

# Higher Minimum Wage Impact on Economic and Workforce Development in Coconino County

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## Executive Summary

This study sought to answer the question, what is the impact of higher minimum wage on economic and workforce development in Coconino County? In eight years (2017 – 2025), Flagstaff’s minimum wage has increased by 122% for standard employees and 234% for tipped employees, since the voter-approved policy went into effect. Quantitative and qualitative research methods were used to understand the study’s question. Quantitative methods included a Difference-in-Difference (D-in-D) analysis that compared Flagstaff’s economic variables to a nationally aggregated control group. Qualitative methods included business owner and manager focus groups and employee interviews. Data from these methods contributed several perspectives to this research question.

The D-in-D model, which isolates the minimum wage variable and allows for a direct comparison of Coconino County to other Metropolitan Study Areas (MSA) in the economic measures surrounding industries, occupations, and cost of living. D-in-D found the presence of tangible effects on certain industries, occupations, and on Flagstaff’s cost of living, through the impacts are not uniformly observed across all variables.

When looking at the impact by *industries*, positive effects are observed in the Trade, Transportation, and Utilities and Leisure and Hospitality sectors, with increased wages and total wages. Significant negative effects are seen in Construction, Manufacturing, and Professional and Business Services, particularly in terms of employment, total wages, and annual pay. When looking at the impact by *occupations*, customer-facing roles such as retail salespersons and hotel clerks appear to be among the primary beneficiaries of the policy – the benefits including increased employment and higher wages, both hourly and annually, reflecting the policy’s intent to improve conditions for low-wage workers. Conversely, sectors like Healthcare and Science jobs exhibit significant declines in employment and wages, highlighting potential challenges in adapting to the policy. For the impact on *cost of living*, while the minimum wage policy has enhanced wages for many workers, it also raises living costs - the overall composite index for cost of living has risen significantly.

Qualitative methods provided real-word perspectives on Flagstaff’s minimum wage policy from those most impacted, business owners and managers, and employees. Twenty-two Business owners and managers describe nine impacts on their businesses. Fifteen employees and a labor union representative describe impacts on worker livelihoods.



# 1. Minimum Wage in Coconino County

## 1.1 Flagstaff’s minimum wage law

In 2016, the residents of Flagstaff voted in Proposition 414, enacting a minimum wage law that took effect in 2017. Flagstaff’s minimum wage policy provided a phased implementation plan to raise Flagstaff’s minimum wage to \$15.00 by 2021, after which it became adjusted annually by Consumer Price Index (CPI) or \$2.00 above the State of Arizona minimum wage, whichever is higher. Beginning 2026, Flagstaff’s minimum wage will be the same for both standard and tipped employees. Table 1 shows the progression of Flagstaff’s minimum wage that went above the state minimum wage.

Table 1: Flagstaff and Arizona minimum wage change (2016 onwards)

Date of increase	FLG Hourly Minimum Wage. (122% increase in 9 years)	FLG Hourly Tipped Minimum Wage (234% increase in 9 years)	AZ Hourly Minimum Wage. (83% increase in 9 years)	AZ Hourly Tipped Minimum Wage (132% increase in 9 years)
Jan. 1, 2026	TBD	Same minimum wage	TBD	(\$3.00 less)
Jan. 1, 2025	\$17.85 (3% increase)	\$16.85 (6% increase)	\$14.70 (2% increase)	\$11.70 (7% increase)
Jan. 1, 2024	\$17.40 (4% increase)	\$15.90 (7% increase)	\$14.35 (4% increase)	\$11.35 (3% increase)
Jan. 1, 2023	\$16.80 (8% increase)	\$14.80 (14% increase)	\$13.85 (8% increase)	\$10.85 (4% increase)
Jan. 1, 2022	\$15.50 (3% increase)	\$13.00 (8% increase)	\$12.80 (5% increase)	\$9.80 (10% increase)
Jan. 1, 2021	\$15.00 (15% increase)	\$12.00 (20% increase)	\$12.15 (1% increase)	\$9.15 (2% increase)
Jan. 1, 2020	\$13.00 (8% increase)	\$10.00 (11% increase)	\$12.00 (9% increase)	\$9.00 (11% increase)
Jan. 1, 2019	\$12.00 (9% increase)	\$9.00 (12% increase)	\$11.00 (5% increase)	\$8.00 (6% increase)
Jan. 1, 2018	\$11.00 (5% increase)	\$8.00 (7% increase)	\$10.50 (5% increase)	\$7.50 (7% increase)
July 1, 2017	\$10.50 (30% increase)	\$7.50 (49% increase)	\$10.00 (24% increase)	\$7.00 (29% increase)
Jan. 1, 2016	\$8.05	\$5.05	\$8.05	\$5.05

Source: City of Flagstaff Minimum Wage website, accessed Nov. 2024.

Since 2017, when both the City of Flagstaff and the State of Arizona implemented voter-approved minimum wage laws, Flagstaff’s minimum wage has increased 122% in 9 years for standard employees and 234% for tipped employees. Arizona’s minimum wage has increased 85% for standard employees and 132% for tipped employees in the same timeframe.

No other city in Arizona has a minimum wage law at the same level as Flagstaff. Only Tucson has its own minimum wage law, enacted in 2021. At its highest, Tucson’s minimum wage was 1.56% higher than that of the state and since then has been below the state’s minimum wage, in which case minimum wage employees are paid at the state level.



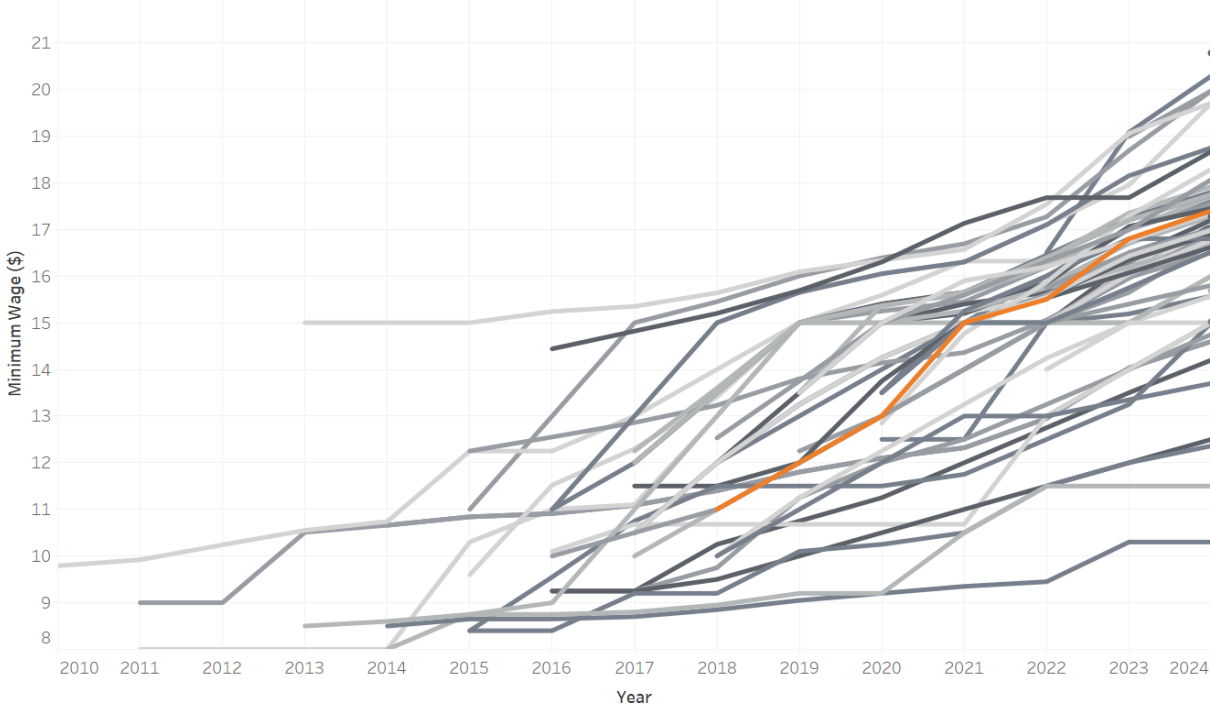
## 1.2 Flagstaff’s minimum wage law compared to others in the US

The EPI research team compiled wage data through time for each locality in the US with a minimum wage policy. Seventy localities in 12 states have their own minimum wage laws, which began taking effect in 2010, starting in the cities of San Francisco and Sunnyvale, California and Santa Fe, New Mexico as the first adopters. Localities are mostly cities (59) and some counties (11). Of these 70 localities, 41 (59%) are in California. By 2017, when *Flagstaff’s minimum wage went into effect, Flagstaff was one of 33 localities in the US with a minimum wage above their state’s.*

As of 2024, 21 localities in three states had a minimum wage higher than that of Flagstaff – California (16), Colorado (1), and Washington (4). The minimum wage in these localities ranges from between \$0.15 - \$3.38 higher than Flagstaff, with a mean of \$1.12 median of \$0.67 higher than Flagstaff.

The graph below depicts the minimum wage increases through time of each of the 70 localities in the US with a minimum wage law higher than their state. Flagstaff’s minimum wage, in orange below, is close to the average of the other 70 localities nationally. For example, in 2024, the mean minimum wage was \$17.42, and the median was \$17.20 for all US localities, which is close to Flagstaff’s 2024 minimum of \$17.40.

Figure 1: Minimum wage over time in all US locations with minimum wage increases



Note: Lines begin at the year the law was implemented for all locations. Flagstaff MSA is depicted in orange.

## 2. The Minimum Wage Debate

Understanding the impact of minimum wage policies is challenging given that economic factors of regions are deeply interrelated. While wage increases aim to improve workers' living standards, the policy's effects are more complex than that intended outcome. Direct effects can be that smaller businesses react to the policy by changing the number of hours employees work and the quality of benefit offerings, and the broader economic trends can include shifts in workforce structure, technological advancements, or macroeconomic conditions.

The impact of minimum wage increases on local economies has been extensively studied. Supporters and critics of minimum wage laws use the same economic theories to make their points on how labor markets operate. According to microeconomics theory, an economics framework that focuses on how individuals and firms make decisions about allocating limited resources, a minimum wage acts as a "price floor" in the labor market, in an ideal competitive market, if the minimum wage is set higher than the natural market rate, it can result in more people wanting jobs (a higher supply of workers) than there are jobs available (lower demand), potentially increasing unemployment. However, the real world often deviates from the competitive assumption in theoretical models. For example, the market might not be reaching an equilibrium minimum wage in the absence of a minimum wage law, if one party on the market has significantly more market power than the other side. That can result in monopsony power, meaning the employer can set the wage for their workers and keep it artificially low. Card & Krueger (1992)'s study on the minimum wage effect on fast-food industry in Pennsylvania and New Jersey found that employment increased coupled with minimum wage increase, while others (David Neumark, 2015; Doruk Cengiz et al, 2019) indicate potential job losses, particularly among low-skilled workers. The Congressional Budget Office (2019) projected that raising the federal minimum wage to \$15 by 2025 could reduce employment by 1.3 million workers but also lift 1.3 million people out of poverty.

The impact of minimum wage increase affects different groups and industries differently. Small businesses are often perceived as more vulnerable to minimum wage hikes due to their limited financial resources. However, research indicates that these businesses can adapt without significant job losses. A study by Wursten and Reich (2023) found that small businesses with low-wage employees experienced reduced employee turnover following minimum wage increases, potentially offsetting higher labor costs. Additionally, small businesses may pass on increased costs to consumers with minimal negative impact. On the other hand, large corporations in industries like fast food and retail have greater financial flexibility to absorb increased labor costs than small businesses. They may

implement strategies such as raising prices, investing in automation, or restructuring operations to maintain profitability (Reich and Sosinskiy, 2024).

Minimum wage increases lead to higher earnings for low-wage workers, improving their purchasing power and reducing poverty levels. However, the benefits can vary across demographic groups. Younger workers and those with less experience may face reduced employment opportunities as employers adjust to higher labor costs. Conversely, adult workers, particularly those supporting families, may experience substantial benefits from wage increases (Congressional Budget Office, 2019).

The community response to minimum wage increase can also differ in different localities due to their different economic landscapes, which influence how minimum wage changes are absorbed. Workforce market dynamics, including unemployment rates, labor force participation rates, and the prevalence of part-time or gig work, can alter how wage policies play out across regions. Small towns like Flagstaff with economies dominated by low-margin industries may respond differently to wage hikes compared to metropolitan areas with diverse, high-margin industries. Cost of living matters, too. In regions with a lower cost of living, even modest wage increases might have more pronounced effects on business operations and employment decisions. Conversely, in high-cost areas like Flagstaff, even substantial increases in the minimum wage may fall short of meeting basic living expenses.

Considering all these variables and how different geographies, groups, and industries react differently to the minimum wage increase, the outcomes of minimum wage policies are far from uniform and depend on local economic contexts. This complexity underscores the importance of place-based, ongoing research to better understand, and adapt to diverse economic conditions, and strategies that ensure the policy's benefits are maximized while minimizing the unintended consequences.

## **3. Flagstaff MSA Economic and Workforce Profile**

### **3.1 Hospitality-driven economy**

The Flagstaff MSA, which is all of Coconino County, has a hospitality driven economy. As Table 2 shows, Flagstaff MSA ranked 10th most leisure and hospitality concentrated metropolitan area measured by location quotient. Many of its peers in this ranking are well-known tourism destinations (e.g., Myrtle Beach, SC; Ocean City, NJ; Kahului, HI). Among those tourism-heavy metropolitan areas, there are significant variations in pay. Flagstaff MSA's hourly mean wage and annual mean wage ranked second highest, following

Kahului, HI. Despite the higher pay in the hospitality sector, Flagstaff’s higher than average cost of living may well offset that advantage to hospitality workers.

