Economic Spotlight

Economic & Labor Market Information

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Wages and Prices

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The following findings compare the changes in prices and wages since the December 2007 recession. The two sources used in this analysis show that although wage growth has been strong in Vermont, the recent increase in prices has weakened the purchasing power of workers' wages.

Introduction

This analysis will examine the relationship between *wages* and *prices*. Wages are the payments workers receive in exchange for their labor, and prices are the cost to obtain goods and services. Wages and prices have a complex and dynamic relationship. This relationship is often considered circular because wage earners are the primary consumers of goods and services. Rising wages are an increased cost for employers, which are often passed on to consumers as higher prices. The reverse is true as well: in a rising cost environment workers demand wage increases. *Purchasing power* is the amount a consumer can buy with their money. For example, if wages remain the same and prices increase, workers lose purchasing power. They are not able to purchase the same quanity or quality of goods and services which they could previously afford—and therefore are economically worse off. Economists track the cost of goods and services to adjust wage values to reflect their true purchasing power. This adjustment can also make wages directly comparable across different time periods. These adjusted wages are called *real wages*. This analysis does not use real wages. Instead, *nominal wage* (the actual or unadjusted wage) will be compared directly against prices. Purchasing power will be represented by the change in prices compared to the change in nominal wages.

Below prices (Consumer Price Index) and nominal wages (Vermont Quarterly Census of Employment and Wages) are compared.

Data Sources

Prices: Consumer Price Index (CPI) – These data are produced by the Bureau of Labor Statistics (BLS). The data series is annual average "All items in U.S. city average, all urban consumers, not seasonally adjusted". The CPI is an index derived from measuring prices in a theoretical basket of goods and services purchased by the typical consumer over time. The data are available from BLS at https://www.bls.gov/cpi/data.htm, and a PDF table (including monthly figures) is also available from Vermont Department of Labor at: https://www.vtlmi.info/cpi.htm.

Wages: Vermont Annual Average (mean) Wage – These data are from the Quarterly Census of Employment and Wages (QCEW) program collected by the Vermont Department of Labor. The data series is annual average "Total, All Industries – Total Covered". The data are available here: https://www.vtlmi.info/indareanaics.cfm.

Data Limitations

The CPI reflects national prices while the wages are specifically those of Vermont workers.

Average wage is typically higher than the median wage due to high wage earners. The lower bound of wage data is the Vermont minimum wage, while there is no upper limit on potential wage earnings. As a result, average wage may be higher than the earnings of the "typical" Vermonter.

Wages do not include fringe benefits. Health insurance, paid leave, retirement benefits, etc. can be a significant percentage of the total compensation offered to workers.

Although most workers are included, the wage analysis does not cover 100% of Vermonters. Vermonters employed out of state are not included in these wage figures. In addition, various sectors are absent from these wages because they are not covered by the State's Unemployment Insurance Program, most notably self-employed individuals. Other exceptions include (but are not limited to) student workers, railroad workers, federal government workers, and workers in certain religious organizations.

Findings

Prices and Nominal Wages

According to the National Bureau of Economic Research, the trough or economic low point of the Great Recession was mid-2009 (June 2009 or Q2). Here 2010 represents the first full year of economic recovery (and subsequent expansion) following the Great Recession. Table 1 shows annual average figures for prices and nominal wages from 2010 to the latest available annual data, 2023. Since 2010, both prices and wages have increased every year. The annual average wage in Vermont has increased from $39,425 in 2010 to $61,813 in 2023. During the same time period, the CPI increased from 218.1 to 304.7.

Table 1. Prices and Wages
CPI and Vermont Average Wages

Year	Prices (CPI)	Wages (QCEW)
2010	218.1	$39,425
2011	224.9	$40,284
2012	229.6	$40,965
2013	233.0	$42,039
2014	236.7	$43,017
2015	237.0	$44,231
2016	240.0	$45,054
2017	245.1	$46,186
2018	251.1	$47,640
2019	255.7	$49,341
2020	258.8	$54,075
2021	271.0	$56,261
2022	292.7	$59,606
2023	304.7	$61,813

Sources - CPI: BLS, QCEW: VDOL

Year-Over-Year Changes in Wages and Prices

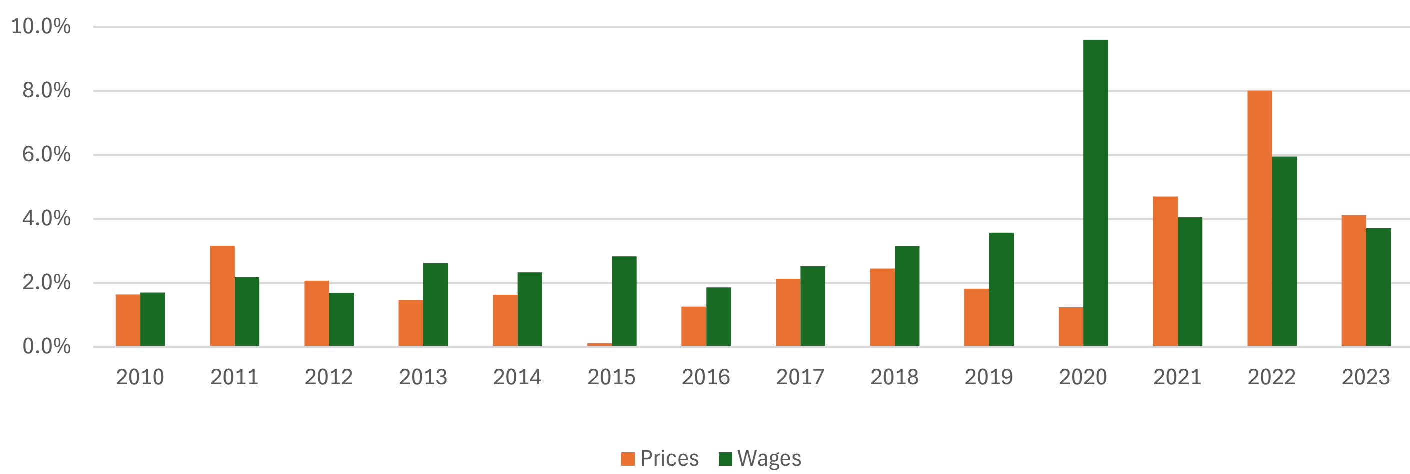
Over-the-year change allows us to compare how prices and wages have changed on a year-over-year basis. Table 2 (and Chart 1) is the over-the-year percent change in prices and wages. 2020 is notable because the average wage increased much more than prices. However, this was not an economic signal that Vermont households had an increase in purchasing power. Instead, this was because low wage earners were disproportionately impacted by public policy decisions enacted as a result of COVID-19 and efforts to slow its spread. In 2020, the reduced number of low wage earners skewed the average wage higher. From 2021 to 2023, prices increased more than wages year-over-year, with 2022 being the largest over-the-year price increase since 1981.

