected tend to have low wages as well. The service industries that were least impacted by the pandemic were also those with the highest wages: financial activities and business and professional services. Similarly, goods-producing industries, which tend to have higher wages on average, were less impacted than lower-wage service-providing industries.

**Table 4: Average Weekly Wage in 2019 by Industry**

Goods-producing Total	\$1,002
Natural Resources	\$762
Construction	\$957
Manufacturing	\$1,061
Service-providing Total	\$839
Trade, Transportation, and Utilities	\$725
Information	\$1,065
Financial Activities	\$1,298
Professional and Business Services	\$1,129
Education and Health Services	\$915
Leisure and Hospitality	\$430
Other Services	\$654

Source: BLS Statistics data

The economic impact of COVID-19 also varied across geographic areas in Maine. However, there is no clear pattern based on geography. Instead, differences appear to be a function of the prevalence of certain industries in different areas. Table 5 shows the percentage change from the previous year in total real wages and employment by county, along with the percentage of employed workers who were working in the leisure and hospitality sector before the pandemic. Counties with a high share of workers in this sector, such as Franklin, Hancock, Knox, Lincoln, Oxford, and York, tended to have big reductions in both employment and total wages, whereas counties with a lower share, such as Aroostook, Piscataquis, and Washington saw a relatively smaller impact on each indicator.

**Table 5: Percentage Change in Total Real Wages Employment from Previous Year and Share of Workers in Leisure and Hospitality by County**

	Percentage Change in Total Real Wages from Previous Year			Percentage Change in Employment from Previous Year			Share of Workers in Leisure and Hospitality
	2020 Q2	2020 Q3	2020 Q4	2020 Q2	2020 Q3	2020 Q4	2019
Androscoggin	-2.1%	2.3%	8.6%	-9.7%	-4.3%	-4.0%	8.1%
Aroostook	0.6%	0.6%	7.7%	-9.1%	-6.0%	-4.1%	7.7%
Cumberland	-2.1%	-0.4%	10.0%	-14.1%	-8.6%	-5.6%	11.2%
Franklin	-14.8%	-1.5%	4.3%	-23.2%	-7.4%	-4.4%	17.8%
Hancock	-5.1%	-5.3%	8.2%	-16.9%	-12.1%	-6.1%	17.1%
Kennebec	1.9%	3.1%	5.7%	-8.4%	-4.6%	-3.3%	8.4%
Knox	-7.3%	-6.8%	5.5%	-16.7%	-11.7%	-8.7%	12.9%
Lincoln	-2.8%	-3.6%	4.1%	-15.4%	-12.1%	-7.2%	16.8%
Oxford	-4.6%	-3.0%	5.4%	-15.3%	-8.8%	-6.5%	17.1%
Penobscot	-3.8%	1.0%	9.4%	-12.6%	-6.7%	-4.6%	10.4%
Piscataquis	0.6%	5.2%	14.6%	-10.5%	-4.0%	-1.0%	7.7%
Sagadahoc	-7.7%	-10.6%	3.0%	-9.1%	-17.2%	-4.0%	8.7%
Somerset	-3.3%	1.4%	10.9%	-12.7%	-5.4%	-2.2%	8.1%
Waldo	-0.7%	1.6%	9.2%	-13.7%	-7.7%	-5.1%	9.2%
Washington	5.6%	2.5%	7.2%	-8.2%	-5.9%	-4.0%	6.6%
York	-3.3%	-0.3%	7.4%	-14.8%	-9.0%	-4.4%	16.3%