Table 2: Top ten MSAs in the leisure and hospitality sector

Metropolitan Statistical Area (MSA)	Employment	Employment per thousand jobs	Location quotient*	Hourly mean wage	Annual mean wage
Ocean City, NJ	1,760	43.81	2.97	\$ 20.34	\$ 42,300
Myrtle Beach-Conway-North Myrtle Beach, SC-NC	7,520	42.07	2.85	\$ 10.72	\$ 22,290
Kahului-Wailuku-Lahaina, HI	2,960	39.08	2.65	\$ 25.86	\$ 53,800
Hilton Head Island-Bluffton-Beaufort, SC	3,130	38.85	2.64	\$ 11.29	\$ 23,490
Daphne-Fairhope-Foley, AL	3,040	37.31	2.53	\$ 10.75	\$ 22,350
Atlantic City-Hammonton, NJ	4,670	37.17	2.52	\$ 19.09	\$ 39,710
Crestview-Fort Walton Beach-Destin, FL	4,480	36.59	2.48	\$ 17.29	\$ 35,970
Naples-Immokalee-Marco Island, FL	5,320	32.65	2.22	\$ 19.65	\$ 40,880
The Villages, FL	1,230	32.24	2.19	\$ 16.83	\$ 35,010
Flagstaff, AZ	1,940	30.34	2.06	\$ 22.62	\$ 47,060

Source: Bureau of Labor Statistics.

\* Location quotient measures the concentration of an industry in a specific area relative to the national average. An LQ of 2.06 in Flagstaff, AZ, indicates that the leisure and hospitality industry is two times more concentrated than the national average.

Comparing total wages for all workers in the Flagstaff MSA to other MSA’s with similar climate, population, tourism levels, and education institutions as the Flagstaff MSA, results show that Flagstaff’s mean hourly wage, median hourly wage, mean annual wage, and median annual wage are slightly lower than similar MSAs (see Table 3).

Table 3: All-workers, all-wages comparison of the Flagstaff MSA to similar MSAs

Metropolitan Statistical Area (MSA)	Hourly mean wage	Hourly median wage	Annual mean wage	Annual median wage
Boulder, CO	\$ 40.99	\$ 36.44	\$ 89,681.95	\$ 75,675.79
Fort Collins, CO	\$ 35.73	\$ 33.04	\$ 77,355.47	\$ 69,328.67
Colorado Springs, CO	\$ 33.36	\$ 31.25	\$ 69,162.97	\$ 64,772.51
Eugene, OR	\$ 33.07	\$ 30.53	\$ 69,863.03	\$ 64,721.58
Bend-Redmond, OR	\$ 32.52	\$ 30.50	\$ 67,983.95	\$ 63,905.51
Grand Junction, CO	\$ 30.38	\$ 28.33	\$ 63,122.98	\$ 58,768.34
Cheyenne, WY	\$ 30.18	\$ 28.32	\$ 62,888.88	\$ 59,068.17
Asheville, NC	\$ 29.84	\$ 27.74	\$ 61,974.68	\$ 57,697.47
Flagstaff, AZ	\$ 29.74	\$ 27.80	\$ 61,771.55	\$ 57,807.42

Santa Fe, NM	\$	29.73	\$	27.81	\$	62,128.44	\$	58,103.24
Provo-Orem, UT	\$	29.62	\$	27.46	\$	61,985.98	\$	57,529.49
Rapid City, SD	\$	29.60	\$	27.26	\$	64,710.25	\$	56,621.02
Prescott, AZ	\$	29.16	\$	26.99	\$	60,950.00	\$	56,385.03
Missoula, MT	\$	29.16	\$	26.78	\$	64,139.25	\$	55,896.27
Boise City, ID	\$	29.12	\$	27.16	\$	61,175.02	\$	56,912.76
<b>Mean</b>	\$	<b>31.48</b>	\$	<b>29.16</b>	\$	<b>66,592.96</b>	\$	<b>60,879.55</b>
<b>Standard Deviation</b>		<b>3.28</b>		<b>2.73</b>		<b>7,793.86</b>		<b>5,697.91</b>
<b>Flagstaff Z Score</b>		<b>-0.53</b>		<b>-0.50</b>		<b>-0.62</b>		<b>-0.54</b>

Source: Bureau of Labor Statistics

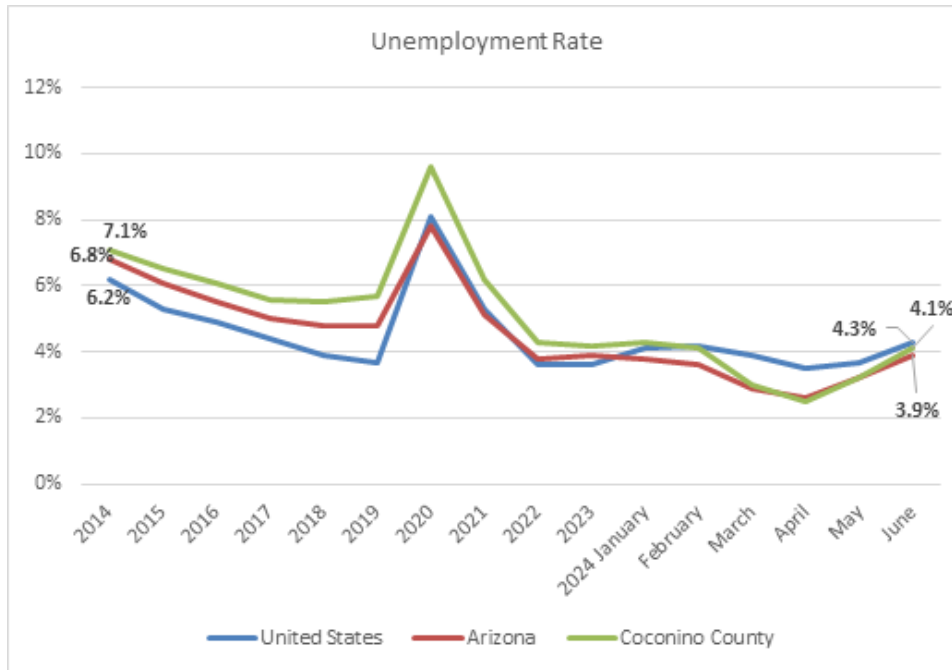
As highlighted in the 2025 – 2028 Coconino County Workforce Development plan, the unique character of the county’s size, population, and land holdings should be noted when considering its economy and workforce. Coconino County is the second largest county in the United States at 18,661 square miles (48,330 km<sup>2</sup>). Despite its large land area, the county is sparsely populated compared to its size. The population is currently over 147,000 people in the county nearly 77,000 in Flagstaff. Regarding land holdings, Tribal lands comprise 38% of the county and are home to the Navajo, Hopi, Paiute, Havasupai, and Hualapai Tribes. The US Forest Service and Bureau of Land Management oversee 32.3% of the land, the State of Arizona owns 9.5%, other public lands comprise 6.8%, and the remaining 13.4% is owned by private individuals or corporations. This land distribution is reflected in some of the major industry sectors such as tourism-driven leisure and hospitality, and government (public administration). These two sectors alone account for half of the employment in the county. The land distribution also influences the size and number of private industries that can reasonably exist in the County.

### 3.2 Workforce characteristics

Flagstaff MSA’s labor market is a tight one, with a low unemployment rate and a high labor force participation rate.

Unemployment rates in the Flagstaff MSA are at a 10-year low. Since 2021 unemployment fell to under 5% and remains below the commonly accepted threshold for full employment, (typically 5%), which allows for job mobility while keeping inflation in check and ensuring employment opportunities for those seeking work (see Figure 2).

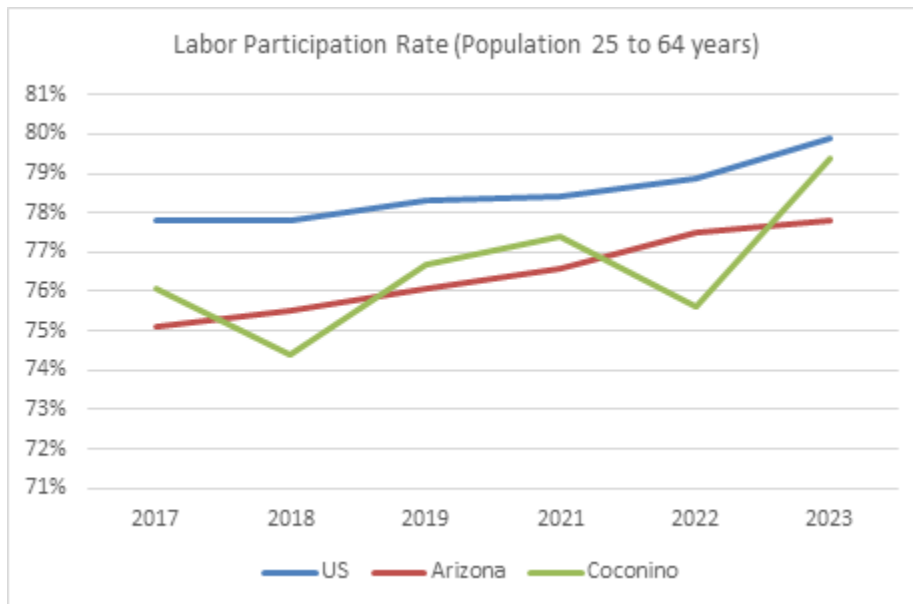
Figure 2: Unemployment Rate in US, Arizona, and Flagstaff MSA



Source: U.S. Bureau of Labor Statistics

Meanwhile, Flagstaff MSA labor force participation rate (LFPR) rose to 79.4% in 2023, surpassing the state rate of 77.8% and approaching the national rate of 79.9%, indicating a tight workforce market in the Flagstaff MSA, especially since 2022. (see Figure 3).

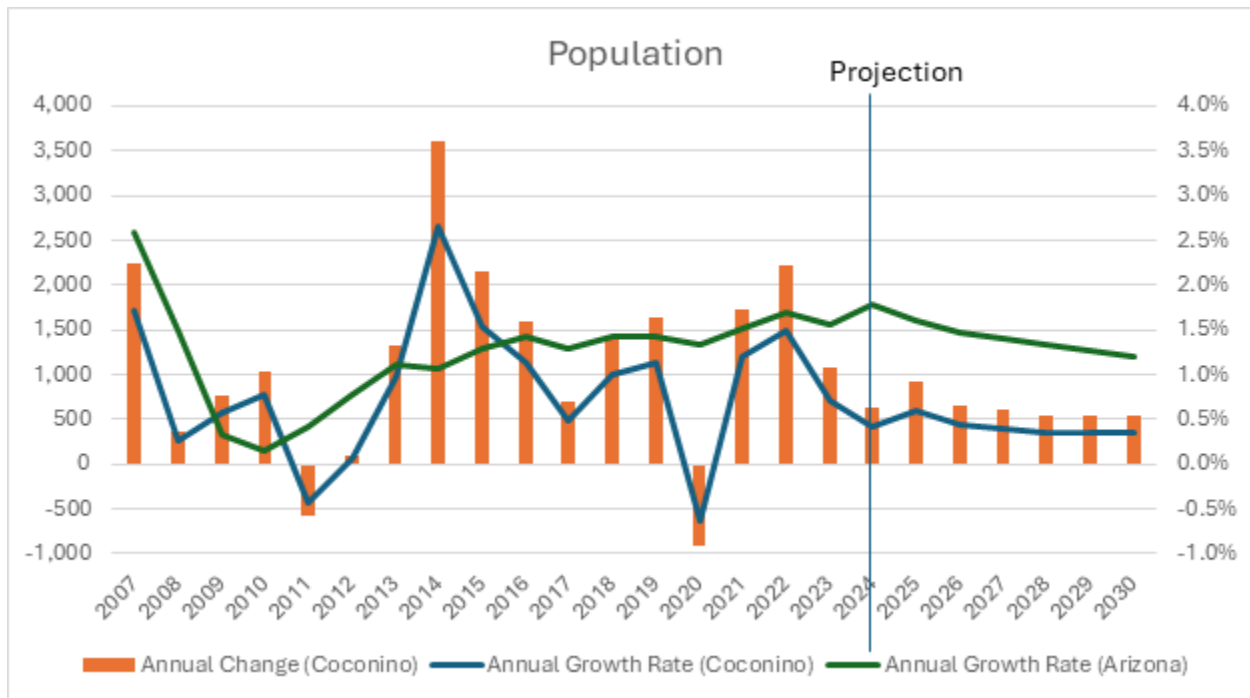
Figure 3: Labor Force Participation Rate Comparison in US, Arizona, and Flagstaff MSA



Source: U.S. Census American Community Survey, 1-year estimates, 2020 data is not available.

Coupled with the tight workforce market, the Flagstaff MSAs population growth is also slowing. From 2017 to 2022 the county population grew by 6,066 (0.9% annually), keeping pace with the state average growth rate. Over the next few years, however, it is projected to grow at a much slower pace than the state average (average of 0.4% annually compared to 1.1%), with an annual net increase of just over 500 residents annually. During this period, the population of the Flagstaff MSA is forecast to increase by 1,812, reaching 154,077. While this growth will support economic expansion, it will occur at a slower pace than before.

Figure 4: Population Trends in Flagstaff MSA



Source: Arizona Office of Economic Opportunity.

The labor market, like all other markets, follows a supply and demand rule. Flagstaff MSA’s low unemployment rate and high labor force participation suggest strong demand for workers, particularly in the hospitality sector, where wages are higher than in similar markets. This, plus the elevated cost of living, exacerbates the labor shortage by making it difficult for workers, especially in lower-paying industries, to afford housing and other essentials. This creates a feedback loop: a limited labor supply inflates wages, but high living costs discourage potential workers from relocating to Flagstaff, further constraining the labor pool. Combined with slowing population growth, these factors could pose long-term risks to the local economy, potentially hindering its ability to sustain growth and vitality in labor-intensive sectors like hospitality.



## 4. Research Methodologies

A mixed method of quantitative and qualitative analyses was conducted to analyze the effects of minimum wage policy in Coconino County. The quantitative approach was used to quantify the average impact of minimum wage increases on various aspects of the economic performance, while the qualitative approach improves the understanding of the lived experiences of those who are affected by the policy change.