Table 2. Prices and Wages
Over-the-Year Percent Change

Year	Prices	Wages
2010	1.6%	1.7%
2011	3.2%	2.2%
2012	2.1%	1.7%
2013	1.5%	2.6%
2014	1.6%	2.3%
2015	0.1%	2.8%
2016	1.3%	1.9%
2017	2.1%	2.5%
2018	2.4%	3.1%
2019	1.8%	3.6%
2020	1.2%	9.6%
2021	4.7%	4.0%
2022	8.0%	5.9%
2023	4.1%	3.7%

Sources - CPI: BLS, QCEW: VDOL

Chart 1. Prices & Wages
Over-the-Year Percent Change



Increase in Wages and Prices Since 2010

Prices and wages can be indexed to a specific year to see how they have changed relative to each other over time. In Table 3 (and Chart 2) instead of looking at the year-over-year changes, the data are indexed. The increase in prices and wages are indexed or anchored to 2010. The indexed figures show prices were increasing faster than wages from 2010 to 2013. Then for the remainder of the series, the indexed wage level remained higher than the indexed price level, demonstrating a long-term increase in purchasing power over the 14-year period shown in Table 3. In 2023, prices and wages were 39.7% and 56.8%, respectively, higher than 2010.

Table 3. Prices and Wages
Indexed to 2010

Year	Prices	Wages
2010	100.0	100.0
2011	103.2	102.2
2012	105.3	103.9
2013	106.8	106.6
2014	108.6	109.1
2015	108.7	112.2
2016	110.1	114.3
2017	112.4	117.1
2018	115.2	120.8
2019	117.2	125.2
2020	118.7	137.2
2021	124.3	142.7
2022	134.2	151.2
2023	139.7	156.8

Sources - CPI: BLS, QCEW: VDOL

A Recent Loss in Purchasing Power (2020-2023)

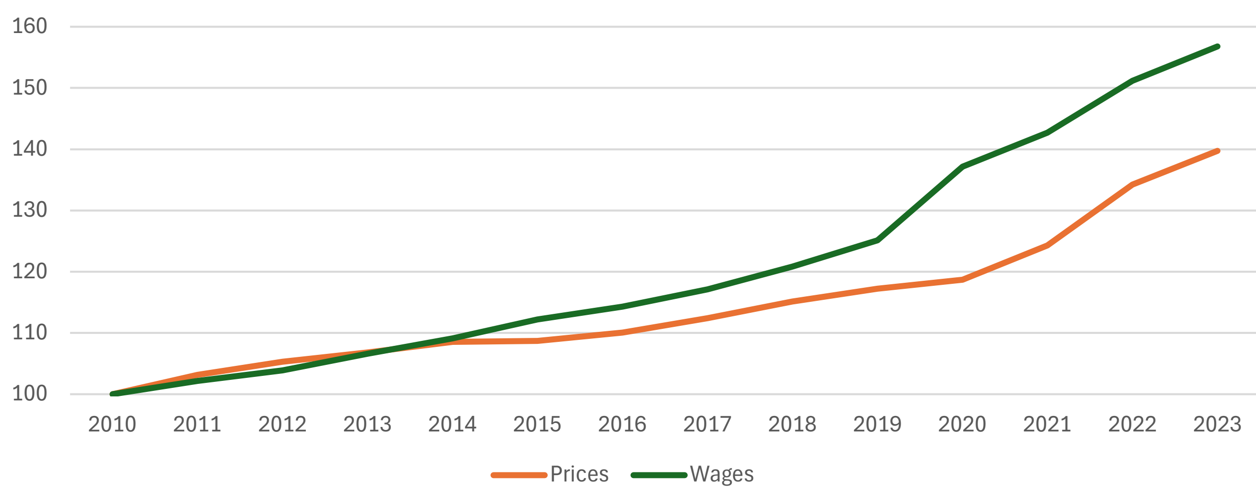
Table 4. Prices and Wages
Indexed to 2020

Year	Prices	Wages
2020	100.0	100.0
2021	104.7	104.0
2022	113.1	110.2
2023	117.7	114.3

Sources - CPI: BLS, QCEW: VDOL

Prices rose quickly after COVID and the brief 2020 recession. In Table 4 the data are indexed to 2020, where prices have increased 17.7% from 2020 to 2023, while wages increased 14.3%, resulting in a decrease of purchasing power for wage earners over this time period.

Chart 2. Prices and Wages
Indexed to 2010



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