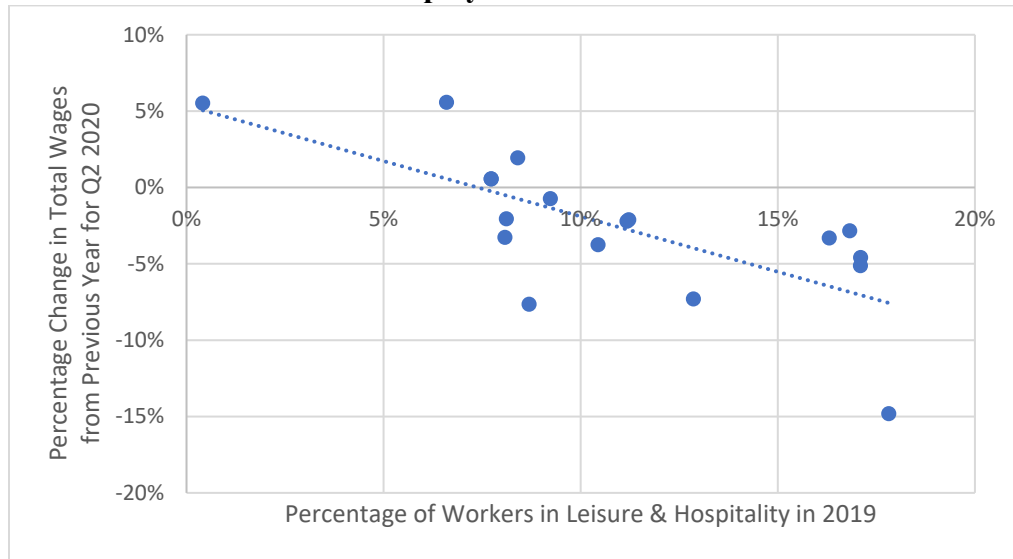
Source: BLS Statistics data and author's calculations

Figure 4 shows this relationship more directly. As the scatter plot illustrates, there is a strong correlation between the percentage of workers in a county who worked in the leisure and hospitality industry in 2019 and the change in total wages that the county experienced during the second quarter of 2020 (the first few full months of the pandemic) relative to the same quarter of 2019.<sup>7</sup> This ratio is similarly correlated with the annual percentage change in wages in the third and fourth quarters of 2020, as well as with the percentage changes in employment over the same periods.

<sup>7</sup> The correlation coefficient is -0.632.



**Figure 4: Percentage Change in Total Wages Q2 2019-Q2 2020 by Share of Leisure and Hospitality Employment in 2019**



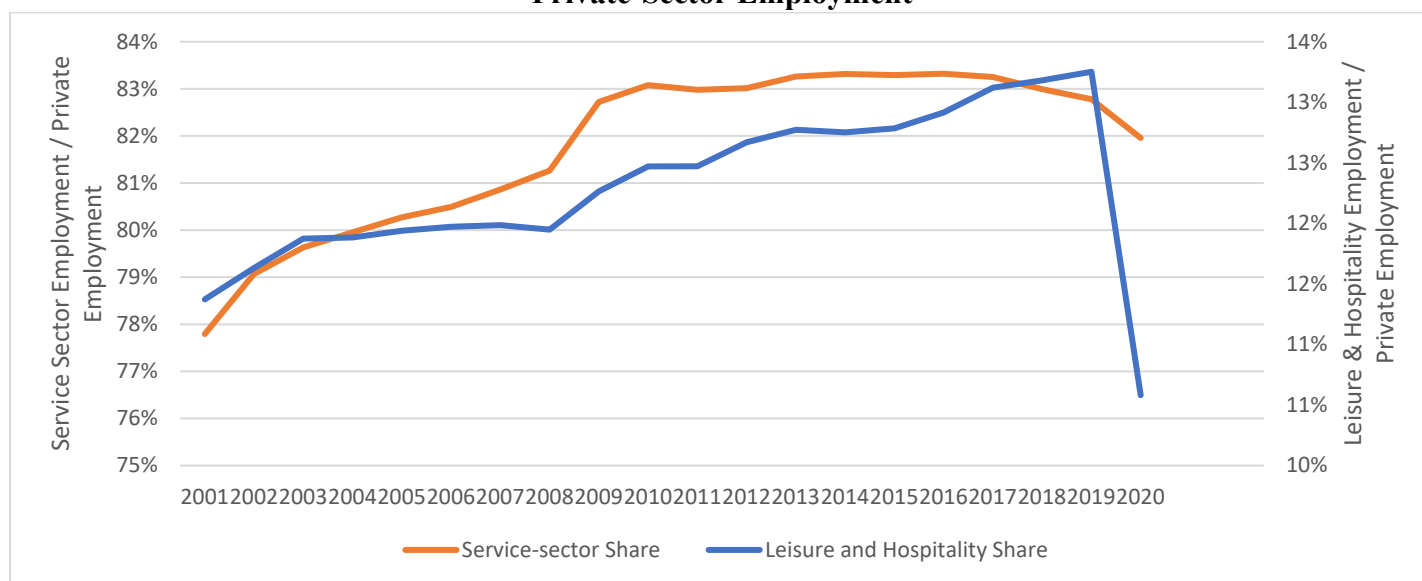
Source: BLS Statistics data and author's calculations