### 4.1 Quantitative methodology and Summary Statistics

The main quantitative approach used in this study is the Difference-in-Difference (D-in-D) method. This is a popular econometrics model used by labor economists to explore the impact of minimum wage increases. Card and Krueger (1993) is one of the earliest examples of using this method to examine the impact of minimum wage increases in fast-food industry in Pennsylvania and New Jersey. Advanced versions of this method have gained increasing popularity in the minimum wage literature in recent years. For example, Jardim et al. (2022) used D-in-D with synthetic control group to study the impact of minimum wage changes on the employment of low-wage workers in Seattle. This model isolates the impact of minimum wages as the sole independent variable, thus enables an unbiased estimation by eliminating noises from the general economic environment that may also affect the chosen dependent variables - wages, employment, and cost of living.

Following the synthetic D-in-D approach, we created a synthetic control group for Flagstaff, which is referred to as synthetic Flagstaff in the rest of the report. We utilize algorithms to create a weighted average of various potential MSAs to form the synthetic Flagstaff. It is a comparison group that mimics Flagstaff MSA in its economic characteristics, while experiencing minimal change in minimum wage. Since the only difference between Flagstaff and synthetic Flagstaff is the magnitude of minimum wage increases, minimum wage change is then isolated to be the only contributor to the estimated changes in our outcomes of interest.

For this study, the synthetic Flagstaff is constructed as a weighted average of other Metropolitan Statistical Area (MSAs) that experienced less than a \$1 increase (including those that had a \$0 increase) in the minimum wage between 2017 and 2023. Using a statistical program, we selected these MSAs to ensure that their weighted average closely matches Flagstaff MSA in terms of each outcome variable prior to 2017. This approach ensures that the “parallel trend assumption” is satisfied, which is a key requirement for a valid D-in-D estimation. By comparing the changes in outcomes between the treatment group (e.g. Flagstaff) and the synthetic Flagstaff both before and after the policy change,

we only count for the effects of the minimum wage hikes, providing a more accurate estimate of the true impact of the policy change.

In addition to the D-in-D modeling, as the baseline analysis, we used various datasets to provide summary statistics as shown in the previous section to observe the trends in employment and wages over the period of minimum wage hikes. Data work was conducted in professional statistical software, mainly Stata and R.

### **Study Subjects: Employment, Wage, and Cost of Living**

The study focuses on three groups of subjects, i.e., employment and wage by industries, employment and wage by occupation, and cost of living. Within each subject, we looked at economic performance indicators and compared each outcome of the Flagstaff MSA to synthetic Flagstaff. The differences show how those outcomes have been changed in response to the minimum wage increase.

The industries of interest include the leisure and hospitality sector, which is typically characterized by a large portion of workers being paid minimum or near-minimum wage, and that resonates with the significance of tourism in Flagstaff MSA's economy. In addition, we also made an effort to analyze the impact on the in-demand industries in Coconino County, defined in the Coconino County Workforce Development Plan (2025-2028). The in-demand industries in Coconino County, according to the Arizona Office of Economic Opportunity, include the following: i) health care and social assistance, ii) construction, iii) management of companies and enterprises, iv) professional, scientific, and technical services, and v) manufacturing. The Coconino County Workforce Development Board also expects to see strong employment growth in two additional sectors, i.e., forestry and trucking & commercial maintenance for fleet vehicles.

The industry data we obtained from the Bureau of Labor Statistics (BLS) are high-level, which divided the industries into Goods-producing, which includes natural resources and mining, construction, manufacturing, and Service-providing, which includes trade, transportation, and utilities, information, financial activities, professional and business services, education and health services, leisure and hospitality, and other services. Given the data availability, we chose five industries (see Table 4) to conduct the impact on industry analysis.

The industry level data source is the Quarterly Census of Employment and Wages (QCEW) maintained by BLS. This database contains the quarterly count of employment and wages reported by employers covering more than 95 percent of U.S. jobs, available at the county, MSA, state and national levels by industry. The outcome variables in analyzing the impact of minimum wage increase on the selected industries are listed in Table 4.

The occupation level data used in this report is from BLS’ Occupational Employment and Wage Statistics (OEWS) database. This database contains employment and wage estimates annually for approximately 830 occupations. Since occupational estimates for specific industries are only available at the national level, we picked the most relevant occupations or occupation groups to the industries selected as the research subject when we analyze the changes in outcome variables regarding occupation. The outcome variables regarding occupation are also listed in Table 4 and include number of workers and wage data. For wage data, we chose to use the median instead of the average, the reason being we found that the outlier effect (the high paying jobs in the same occupation groups bumping up the average) distorts the results.

In terms of the impact on cost of living, we used the Cost-of-Living index by the Council for Community and Economic Research. The outcome variables include grocery, healthcare, miscellaneous goods & services, and the composite index, which is the weighted average of the forgoing variables. The housing index in the COLI database is constructed from an extremely limited sample that is not representative of the overall housing market, thus we excluded the analysis regarding the minimum wage increase impact on housing prices.

The structure of the study objects and outcome variables is illustrated in Table 4.

Table 4: Study subjects and outcome variables used in the D-in-D analysis

<b>Study subject groups</b>	<b>Study subject specific industries and occupations of interest</b>	<b>Outcome variables (aka economic indicators)</b>
<b>Industries</b>	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Manufacturing</li> <li>• Trade, Transportation, and Utilities</li> <li>• Professional and Business Services</li> <li>• Leisure and Hospitality</li> </ul>	<ul style="list-style-type: none"> <li>• Employment</li> <li>• Establishment count</li> <li>• Weekly wage</li> <li>• Annual pay</li> <li>• Total wage</li> </ul>
<b>Occupations</b>	<ul style="list-style-type: none"> <li>• Retail Salespersons</li> <li>• Hotel, Motel, and Resort Desk Clerks</li> <li>• Healthcare Practitioners and Technical Occupations</li> <li>• Construction and Extraction Occupations</li> <li>• Transportation and Material Moving Occupations</li> <li>• Farming, Fishing, and Forestry Occupations</li> <li>• Management Occupations</li> <li>• Life, Physical, and Social Science Occupations</li> <li>• All Occupations</li> </ul>	<ul style="list-style-type: none"> <li>• Employment</li> <li>• Median hourly wage</li> <li>• Median annual wage</li> </ul>
<b>Cost of Living</b>		<ul style="list-style-type: none"> <li>• Composite</li> <li>• Grocery</li> <li>• Healthcare</li> <li>• Miscellaneous goods &amp; services</li> </ul>

### **Summary Statistics of Selected Outcome Variables**

The following graphs show the raw trends in annual average establishment count (by occupation), annual average employment (by occupation), annual average pay (by industry), and average weekly wage (by industry), using our main data source QCEW.

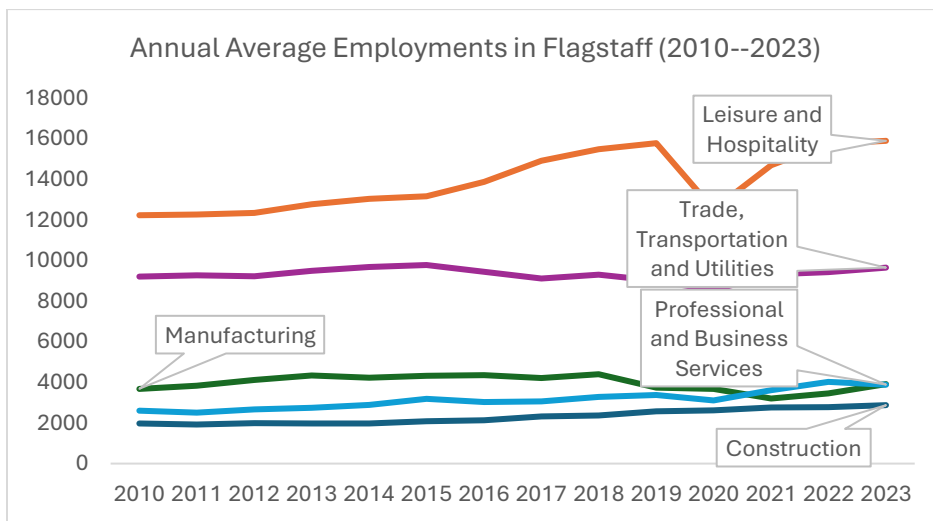
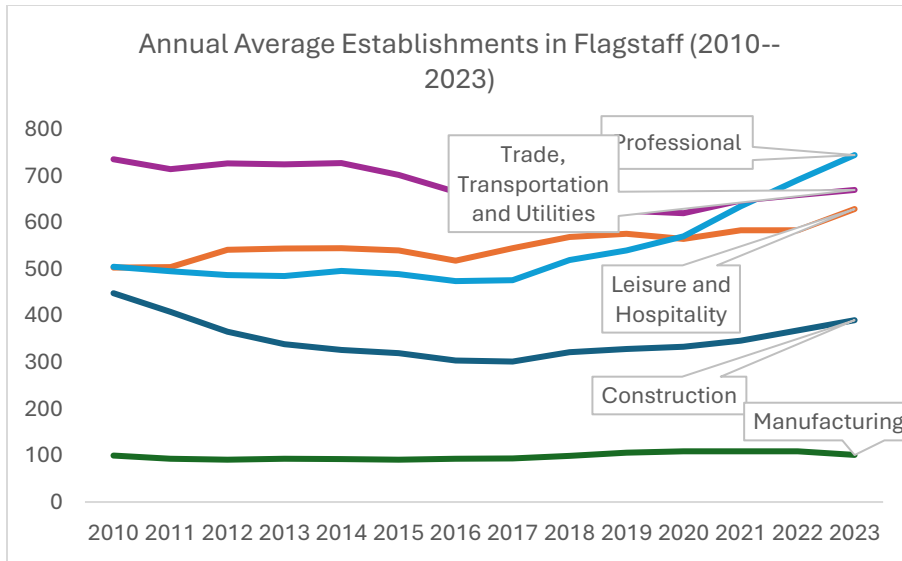
The raw data reveals significant trends in the number of establishments and employments across different industries in Flagstaff between 2010 and 2023. In terms of annual average establishments, Professional and Business Services experienced the highest growth, with a 47% increase. Leisure and Hospitality also showed notable growth at 25%. On the other hand, Manufacturing saw a negligible growth of just 1%. Trade, Transportation, and Utilities, as well as Construction, witnessed declines of 9% and 13%, respectively.

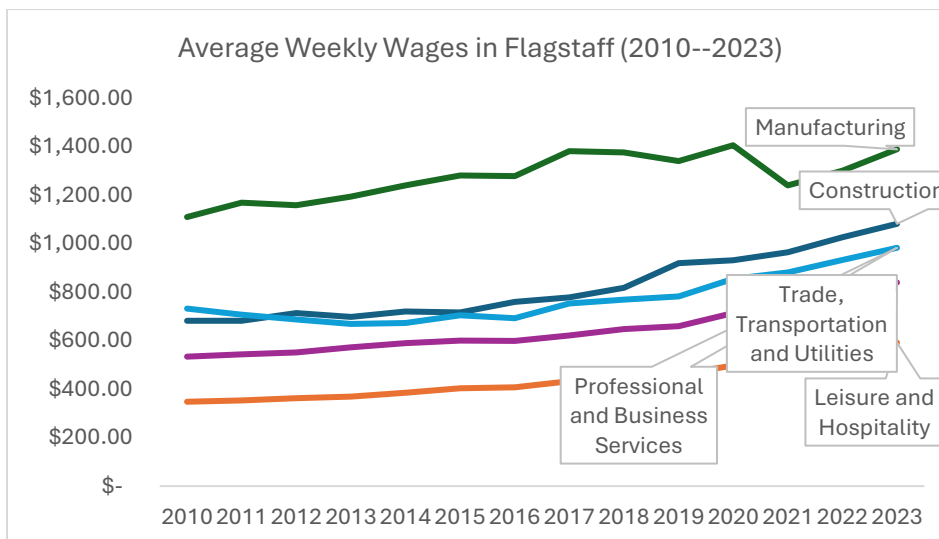
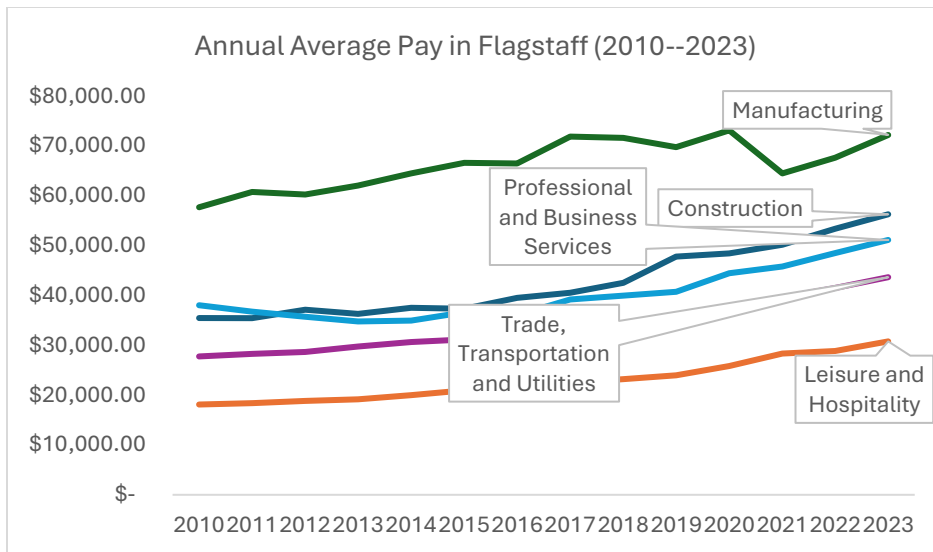
Regarding number of employment, all industries experienced growth during our study period. Professional and Business Services again led with a 50% increase. Construction followed closely with a 45% rise. Leisure and Hospitality also saw substantial employment growth at 30%, likely driven by increased demand for services and labor recovery post-pandemic. In contrast, Manufacturing and Trade, Transportation, and Utilities saw minimal increases in employment, with growth of 6% and 5%, respectively, underscoring stagnation in workforce expansion despite some sectoral activity.

The raw data highlights significant wage growth across industries from 2010 to 2023. For weekly wages, Leisure and Hospitality again led the way with a 70% growth. Construction followed with a 59% increase. Trade, Transportation, and Utilities showed a similar upward trend at 57%. Professional and Business Services grew by 34%, while Manufacturing had a 25% rise.

The percentage change in annual average pay mirrors the patterns observed in weekly wages, with Leisure and Hospitality and Construction achieving the highest growth at 70% and 59%, respectively, while Manufacturing remained at the lower end with a 25% increase.

However, the extent to which these trends can be causally attributed to the minimum wage law remains unclear, as various factors beyond minimum wage changes may influence these indicators. To better understand the role of minimum wage in Flagstaff's economic dynamics, we will examine the data closer through the difference-in-differences analysis with a synthetic control group.





**Limitations of the D-in-D method**

One of the limitations in the D-in-D method is that we used two different datasets to analyze the impact on industries and on occupations. The QCEW is census while the OEWS is based on sample data. This difference in data collection methods caused different values in some of the similar indicators, thus caused discrepancy in our analysis results. This will be explained later in the findings section.

The second limitation is that the long-term effects were not illustrated. Given the data availability, we were only able to explore the short-term effects of minimum wage hikes (about nine years). However, economists have pointed out that minimum wage hikes might

have a long-lasting impact (Meer and West, 2015), which will be beyond the scope of this study.

## 4.2 Qualitative methodology

EPI's qualitative research methodology, approved by NAU's Institutional Review Board (IRB), included three virtual focus groups discussions with 22 business owners and managers and in-person or phone interviews with 15 employees. These methods aimed to gather an on-the-ground perspective from employers and workers regarding the impact of the minimum wage policy. The research team put a significant amount of time into participant recruitment and tried many creative methods to gather community feedback.

Focus groups dates and times were set and publicly announced, asking business owners and managers to register for one of the set times. The CCWDB network helped advertise the focus groups. Focus group questions were written to gather data on the impact of the minimum wage policy on business' operations, staffing, and employee performance. Questions also asked about the ways the businesses have adapted and about their future concerns and solutions around minimum wage (see Appendix B). Forty one business owners and managers registered for focus groups, yet only 22 actually participated, indicating a reluctance of business owners and managers to participate in the study given the sensitive nature of the topic.

Initially, the research team tried to conduct employee focus groups, but received no registrants. We switched to a more opportunistic employee interview model with flexibility embedded into how the interview would take place, such as individually, in pairs, or in a small group, at the workplace, or by phone. We used many different strategies for securing employee interviews in collaboration with our networks, including handing out flyers to employees directly, advertising in all Mountain Line buses, and working with business owners to set time to come in an interview employees. Mainly, we put a lot of requests out and when an opportunity to interview an employee came up, we jumped on it. Questions asked to employees tried to understand their financial situations and the impacts of Flagstaff's minimum wage policy on their lives (see Appendix B).

Qualitative results were compiled and analyzed to identify common themes found in both groups and themes specific to businesses and to workers.



## 5. Findings

### 5.1 Findings based on the Difference-in-Difference model

#### 5.1.1 Minimum wage impact on industries

##### 5.1.1.1 General findings

By using BLS’s QCEW dataset on industries, we are able to understand the impact of minimum wage increases on the economic indicators specified in Table 4 above (also shown in the first row of Table 5 below) for all industries in Flagstaff.

In the tables below, the asterisks following the numbers indicate statistical significance. The numbers with one, two and three asterisk(s) means a p-value of smaller than 0.1, 0.05, and 0.01, respectively. In other words, the chance of there being no impact on the variables from the minimum wage change is less than 10%, 5%, and 1%, respectively. Thus, the more stars there are, the more certain we are that there is an effect from minimum wage increase. For the numbers that don’t have an asterisk, the p-value is greater than 0.1, meaning we do not have the confidence to reject that there is no impact from the minimum wage change on those variables. Below is the description of the minimum wage impact on each outcome variable in all industries.

Table 5: Difference in minimum wage increase impact on all industries

	<i>Establishment Count</i>	<i>Employment</i>	<i>Weely Wage</i>	<i>Annual Pay</i>	<i>Total Wage (million dollars)</i>
<b>All Industries</b>	142.49 (0.21)	-4118.00* (0.07)	-18.56* (0.09)	-989.41* (0.08)	-16.98 (0.12)
<b>R-squared</b>	0.99	0.99	0.99	0.98	0.91

Note: 1. p-values in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.  
 2. The R-squared values range from 0.91 to 0.99, indicating that the model explains a high proportion of variance in the data. This strengthens the reliability of the statistical results.

Overall, the minimum wage increases in Flagstaff MSA have had a negative effect on total employment. There is a slight decrease in average weekly wage and annual pay, as shown in Table 5. Please note, the statement of “positive”, or “negative”, is the comparison between the real-world scenario, i.e., what Flagstaff MSA is experiencing under the minimum wage law, and the “synthetic” scenario, in which the minimum wage increase is less than \$1. Thus, the “positive” doesn’t necessarily mean increase, and the “negative” doesn’t necessarily mean decrease. It only means it *would have been* higher, or lower, than the scenario with less than \$1 minimum wage increase.

**Establishment Count:** A positive impact of 142.49 establishments is observed. This finding is not statistically significant ( $p = 0.21$ ), indicating limited evidence of a direct impact.

**Employment:** Employment levels show a statistically significant negative impact of 4,118 jobs ( $p < 0.1$ ). This suggests a notable negative effect on employment across all industries.

**Weekly Wage:** Average weekly wages is \$18.56 lower than the synthetic scenario. This result is statistically significant at the 10% level ( $p < 0.1$ ), providing moderate confidence in the negative impact.

**Annual Pay:** Annual pay is \$989.41 lower than the synthetic scenario. This is statistically significant ( $p < 0.1$ ), highlighting a measurable negative influence on annual earnings.

**Total Wage (in millions of dollars):** Total wages is \$16.98 million lower than the synthetic scenario, but this finding is not statistically significant ( $p = 0.12$ ). Thus, it cannot be concluded that this change is directly attributable to the examined factor or policy.

Overall, the results suggest mixed effects, with significant negative impacts on employment, weekly wage, and average annual pay but no statistically significant changes in establishment counts and total wage.

Figure 5: Simulation of the impacted outcome variables with statistical significance

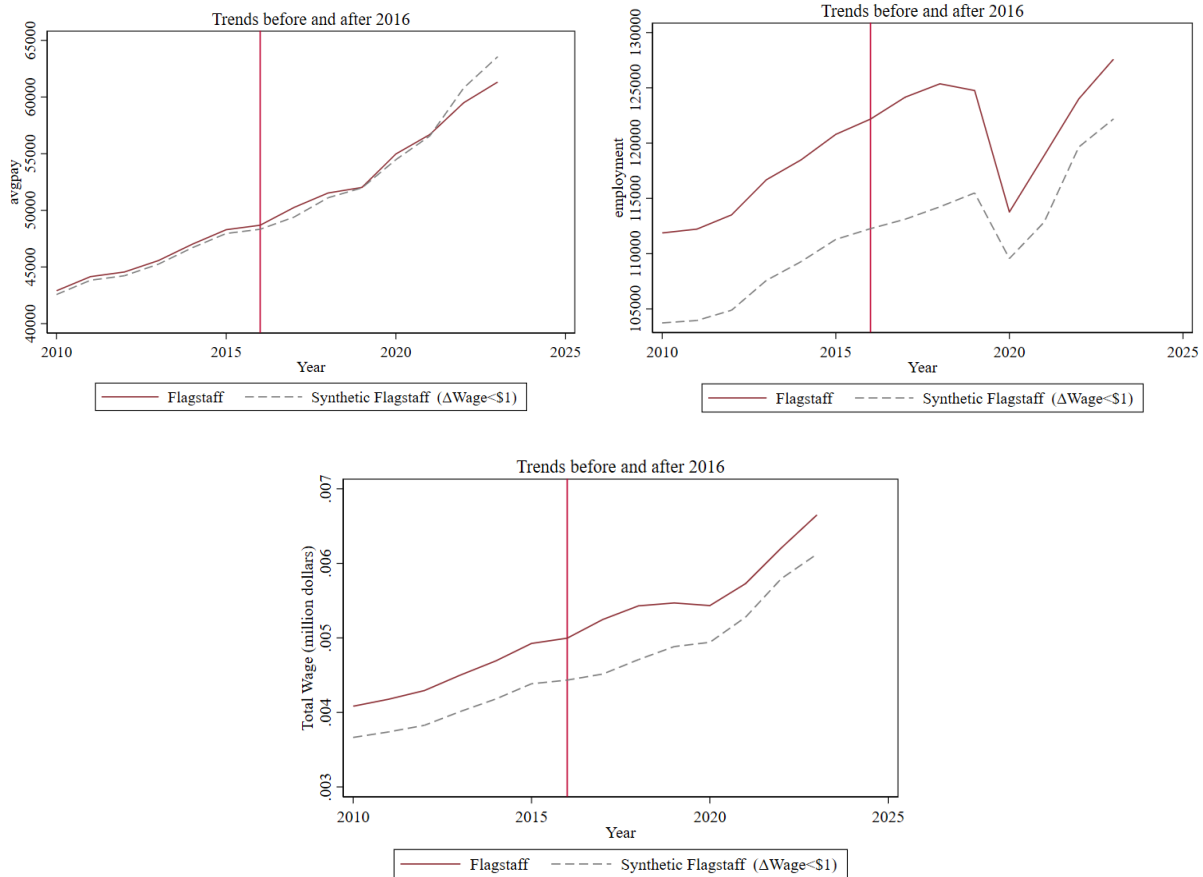


Figure 5 shows the simulation of the three negatively affected indicators – employment, weekly wage, and average annual pay – of Flagstaff, comparing to the synthetic Flagstaff control group. The average pay in the scenario of synthetic Flagstaff indicates a higher estimate than Flagstaff, meaning that workers could have earned \$989.41 more in average annual pay, if the minimum wage increase weren’t in place. The same applies to total wage - Flagstaff has been showing the same trend as synthetic Flagstaff (the two lines are parallel) before 2017, when the minimum wage increase started to divert the two lines. After 2017, the line that represents Flagstaff showed a trend growing not as fast as synthetic Flagstaff, indicating a slow-down effect caused by the minimum wage increase. That number is \$16.98 million decrease compared to the “without minimum wage increase” scenario. Employment also shows negative effect - the red line representing Flagstaff MSA could have gone higher to keep the same distance to the synthetic Flagstaff before 2017. The negative impact on employment of 4,118 jobs, as shown in Table 5, means that although the number of jobs has increased during the study period in Flagstaff, it could have increased 4118 more, than the current scenario, if the minimum wage law weren’t in place.

### 5.1.1.2 The impact on selected industries

Table 6: Minimum wage increase impact by industries

	<i>Establishment Count</i>	<i>Employment</i>	<i>Weely Wage</i>	<i>Annual Pay</i>	<i>Total Wage (million dollars)</i>
<b>Construction (1012)</b>	17.76**	-1602.07***	-7.25	-287.00	-100.56***
	(0.03)	(0.01)	(0.53)	(0.63)	(0.01)
<b>Manufacturing (1013)</b>	6.67***	-1800.84***	-83.60	-4349.41	-135.90***
	(0.00)	(0.00)	(0.14)	(0.14)	(0.01)
<b>Trade, Transportation, and Utilities (1021)</b>	-25.42***	112.64	15.32***	744.22***	16.82**
	(0.00)	(0.19)	(0.00)	(0.00)	(0.02)
<b>Professional and Business Services (1024)</b>	100.39***	-825.50	-123.08***	-6606.96***	-19.84
	(0.00)	(0.12)	(0.00)	(0.00)	(0.44)
<b>Leisure and Hospitality (1026)</b>	20.25**	531.63**	-9.82	-497.12	37.95***
	(0.02)	(0.03)	(0.20)	(0.21)	(0.00)

As Table 6 shows, the impact of minimum wage increases on specific industries are measured by the same economic indicators. Across the variables, the results highlight distinct patterns. Positive impacts are seen in establishment counts for certain industries and in employment for leisure and hospitality, while wages and total earnings vary widely. Notably, trade, transportation, and utilities show overall positive impacts in wages and total earnings, while professional and business services, construction, and manufacturing face substantial negative impacts, especially in employment and total wages. Below is a detailed description of the outcome variables by industry.

The impact on establishment count varies significantly across industries. Construction and manufacturing show statistically significant positive impact at 17.76 ( $p < 0.05$ ) and 6.67 ( $p < 0.01$ ), respectively, indicating that minimum wage laws positively contributed to the growth in the number of establishments within these sectors. The impact on leisure and hospitality sectors are also significantly positive (20.25,  $p < 0.05$ ). In contrast, trade, transportation, and utilities experienced a significantly negative impact in establishment

count (25.42,  $p < 0.01$ ). Professional and business services recorded the largest positive impact in establishment count (100.39,  $p < 0.01$ ).

Employment effects are mostly negative, as observed in construction (-1,602.07,  $p < 0.01$ ) and manufacturing (-1,800.84,  $p < 0.01$ ). Professional and business services also saw a negative impact of 825.50, though this result is not statistically significant ( $p = 0.12$ ). However, leisure and hospitality show a statistically significant positive impact in employment (531.63,  $p < 0.05$ ). The trade, transportation, and utilities sector received a slight positive impact on employment by 112.64, but this effect is not statistically significant ( $p = 0.19$ ).

Weekly wages exhibit mixed effects across industries. Trade, transportation, and utilities show a statistically significant positive impact of 15.32 ( $p < 0.01$ ). On the other hand, professional and business services experienced a significant negative impact in weekly wages by 123.08 ( $p < 0.01$ ). Weekly wages in construction (-7.25,  $p = 0.53$ ), manufacturing (-83.60,  $p = 0.14$ ), and leisure and hospitality (-9.82,  $p = 0.20$ ) were not statistically significant, indicating no conclusive evidence of an impact.