Therefore, the data suggest that the areas of Maine that are most reliant on the leisure and hospitality industry are those that experienced the greatest economic impact of the pandemic. This is likely the result of both direct effects, as these industries saw revenue fall and workers lost their jobs, as well as indirect effects, as workers in this industry had less income to spend at other businesses.

Taken as a whole, the data illustrate the importance of the service sector to Maine's economy. Statewide, over 80% of Maine's private-sector employees (roughly 70% of total employees) operate in the service sector. Before the pandemic, roughly 13% of private employees worked in the leisure and hospitality industry. Both the service-sector overall and leisure and hospitality specifically have been growing in size and importance in the Maine economy since at least 2001, when these data series begin. These trends, shown in Figure 5, could bode poorly for Maine's ability to cope with future economic shocks. In addition to the evidence that counties with more leisure and hospitality employment saw worse economic outcomes during the pandemic, research has shown that increased reliance on the service sector is associated with longer recoveries from recessions.<sup>8</sup>

<sup>8</sup> Olney, Martha Louise and Pacitti, Aaron. 2017. "The Rise of Services, Deindustrialization, and the Length of Economic Recovery." *Economic Inquiry*, Vol. 55, Issue 4 (October 2017): 1625-1647.

**Figure 5: Service Sector Employment and Leisure and Hospitality Employment as Shares of Private-Sector Employment**



Source: BLS Statistics data and author's calculations

This analysis also highlights the vulnerability of service sectors workers. These workers are vital to Maine's economy, but the pandemic has further increased the economic insecurity that they frequently face and the precarious nature of their employment. Government policies such as expanded unemployment insurance and stimulus checks enabled many to get through the worst months of the recession. Indeed, these policies help to explain why the poverty rate in Maine fell from a two-year average of 12.0% in 2017-2018 to 9.2% in 2019-2020.<sup>9</sup> However, there is no guarantee that these expanded safety nets will be available in future downturns, and some workers, such as the self-employed and gig-economy workers, do not typically qualify for the full range of unemployment benefits (although they did qualify for some forms of pandemic assistance). For many, employment in these essential industries remains fundamentally insecure. As the economy continues to recover and businesses are looking to hire again, many employers are noting that they are having difficulty filling jobs.<sup>10</sup> Anecdotal evidence suggests that workers are not lining up to jump back into fields with low pay and little stability (not to mention continued health risks as the pandemic continues).<sup>11</sup>

The state continues to face a number of challenges related to the pandemic—not the least of which remains the public health crisis caused by the Delta variant surge. As the recovery continues, housing affordability and the vulnerability of service-industry workers will remain critical areas for policymakers to continue monitoring.

<sup>9</sup> Shrider, Emily A., Melissa Kollar, Frances Chen, and Jessica Semega. 2021. "Income and Poverty in the United States: 2020." U.S. Census Bureau Report P60-273.