Annual pay shows significant negative impact in the professional and business services (-6,606.96,  $p < 0.01$ ) and trade, transportation, and utilities (-4349.41,  $p < 0.01$ ) sectors. However, leisure and hospitality (-497.12,  $p = 0.21$ ) and construction (-287.00,  $p = 0.63$ ) do not exhibit statistically significant changes, indicating a lack of conclusive evidence for those industries. Conversely, trade, transportation, and utilities display a statistically significant positive impact in annual pay of \$744.22 ( $p < 0.01$ ).

The total wage impact demonstrates sharp contrasts among industries. Trade, transportation, and utilities experienced a significant positive impact of \$16.82 million ( $p < 0.05$ ), while leisure and hospitality saw a significant gain of \$37.95 million ( $p < 0.01$ ). On the other hand, significant negative impacts are observed in construction (-\$100.56 million,  $p < 0.01$ ) and manufacturing (-\$135.90 million,  $p < 0.01$ ). Total wages in professional and business services show no significant change (-\$19.84,  $p = 0.44$ ).

## 5.1.2 Minimum wage impact on occupations

### 5.1.2.1 General findings

Overall, the minimum wage increases in the Flagstaff MSA have had a positive effect on workers' earnings, benefiting both hourly wage workers and annual wage earners, as shown in Table 7. Again, the numbers followed by one star, two stars, or stars indicate statistical significance. The more stars there are, the more certain we are that there is an effect.

Table 7: Minimum wage increase impact by employment - all occupations

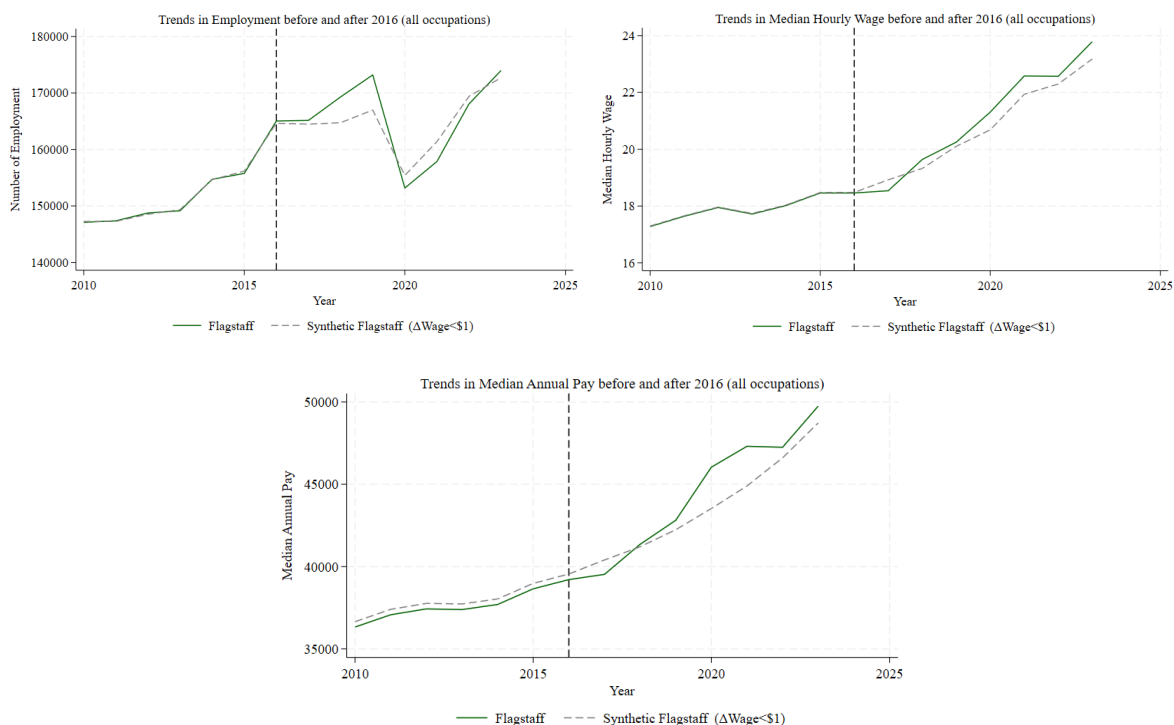
	<i>Employment</i>	<i>Hourly Wage (median)</i>	<i>Annual Wage (median)</i>
<b>All Occupations</b>	801.02 (0.56)	0.34** (0.03)	1252.70** (0.02)
<b>R-squared</b>	0.89	0.97	0.97

Note: 1. *p*-values in parentheses \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$   
 2. The *R*-squared values range from 0.91 to 0.99, indicating that the model explains a high proportion of variance in the data. This strengthens the reliability of the statistical results.

Compared to synthetic Flagstaff MSA, minimum wage increases in the Flagstaff MSA since 2017 are associated with an additional \$0.34 increase in the median hourly wage and an additional \$1,253 increase in the median annual wage to all occupations. The impact on overall employment levels is positive but not statistically significant, indicating that we cannot conclude that minimum wage increases had a significant effect on total employment numbers in Flagstaff compared to the control group.

Figure 6 provides a more intuitive illustration of how the three variables of employment numbers, hourly wage, and annual wage have changed over time for the Flagstaff MSA and the synthetic Flagstaff MSA control group. Both hourly wage and annual pay show a faster growing pace in the Flagstaff MSA.

Figure 6: Simulation of the impacted outcome variables with statistical significance



### 5.1.2.2 The impact on selected occupations

The minimum wage increase policy in Flagstaff shows diverse impacts across different occupations. It benefits some occupations (e.g., retail salespersons and hotel clerks) while negatively affects others (e.g., healthcare and scientific jobs) as seen in Table 8.

Table 8: Minimum wage increase impact by select occupations

OCCUPATIONS	Employment	Hourly Wage (median)	Annual Wage (median)
<b>Retail Salespersons</b>	137.94	1.60***	3323.62***
	(0.18)	(0.00)	(0.00)
<b>Hotel Clerks</b>	126.31**	1.01***	2113.66***
	(0.01)	(0.00)	(0.00)
<b>Healthcare</b>	-168.69*	-2.27***	-4741.87***
	(0.05)	(0.01)	(0.01)
<b>Construction</b>	-47.72	0.46	973.20
	(0.29)	(0.19)	(0.16)



<b>Transportation</b>	-103.47*	0.07	136.53
	(0.06)	(0.76)	(0.77)
<b>Forestry</b>	-13.40	1.84*	3925.92*
	(0.39)	(0.08)	(0.08)
<b>Management</b>	-67.61	-2.16**	-4635.89**
	(0.76)	(0.03)	(0.03)
<b>Scientific Jobs</b>	-239.96***	0.96	1894.46
	(0.00)	(0.11)	(0.13)

p-values in parentheses

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Retail workers are one of the primary beneficiaries of the policy. Retail salespersons (standard occupation code 41-2030) benefit significantly from the minimum wage increase, with a substantial and statistically significant positive impact in employment (137.94,  $p = 0.18$ ), median hourly wages (\$1.60,  $p < 0.01$ ), and median annual wages (\$3,323.62,  $p < 0.01$ ).

In the hotel industry, we picked hotel clerks (Hotel, Motel, and Resort Desk Clerks, SOC 43-4080) as the example occupation to conduct the analysis. This occupation also experienced significant positive impacts. The minimum wage law increased employment level by 126.31 ( $p < 0.05$ ), while median hourly wages was also positively impacted (\$1.01,  $p < 0.01$ ), as well as median wages (\$2,113.66,  $p < 0.01$ ).

Healthcare Practitioners and Technical Occupations (SOC 29-0000) are negatively impacted by the policy. The minimum wage changes contributed to a slower growth in employment by 168.69 ( $p < 0.1$ ), and median hourly wages (-\$2.27,  $p < 0.01$ ). Median annual wages was negatively impacted (\$4,741.87,  $p < 0.01$ ). These results suggest that healthcare workers face adverse effects under the new wage policy.

Construction and Extraction Occupations (SOC 47-0000) do not show significant impacts brought on by the minimum wage laws.

Transportation and Material Moving Occupations (SOC 53-0000) exhibit mixed effects. Employment is negatively impacted by 103.47 ( $p < 0.1$ ), while the effect on median wages is not significant.

There is no separate occupation of forestry occupations, so we used the data on Farming, Fishing, and Forestry Occupations (SOC 45-0000) to conduct the analysis. This occupation group shows marginal positive impacts. Median hourly wages rise by \$1.84, and median

annual wages increase by \$3925.92. Employment, however, does not show significant changes.

Management Occupations (SOC 11-0000) face negative effects. While the impact in employment is not significant, median hourly wages was negatively affected by \$2.16 ( $p < 0.05$ ). The impact on annual median wages is also significantly negative(-\$4,635.89,  $p < 0.05$ ).

Employment of scientific occupations, where we used the data on Life, Physical, and Social Science Occupations (SOC 19-0000) is negatively impacted (-239.96,  $p < 0.01$ ). Other variables, including median wages and annual pay, show no significant changes.

### 5.1.3 Minimum wage impact on cost of living

We used a Cost of Living Index (COLI) dataset to investigate the change in cost of living that is associated with the increase in minimum wage change.

Table 9: Minimum wage increase impact on cost of living areas

	Composite Index	Grocery Items	Healthcare	Misc Goods & Services
<b>Impact</b>	2.34**	1.94	-0.58	6.65**
	(0.02)	(0.38)	(0.75)	(0.03)
<b>R-squared</b>	0.85	0.78	0.89	0.74

p-values in parentheses. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

As shown in Table 9, minimum wage laws positively contributed to increase in the overall composite index cost of living by 2.34 points, which is statistically significant ( $p < 0.05$ ). This indicates a broad impact of the policy on the general cost of living in the Flagstaff MSA.

The policy does not appear to meaningfully affect grocery and healthcare expenses as the coefficients are not statistically significant.

The most significant increase is observed in miscellaneous goods and services, with a positive contribution of 6.65 points ( $p < 0.05$ ). This suggests that the policy has had a notable impact on this category, potentially affecting discretionary spending.

### 5.1.4 Summary

For simplicity, we summarized the minimum wage impacts on industries, occupations, and cost of living into the following three tables. Tables 10 – 12 below show the positive (plus sign) or negative impact (minus sign) on the outcome variables listed in Table 4. The

blank cells indicate that the impact of the minimum wage increase on the outcome variables is not statistically significant, meaning the results are inconclusive.

For the impact by industries, positive effects are observed in the "Trade, Transportation, and Utilities" and "Leisure and Hospitality" sectors, with increased wages and total wages. Significant negative effects are seen in "Construction," "Manufacturing," and "Professional and Business Services," particularly in terms of employment, total wages, and annual pay.

Table 10: Minimum wage summary impact by industries: positive, negative, inconclusive

	<i>Establishment Count</i>	<i>Employment</i>	<i>Weekly Wage</i>	<i>Annual Pay</i>	<i>Total Wage</i>
<b>All Industries</b>		-	-	-	
<b>Construction</b>	+	-			-
<b>Manufacturing</b>	+	-			-
<b>Trade, Transportation, and Utilities</b>	-		+	+	+
<b>Professional and Business Services</b>	+		-	-	
<b>Leisure and Hospitality</b>	+	+			+

For the impact by occupations, customer-facing roles such as retail salespersons and hotel clerks experience broad benefits, including increased employment and higher wages, both hourly and annually. These occupations appear to be among the primary beneficiaries of the policy, reflecting its intent to improve conditions for low-wage workers. Conversely, sectors like healthcare and scientific jobs exhibit significant declines in employment and wages, highlighting potential challenges in adapting to the policy. Other occupations, such as construction and forestry, show limited or mixed impacts, with some wage increases but minimal changes in employment.

Overall, the data underscores that while the policy succeeds in uplifting specific groups of workers, particularly those in lower-paying roles, it also imposes strains on certain other occupations. This suggests a need for a nuanced approach to support industries that may struggle to absorb the higher labor costs while maintaining job availability and wage growth for workers across the board.

Table 11: Minimum wage summary impact by occupations: positive, negative, or inconclusive

	<i>Employment</i>	<i>Hourly Wage (median)</i>	<i>Annual Wage (median)</i>
<b>All Occupations</b>		+	+
<b>Retail Salespersons</b>	+	+	+
<b>Hotel Clerks</b>	+	+	+
<b>Healthcare</b>	-	-	-
<b>Construction</b>			
<b>Transportation</b>	-		
<b>Forestry</b>		+	+
<b>Management</b>		-	-
<b>Scientific Jobs</b>	-		

For the impact on cost of living, while the minimum wage policy has enhanced wages for many workers, it also raises living costs, with varying effects on different expense categories. The overall composite index for cost of living has risen significantly, indicating that the policy may have contributed to an increase in living expenses. However, this rise is not uniform across all categories. While prices for discretionary items and services (miscellaneous goods and services) have significantly increased, essentials like groceries and healthcare remain largely unaffected. This might suggest that businesses in non-essential sectors may be more likely to pass on higher labor costs to consumers, whereas the prices of essential goods and services remain stable, possibly due to market competition or other factors.

Table 12: Minimum wage summary impact on cost of living: positive, negative, or inconclusive

	<i>Impact</i>
<b>Composite Index</b>	+
<b>Grocery Items</b>	
<b>Healthcare</b>	
<b>Misc Goods &amp; Services</b>	+

## 5.2 Findings of business focus groups

### 5.2.1 Overall finding

Three virtual focus group discussions were conducted with 22 business owners and managers in Coconino County. Industries represented in order of most to least common included: restaurants and bars, tourism and recreation, retail, manufacturing, health care, and business services.

Of the 22 focus group participants, most represented smaller businesses with between 10 – 50 employees. Eight participants represented mid-size businesses of 200 - 350 employees and three participants represented large businesses that employed between 2,000 – 3,500 employees in Coconino County. Businesses that participated in the focus group discussions generally showed a negative attitude towards Flagstaff’s minimum wage policy.

The most reported impacts of Flagstaff’s minimum wage on businesses were: (1) rise in payroll costs, wage compression, and reduced profits, (2) higher employee turnover, (3) workforce reduction and benefits cuts, (4) job automation and technological adoption, (5) customer dissatisfaction, (6) rising housing costs and loss of workforce housing, (7) decline in youth employment, (8) reducing reliance on local vendors, and (9) business closures and/or business relocations.

The most reported recommendations to address negative impacts were: (1) change the minimum wage policy, (2) provide tax incentives to offset high labor costs, and (3) align housing policies with wage policies to address the high cost of living.

### 5.2.2 Minimum wage impact on businesses

Business participants reported the following impacts of the minimum wage policy on their business operations and staffing:

- 1. Rise in payroll costs, wage compression, reduced profits.** Payroll costs are strained overall, not only because of increases for minimum wage employees, but also because of the need to raise wages for higher earners, such as managers, to maintain pay equity. Employers reported that higher earners felt demotivated as their pay is close to entry-level wages and they are being asked to do much more.
  - *“Our payroll has skyrocketed, and it’s not just entry-level wages. To keep morale up, we’ve had to increase everyone’s pay, which is unsustainable.”*
  - *“Why would someone with more responsibilities stay when they’re only earning a bit more than someone new? It’s unfair and hurts morale.”*
  - *“We will have a 6% increase on labor costs this year and this will be difficult for all hospitality operators.”*
  - *“We need to pay \$20/hr. to get people who will show up to work. Minimum wage is not enough anymore. I have had people in upper management leave after 7, 8 years because they make only \$4 more than the dishwasher, yet have additional job duties each year. They tell me, “It’s not worth it anymore”.*
  - *“We cannot charge more for our services and we cannot pay our staff more who can work in pretty dangerous situations. We want to recognize what they are taking on,*

*but it is harder for us to acknowledge the work of our lower wage earners because we cannot pay them more than In and Out.”*

- *“We have had an incredible compression at the lower parts of our pay scale which has made it extremely difficult to staff the least desirable positions, which are extremely important positions in what we do. They are tough jobs to do and fill. Now wait times have increased and services are closing. The demand is greater than ever, yet it is difficult for us to meet it. This is crushing us financially.”*
- *“Flagstaff’s minimum effects are broad. Businesses outside of Flagstaff are closing because they cannot compete with Flagstaff, and this hurts the broader region. It’s not the sign of a healthy economy.”*
- *“In the restaurant business, the rule used to be 30% labor, 30% food, and 30% overhead. But labor is our biggest expense by far.”*
- *“Profits have been deeply affected by our payroll costs.”*
- *“Our margins are so much smaller because we still have to maintain a certain level of staff and services and we are dedicated to the community. It has been a nightmare for us. We see a huge impact of small businesses especially.”*
- *“We have smaller profit margins. There is more scrutiny on overhead. We ask ourselves; can we backfill, do we need to reduce? The impact is to our manufacturing overhead.”*
- *“I am concerned about the long-term viability of our business. Once our enterprise businesses start closing, it will impact all of us downstream.”*

**2. Higher employee turnover / harder to find employees.** Employees often leave for jobs offering similar pay but with fewer responsibilities. Businesses report lower morale among employees because wage increases are not based on performance.

- *“People leave for minor reasons now because they know they can easily find another job paying the same.”*
- *“Minimum wage has had a de-motivating effect on employees. Employees tell me: “I wish I could get a raise outside of the annual increase because I’ve worked hard and I’ve earned it”, but we cannot afford to do that.”*
- *“We cannot keep our employees, even the higher wage employees, because they cannot afford to live in Flagstaff. There are so many costs associated with the rise of minimum wage – rent, food, transportation, utilities.”*
- *“We stagger our training schedule for startup and 60 days in, so we can minimize the impact of new employees leaving.”*
- *“We go through 9 days of training with us and then they don’t stay. We have even gone to a temp agency to get people. We always have positions open. We have not been fully staffed in 6 or 7 years.”*

- *“Where will the employees come from? We cannot hire international employees like they can in Grand Canyon or at resorts. It is hard to find local residents.”*
- *“Once we lose our services, we will not be able to attract and retain talent. The organizations that provide the core services we will start to shift services out of town. It doesn’t happen over night but fewer programs and services will last.”*
- *“Students do not stick around. We need to be able to invest in people who are committed to Flagstaff and to be able to afford discretionary or merit-based increases again.”*

**3. Workforce reductions and benefits cuts.** To manage payroll costs, businesses have laid off employees or reduced their hours and either reduced or eliminated employee perks, such as insurance options, tuition reimbursement, and bonuses. Many businesses reduced hours, implemented flexible schedules, or avoided hiring new staff to minimize costs.

- *“We had to cut tuition reimbursement to incentivize employees. It’s unfortunate, but it was either that or laying people off.”*
- *“We’re operating as lean as possible. Hiring is only an option if absolutely necessary.”*
- *“We almost never hire high school students now because of the lack of maturity for the cost and end up hiring college students. For some of our positions it would be good to hire a high school student so that they can get some skills earlier in life if their wage was lower.”*
- *“We used to employ 142 – 162 people at a time. We currently employ 132 people. We consolidated 23 positions that we have not replaced.”*
- *“We are hiring staff to work remotely from locations where the minimum wage is not so high.”*
- *“Tough it is a last resort, we occasionally need to send staff home from work. We used to be able to find busy work for them.”*

**4. Job automation and technological adoptions.** Some employers have also relied on seasonal hiring or automation to meet labor needs.

- *“Technology as a solution to minimum wage increases kicks young people out of jobs. There is only so much technology you can add to the restaurant business. It is a social business where people go to be with friends and family, celebrate, and have memories.”*
- *“We have probably replaced 6-7 positions with technology within the last year.”*
- *“We are looking at how can we embrace AI and increase our efficiency and not hire, which is our biggest cost.”*



- 5. Customer dissatisfaction.** To manage costs, businesses raised prices or added a surcharge on the bill (often stated as FMW charge, which stands for Flagstaff Minimum Wage charge). Restaurants manage this surcharge in different ways (Daily Sun Article).
- *“Restaurants are a social business. People eat out to celebrate. Technology will take over and it will dehumanize Flagstaff. But what can you do? You can’t pay people \$20 / hour and sell a \$45 sandwich.”*
  - *“Customers say “I know how much your workers are paid here. We are not tipping.”*
  - *“We have to charge guests more, and then they expect more. We pride ourselves on good customer experiences and taking care of the community. It is harder to meet customer expectations.”*
  - *“Our customer counts are struggling.”*
  - *“We are pressured to run on a smaller staff, and it affects customer satisfaction.”*
  - *“Fewer locals are eating out. We are a tourist community and that hasn’t changed, but the locals sustain us year-round. Even in my own family, we eat out less. We used to be able to fill a dining room for lunch. We see less and less of that.”*
- 6. Rising housing costs and loss of workforce housing.** Employers expressed their concerns about the indirect contribution of higher wages to the rising cost of living, expressing that it makes it harder for employees to afford housing, even with wage increases. They worry about a cycle of inflation, higher wages, and rising costs driving businesses out and deterring visitors.
- *“It’s a vicious cycle. We raise wages, prices go up, and nobody really benefits in the end.”*
- 7. Decline in youth employment.** Employers prioritize hiring skilled or experienced workers to avoid high training costs.
- *“We’re looking for people who can hit the ground running because training is an unproductive expense.”*
  - *“We almost never hire high school students now because of the lack of maturity for the cost and end up hiring college students. For some of our positions it would be good to hire a high school student so that they can get some skills earlier in life if their wage was lower.”*
- 8. Reducing reliance on local vendors.** Some businesses now source services and goods from larger, more cost-efficient providers instead of local vendors.
- *“We had to stop using local accountants—it’s cheaper to outsource, but it feels wrong.”*
  - *“Costs have increased for local vendors as well. We try hard to support local vendors and it is getting difficult.”*



- *“In our work, our engagement with small local businesses has dropped from nearly 67% to just 13%. It’s heartbreaking.”*

**9. Business, relocation, closures, and no new businesses.** Small businesses feel vulnerable because they are concerned about their ability to absorb rising labor costs. More than half of participants expressed concerns about having to close or relocate their business to a less expensive region. Mid and large sized businesses expressed concerns about the affordability of Flagstaff for their workers, especially around their ability to afford housing.

- *“Local businesses give back to the community and treat employees well. I don’t see new local businesses coming to Flagstaff, only billion-dollar corporations who can absorb these minimum wage expenses.”*
- *“It’s hard not to feel hopeless about this situation.”*
- *“The City of Flagstaff has been unable to attract and retain new businesses because labor costs are too high.”*
- *“We will lose our unique character. Only large corporations will last in Flagstaff.”*
- *“I don’t know how we will avoid the day where someone will step into a broader enterprise role and ask the question “why do we need to pay \$18.25 in Flagstaff? Why not move to more employer-friendly location, like Detroit.” Long term, these payroll costs will cause business to leave Flagstaff.”*

### 5.2.3 Business owner and manager suggestions

#### 1. Change the minimum wage policy.

- *“Our minimum wage mandate is not good. We are losing businesses and the ones that are still in business are struggling to pull it all together day in and day out. We should not have a wage higher than the rest of the state. We need a group to get this back on the ballot after a well-thought-out educational campaign.”*
- *“We have an overreliance on inflation-driven revenue growth instead of organic revenue growth such as customer demand, expansion, or innovation. This is creating insecurity in the labor market.”*
- *“A one-size-fits-all minimum wage doesn’t work—local businesses can’t compete with national chains.”*
- *“This policy cannot be undone but maybe there is something that can be done in the City. The solution cannot be that businesses give more because the margins are not there. The money is not there.”*
- *“The Flagstaff minimum wage policy was poorly written and there are no off ramps. There is no way to slow down wage growth. We are in a miserable situation. Minimum wage kept going up even during COVID. The law needs tempering to level*

*with what the economy is going. It puts Flagstaff at a disadvantage to the rest of the state, especially in manufacturing.”*

- *“We need to let things level out and catch up.”*
- *“Can we re-write the law to rates are staggered for smaller businesses?”*
- *“I don’t know that keeping the minimum wage tied to CPI is viable. It worked out this year because CPI is lower than it has been in awhile. But the rate is unpredictable.”*

**2. Provide tax incentives or investments to offset high labor costs.**

- *“Help small businesses survive by offering incentives to balance out payroll costs.”*
- *“We need to also invest in the industries who are providing the opportunities, and who will see Flagstaff through.”*

**3. Align housing policies with wage policies to address the high cost of living.**

- *“If wages are going up, housing policies need to match so people can actually afford to live here.”*
- *“Maybe we need to house our employees, like in Grand Canyon. Business owners need to start becoming dorm parents because you have to have a workforce.”*
- *“We keep a close pulse on how much labor is available in this region. We are operating with assumptions of studies we conduct. We believe we lose about 1% of our labor annually because of gentrification. We see that Flagstaff’s labor market is reducing. If we don’t pay people enough, they cannot stay. Now, there needs to be two people in a household to be able to afford to live in Flagstaff. I don’t know what happens when that threshold crosses to three per household for affordability. I don’t know if Flagstaff can solve this housing and cost of living issue. We cannot meet our employment demands if we cannot house employees in Flagstaff.”*

### 5.2.4 Business opportunities

Focus group participants described some opportunities that have come with the minimum wage policy, indicating that the changes the policy has brought have not been all bad.

**1. Community investment potential.** The situation has sparked conversations about the importance of investing in workforce development. Businesses advocated leveraging local resources like CCWDB to provide skill-building opportunities.

- *“It’s not just about wages; we need to focus on creating a skilled workforce. Training programs could help bridge the gap and make higher wages more sustainable.”*
- *“We need to offer support for our workers to upskill and reskill.”*

**2. Cooperative opportunities.** Business owners brought up the idea of organizing themselves to be able to offer employee incentives, like benefits. Others, however, saw drawbacks because of the time and expense of benefits centralization.

- “There may be a day where we have to do a co-op to help small businesses in Flagstaff to survive. We can become our own board of people to offer employee benefits, like health care.”
- 3. Increased efficiency.** Some businesses have used the challenges as opportunities to rethink operations. Strategies like cross-training employees or developing new services to diversify income were implemented to offset higher costs.
- *“We’ve had to think creatively—cross-training our team helps us cover more responsibilities without hiring extra people.”*
- 4. Workforce housing.** Businesses expressed an understanding that Flagstaff housing is expensive and brought up the idea of investments in workforce housing.
- *“It’s not just about wages; we need to focus on creating a skilled workforce. Training programs could help bridge the gap and make higher wages more sustainable.”*

### 5.3 Findings of employee interviews

Fifteen people participated in 10-20 minute interviews to offer the employee perspective from the following industries in order of most to least common: full-service restaurants, education, retail, and recreation. Of these 15 interviewees, eight were also full- or part-time students. Questions asked tried to understand employee financial situations and the impacts of Flagstaff’s minimum wage policy on their lives (see Appendix B). Employees make at or near the minimum wage or, a higher wage in more than one part time jobs. People interviewed included a representative of a labor union in the building trades with 169 members in Coconino County.

#### 5.3.1 Overall finding

Employee interviews were more diverse than the business focus groups in terms of the way the interview was conducted (in-person or by phone, individually or small groups). These interviews were also more diverse in the ways employees described the impact of minimum wage on their livelihoods, as participants represented many different stages of life and methods for making ends meet. To summarize participants’ work experience, they had been in their positions anywhere from three months to nine years, with a mean of 1.8 years of employment and a median employment length of one year. Employees reported working between 20 – 78 hours per week with a mean of 40 hours and median of 35.5 hours worked per week. Employees reporting having anywhere from 1 – 3 jobs, with a mean and median of 1.5 jobs. Eight (62%) of the employees interviewed were full- or part-time students.

Overall findings indicate that employees generally felt positive about Flagstaff’s minimum wage policy, though they acknowledged many drawbacks and challenges as well.

Employees describe eight impacts of the minimum wage policy, such as: (1) higher wages, (2) continued financial struggles, (3) less job mobility / wage compression, (4) higher housing costs, (5) varied impacts on employee morale, (6) customer dissatisfaction, (7) change in business operations, and (8) a disproportionate impact on small businesses.