<sup>10</sup> See e.g. Sorkin, Emma. "Businesses Grapple with Summer Labor Shortage." *Portland Press Herald*, July 21, 2021. <https://www.pressherald.com/2021/07/21/businesses-grapple-with-summer-labor-shortage>.

<sup>11</sup> See e.g. Long, Hearther, Alyssa Fowers, and Andrew Van Dam. "Why America Has 8.4 Unemployed When There Are 10 Million Job Openings." *Washington Post*, September 4, 2021. <https://www.washingtonpost.com/business/2021/09/04/ten-million-job-openings-labor-shortage>.

**Appendix Table A1: Percentage Change in Total Real Wages 2019-2020 by Industry**

Funds, trusts, and other financial vehicles	60.33	Administrative and support services	5.18	Fabricated metal product manufacturing	-3.14
Crop production	32.51	General merchandise stores	4.69	Private households	-3.69
Chemical manufacturing	31.29	Ambulatory health care services	4.37	Furniture and home furnishings stores	-3.70
Heavy and civil engineering construction	20.25	Electrical equipment and appliance manufacturing	4.20	Museums, historical sites, zoos, and parks	-4.15
Couriers and messengers	19.41	Management of companies and enterprises	4.17	Sports, hobby, music instruments, book stores	-4.31
Wood product manufacturing	17.61	Hospitals	4.10	Telecommunications	-4.65
Textile product mills	12.85	Securities, commodity contracts, investments	3.99	Paper manufacturing	-6.26
Building material and garden supply stores	12.72	Motor vehicle and parts dealers	3.95	Transportation equipment manufacturing	-7.06
Agriculture and forestry support activities	12.23	Furniture and related product manufacturing	3.68	Support activities for transportation	-7.88
Food and beverage stores	12.10	Non-store retailers	3.67	Miscellaneous store retailers	-8.10
Real estate	9.34	Social assistance	3.46	Amusements, gambling, and recreation	-9.80
Utilities	8.53	Warehousing and storage	2.59	Printing and related support activities	-9.82
Data processing, hosting and related services	8.42	Health and personal care stores	2.38	Electronic markets and agents and brokers	-10.53
Beverage and tobacco product manufacturing	8.39	Petroleum and coal products manufacturing	2.11	Personal and laundry services	-11.04
Professional and technical services	7.69	Gasoline stations	2.01	Apparel manufacturing	-12.58
Waste management and remediation services	7.41	Nonmetallic mineral product manufacturing	2.00	Air transportation	-14.25
Animal production and aquaculture	7.07	Repair and maintenance	1.99	Textile mills	-15.51
Electronics and appliance stores	6.94	Water transportation	1.89	Food services and drinking places	-18.50
Credit intermediation and related activities	6.81	Plastics and rubber products manufacturing	1.66	Fishing, hunting and trapping	-20.13
Nursing and residential care facilities	6.60	Truck transportation	1.44	Clothing and clothing accessories stores	-22.58
Insurance carriers and related activities	6.30	Merchant wholesalers, durable goods	1.41	Motion picture and sound recording industries	-23.65
Pipeline transportation	6.23	Computer and electronic product manufacturing	1.38	Miscellaneous manufacturing	-23.75
Food manufacturing	6.17	Other information services	0.19	Leather and allied product manufacturing	-25.32
Construction of buildings	5.98	Primary metal manufacturing	-0.34	Transit and ground passenger transportation	-27.99
Specialty trade contractors	5.90	Broadcasting, except internet	-0.48	Accommodation	-28.63
Publishing industries, except internet	5.61	Forestry and logging	-0.77	Performing arts and spectator sports	-33.72
Membership associations and organizations	5.60	Educational services	-1.34	Scenic and sightseeing transportation	-34.64
Merchant wholesalers, nondurable goods	5.53	Machinery manufacturing	-2.89	Unclassified	-35.79

Source: BLS data and author's calculations. Industries without data and the public sector are excluded.