Employees give five suggestions to address the negative impacts of the policy, including: (1) diversify Flagstaff's economic objectives, (2) tax breaks for small businesses, (3) change the mindset around minimum wage, (4) wage increases for long-term employees, and (5) business owner transparency around cost increases.

### 5.3.2 Minimum wage impact on employees

**1. Higher wages / positive view on the minimum wage policy.** Employees report that the higher minimum wage in Flagstaff helps them feel less stressed about their finances.

- *“Generally positive because the lowest wage earners need that protection. I feel frustrated that opponents only see it as the cost of a hamburger increasing. If we had been raising wages since the 80s, these increases would be less shocking to the community. I feel positive that Flagstaff voted in this minimum wage law. It makes me feel supported by the community.”*
- *“I came from Colorado where minimum wage was \$11.40. In Flagstaff, I am not stressed when the restaurant is slow. Just knowing the minimum wage helps me relax. There is more stability here in Flagstaff.”*
- *“[The minimum wage policy] is good if you are the employee because it raises your income, which helps make up for the already high living expenses.”*

**2. Continued financial struggles.** Though employees are happy about their automatic wage increases, they are still struggling financially. Workers must be creative and strategic to make ends meet.

- *“With three jobs, yes, [minimum wage is sufficient]. With one job, no.”*
- *“No. I needed to borrow from credit cards and student loans to cover my car insurance, car loan, rent, and food.”*
- *“My expenses are low compared to a lot of folks because I bought a house 20 years ago. However, I need to work fewer hours in the future because the work is causing me to have more medical bills. The balance is starting to change in how much I can work. I will need to figure out different work moving forward that is not so hard on my body.”*
- *“I work two part time jobs and am not eligible for health benefits from either job. I am a single mother with three degrees. I am concerned that my situation tells my son that education is not worth it. I need SNAP benefits to make ends meet.”*

- *“No, I need to work 78 hours per week in two jobs to afford to cover living expenses. The minimum is still not enough to cover necessary expenses, so people need to work much more time, so they get more jobs. Working more is your only option when you are still learning English.”*

**3. Less job mobility / wage compression.**

- *“Initially it was positive, and I still think so, but it is not necessarily good for job mobility. It helps bridge the gap between living expenses and cost of living, but it is hard to enter a good job because the minimum wage is so high. There are not opportunities to move up because businesses must spend a lot of money on their base employees.”*
- *“When I started with the company in 2017, I was paid \$15 and the Flagstaff minimum wage was \$10. Now, annual minimum wage increases are the only reason I get a raise now. I am paid the same as new drivers I have nine years of experience.”*
- *“[I feel] positive [about the policy] because I would not otherwise get a raise in my position. Negative because new people make the same as those who have been working for years with much more experience, which does not feel fair.”*

**4. Higher housing costs.** Employees brought up their challenges in finding good housing in Flagstaff. The labor union representative also pointed to the challenges of housing in Flagstaff, given the demand for temporary housing from tourists and students.

- *“Flagstaff is a curious exception compared to the other regions with their own minimum wage laws. Yes, it’s a small town but it’s also a major tourist and university town and that generates a lot of money for the local economy. Flagstaff has historically had some of the higher costs of living in Arizona, and there are a lot of folks in temporary housing. Housing is expensive and workers need to be able to afford to live there.”*
- *“I can stay with family so I do not have to pay so much for rent. When I was on my own, I was struggling to balance and make ends meet. It’s harder in Flagstaff because the cost of living is higher too.”*
- *“My rent has gone from \$800 a month to \$1,600 a month for a one bedroom in the past five years.”*
- *“At first I thought it was really nice. As the years pass, other prices and cost of living have gone up, especially housing.”*
- *“It feels good at first, but then you know the cost of everything will go up. Here in Flagstaff there are fewer jobs in the winter because tourism decreases, and winter is long here so it is a lot of time with less income, so I have to save up a lot of money to survive the winter.”*

**5. Varied impacts on employee morale.**

- *“The automatic wage increase frustrates me because it is the only raise I get. It doesn’t come from the company, but rather the City. At least I know that my vote matters and that is good.”*
- *“[When wage increases] first started, I was more motivated, yes. But wages should be reflective of my skills and expertise and the minimum wage is not reflective of my skillsets. The annual increases are the only reason I get raises now.”*
- *“Would I put in more effort if my wage was based on performance? A little bit. I wouldn’t want to take more responsibility though.”*
- *“I would like to feel supported by my employer, rather than feeling like they will get away with the least amount of support they can. Office staff get a raise from the company every year, just field staff get raises only from minimum wage increases.”*

**6. Customer dissatisfaction.** In the restaurant industry, employees often receive questions about the Flagstaff minimum wage surcharge.

- *“Customers ask about the FMW surcharge on their bills [of 10%]. We explain that it is a Flagstaff Minimum Wage charge, to account for the high minimum wage in Flagstaff. Nobody likes it. It reduces our tips and we work hard for our tips.”*
- *“Business has been slow recently. I think because prices are higher and the FMW fee is at 10% of the total bill. Customers don’t like it.”*

**7. Change in business operations.** Employees have noticed a change in business operations where they work.

- *“Recently, our hours were cut, for some staff as much as 50%, and we had a layoff too. I was surprised. I was not concerned about the store closing before, but I am now.”*
- *“They changed the management structure in the company, changed job titles, and made changes in our day-to-day responsibilities. I moved from being on the sales floor to doing backend work. Things changed on the HR side too. Application processes are handled by a centralized team rather than local hiring managers. They are implementing more analytics. They also moved the whole store layout.”*
- *“There is less warehouse support. There used to be three warehouse workers plus a warehouse manager. Those positions were cut and never came back. They gave guides a lot of warehouse duties.”*

**8. Disproportionate policy impact on small businesses.** The labor union representative acknowledged a strain on smaller, local businesses because of minimum wage policies. Employees also expressed concern for the ability of small businesses in Flagstaff to absorb minimum wage costs.

- *“A higher minimum wage is good for employees, but it shrinks the bottom line for small businesses. Large companies are the reason why minimum wage exists. They will pay the lowest wage possible, which forces other methods of supplementing*



*the lack of pay. Wage adjustment is hardest on small business owners, especially in labor intensive industries.”*

- *“It negatively affects small businesses having to pay more for employees.”*
- *“I see small businesses close and that is sad. We are still too early into understanding whether it is good or not. It’s hard to tell since Flagstaff is small compared to bigger cities.”*

### **5.3.3 Employee suggestions**

Employees recommend changes that would come from either policy changes or from their employers to address the negative impacts of Flagstaff’s minimum wage policy.

#### **1. Diversify Flagstaff’s economic objectives.**

- *“Flagstaff is doing a good job with the policy. It is what the whole country should be doing. The City of Flagstaff should support businesses to offer more jobs and diversify opportunities. We have so much tourism in Flagstaff. We should grow in other economic objectives and diversify employment opportunities. It will take the burden off of focusing solely on minimum wage increases to promote economic growth.”*

#### **2. Tax breaks for small, local businesses.**

- *“I would offer other incentives like tax breaks to local businesses to create jobs. That would be better than forcing larger companies to expand in Flagstaff. We should keep what we have here and offer incentives for our local business owners to stay and do well.”*

#### **3. Change the mindset around minimum wage.**

- *“The terminology ‘minimum wage’ is troubling. It is like we are asking - what is the minimum we can get away with when it comes to our workers? Can we change the mindset? Can it be called humanity wage instead? How can we move away from an business perspective to an employee’s perspective, and what workers need to make it in Flagstaff? It might take two generations to shift to a perspective that is more supportive of workers’ wellbeing.”*

#### **4. Wage increases for long-term employees.**

- *“Within my company, I’d like to see a pay schedule that is made and updated every year. I would like to get a raise from hours worked and seniority in the company, and an acknowledgement for my commitment. Isn’t there any way for companies to acknowledge and support their senior employees? We need more clarity around the decisions that are made, or any communication at all around pay.”*

#### **5. Business owner transparency around cost increases.**

- *“I have seen small businesses in Seattle explain why a burger costs \$20, without coming across as angry. Transparency can help small businesses explain the reason for higher costs and rally community support.”*

### **5.3.4 Employee opportunities**

Employee opportunities as part of the minimum wage policy include a guaranteed annual wage increase. Additionally, in Flagstaff’s tight labor market, employees with demonstrated work experience have a good chance of finding employment in other lateral, low-wage positions, as mid-level opportunities are harder to find. Potential opportunities for employees also lie in the recent discussions and work that is being done around workforce housing in Coconino County.

### **5.4 Business closures and workforce dynamics**

Since January 2023, there have been 13 business closures in Coconino County affecting 185 workers (Arizona@Work, Rapid Response website, accessed 12/2024). Industry closures affecting the most employees were in retail trade, manufacturing, accommodation and food services, public administration, and health care and social assistance.

CCWDB notes from the Coconino County Rapid Response, Worker Adjustment and Retraining (WARN) Program from five businesses closed since 2023 revealed that three of the five business owners and managers interviewed mention increased business costs, including minimum wage; and persistent difficulties in retaining employees. Notes mention participation of local businesses in CCWDB Rapid Response events to inform displaced employees of opportunities with them. The business owner and manager focus groups revealed that local businesses are keen to hire the employees of the businesses that are closing, indicating they are good employees.

## **6. Conclusions**

Analyzing the economic impact of minimum wage increases on an economy is inherently complex, as the adaptations of businesses and employees to higher wages create cascading feedback loops that vary across industries and occupations. Rather than arriving at a simple conclusion about whether the minimum wage policy’s impact was wholly positive or negative, our findings reveal a mixed picture (see Appendix C).

First, the biggest beneficiary is the Leisure and Hospitality industry, with increases in establishment count, employment, and total wages paid out to employees. The increase benefited the lower paying workers in Leisure and Hospitality – as the results in occupation



show, retail salespersons and hotel clerks saw increases in employment, median hourly wage and annual wage. This shows the resiliency of the Leisure and Hospitality sector in Coconino County. It may also be because of a robust tourism economy as Flagstaff's endowed attractiveness and as a gateway to many other tourist attractions, that the spending on the Tourism and Hospitality industry can support growth even with an external shock.

The second benefit has been for workers in lower-wage occupations. Quantitative data shows that median wages have increased across all lower-wage occupations. The rise in median wages suggests that pay for the lower-earning half of the workforce has improved.

Who does the policy hurt, then? The most adversely impacted industries are in Construction, Manufacturing, and Healthcare, as well as the occupations of Management, Healthcare, and Transportation. Additionally, the D-in-D analysis revealed that the minimum wage policy has increased the cost of living in the overall composite index and in miscellaneous goods and services for all residents of Coconino County.

Qualitative data from diverse business and worker perspectives conclude that both businesses and workers are struggling financially, with a disproportionate impact on small, local businesses. Business owners and managers in all industries report reduced profit margins and significantly impacted business operations, especially in the Leisure and Hospitality industries where wage increases have been much higher for tipped employees, which is a result that contrasts with the quantitative results in this industry. Qualitative data also reveals interesting potential solutions to adapt to minimum wage increases, such as workforce housing policies, diversification measures of the Flagstaff economy, wrap around services to boost labor force participation, and innovative ways to support small, local establishments to stay in business. All of those could be future areas of study to inform workforce development policies and programs.

One concern with this study is from the data quality and availability. Although we collected large amounts of secondary data from all areas of the US and collected abundant primary data from talking with community members, more research is needed to fully understand the impact of minimum wage on Coconino County's economy, workforce, and community wellbeing. Especially given that the research period is between 2017 and 2023, with one significant flaw in the data that this period encompasses the pandemic. This inherent flaw in the data makes it less reliable as the pandemic might amplify or interact with the sole impact by the minimum wage increase. Additionally, the time span of the data for this study is relatively short - considering that the impact of the wage policy is usually not immediate but takes longer time to reveal, follow up studies in another five years or so would provide clearer insight on the true impact. Further, we would also like to understand

how the policy affects different demographics differently, but the publicly available data doesn't have certain indicators that are tied with different demographic groups.

Findings highlight changes in the economic indicators studied, which, in turn, trigger ripple effects throughout the economy. For instance, while the specific impact on total wages remains unclear, any change in total wages can influence consumer spending—either increasing or decreasing it—which subsequently affects sectors like retail, entertainment, real estate, and healthcare. To fully quantify these broader economic impacts, further research will be necessary.

Finally, Coconino County's shrinking unemployment rate coupled with a projected slowing in population growth, reported in Section 3, shows that we can expect a tight labor market in the future. Housing costs exacerbate workforce concerns. We hope the findings of this study will provide a foundation for dialogue and decision-making to align the long-term outcomes of wage policies with the needs of the community and its workforce. In this way, Flagstaff has an opportunity to lead by example in building a thriving, equitable economy.

## References

- Arizona@Work, Rapid Response, WARN Dashboard. Accessed 12/10/2024. [Rapid Response | ARIZONA@WORK](#)
- Card, D., & Krueger, A. B. (1994). Minimum wages and employment: a case study of the fast-food industry in New Jersey and Pennsylvania. *American Economic Review*, 84(4), 772-793.
- City of Flagstaff Minimum Wage website, accessed 12/10/2024. [Minimum Wage | City of Flagstaff Official Website](#)
- Coconino County Workforce Development Board, Rapid Response notes. 2023-2024.
- Congressional Budget Office. 2019. The Effects on Employment and Family Income of Increasing the Federal Minimum Wage. [The Effects on Employment and Family Income of Increasing the Federal Minimum Wage | Congressional Budget Office](#)
- David Neumark, The Effects of Minimum Wages on Employment, FRBSF Economic Letter, 2015-37. [The Effects of Minimum Wages on Employment](#)
- Doruk Cengiz, Arindrajit Dube, Attila Lindner, Ben Zipperer, The Effect of Minimum Wages on Low-Wage Jobs, The Quarterly Journal of Economics, Volume 134, Issue 3, August 2019, Pages 1405–1454, <https://doi.org/10.1093/qje/qjz014>
- Meer, J., & West, J. (2016). Effects of the minimum wage on employment dynamics. *Journal of Human Resources*, 51(2), 500-522.
- Jardim, E., Long, M. C., Plotnick, R., Van Inwegen, E., Vigdor, J., & Wething, H. (2022). Minimum-wage increases and low-wage employment: Evidence from Seattle. *American Economic Journal: Economic Policy*, 14(2), 263-314.
- Reich, M. and D. Sosinskiy. (2024). Sectoral Wage-Setting in California. Institute for Research on Labor and Employment (IRLE) Working Paper No. 104-24. [Sectoral-Wage-Setting-in-California-09-30-2024.pdf](#)
- Wursten, J., and M. Reich. (2023). Small Businesses and the Minimum Wage. Institute for Research on Labor and Employment (IRLE) Working Paper. [Small-Businesses-and-the-Minimum-Wage-3-14-23.pdf](#)

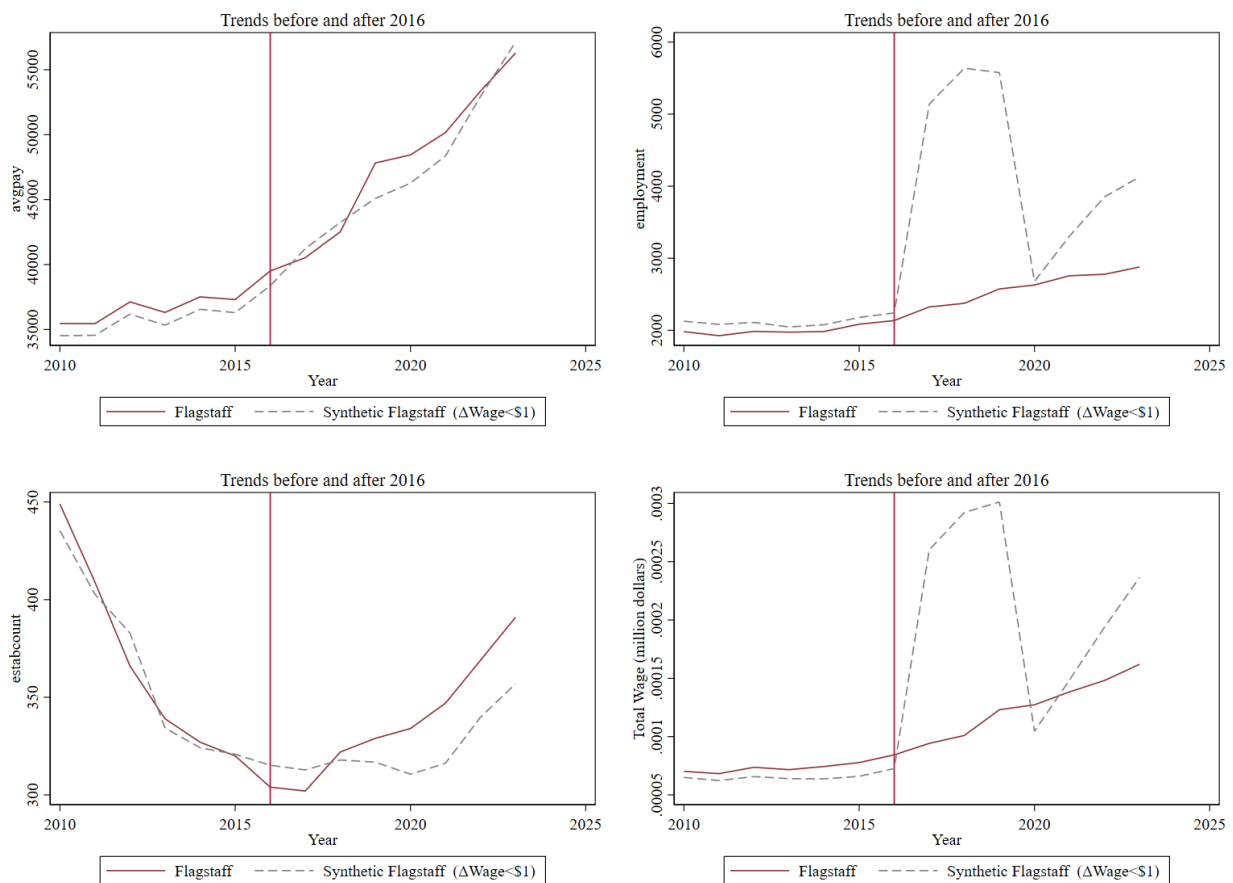
## Appendix A Graphics of Impact by Industry Based on the Quantitative Method

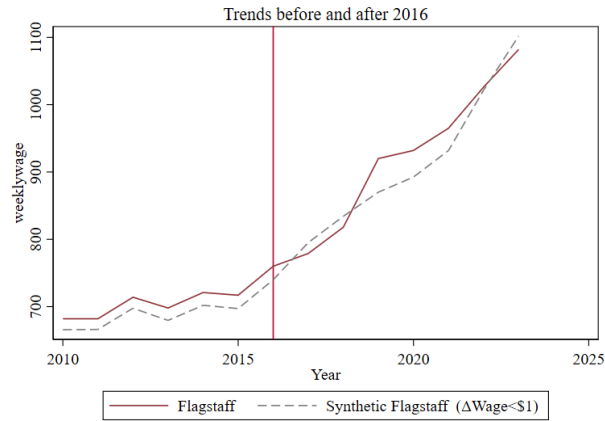
### Impact on select industries simulation graphics

The following graphics show the difference between Flagstaff MSA and the Synthetic Flagstaff in the five outcome variables (average pay, employment, establishment count, total wage, and weekly wage) in selected industries. The better the two lines representing Flagstaff MSA and Synthetic parallel or overlap before 2017, the more reliable the simulation after 2017 is. That means, we are more certain that the minimum wage increase policy has an impact on the difference – where Flagstaff MSA line is at now, and where it could have been following the same trend as the Synthetic Flagstaff line is showing.

The industries listed follow the QCEW Industry Codes and Titles.

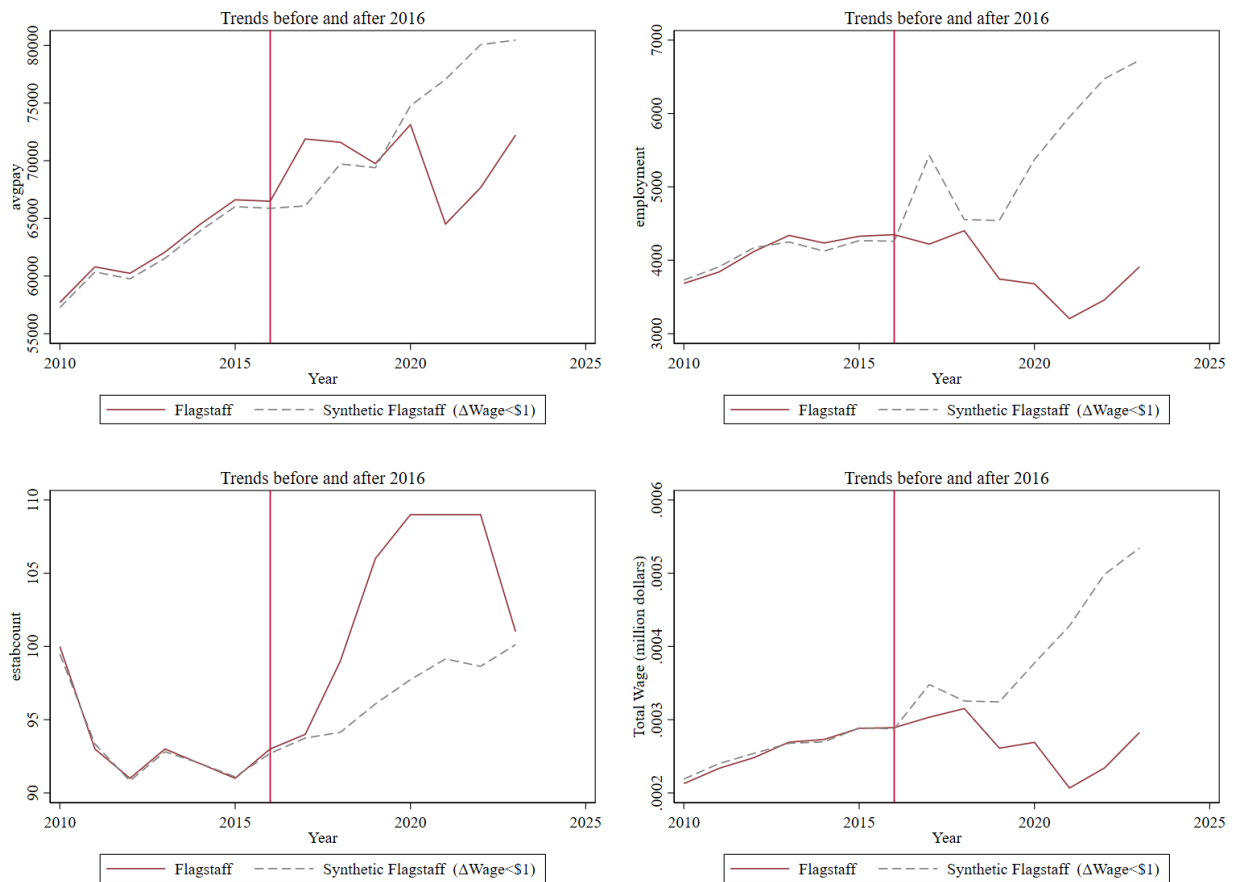
Figure 7: Impact on 1012 construction industries

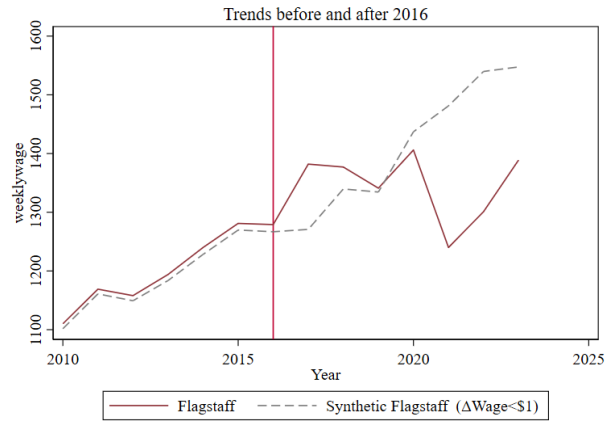




Establishment count: positive; Employment: negative; Total wage: negative.

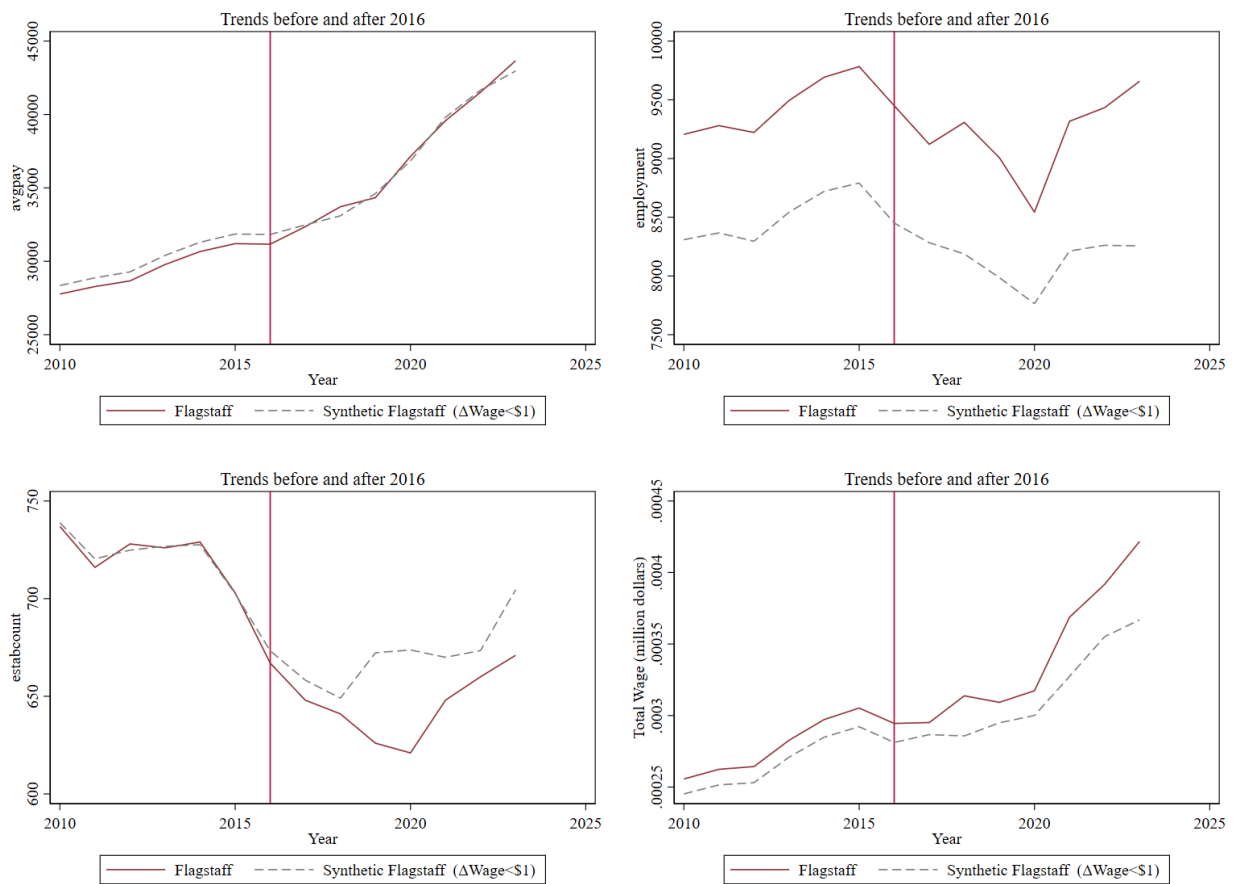
Figure 8: Impact on 1013 manufacturing industry

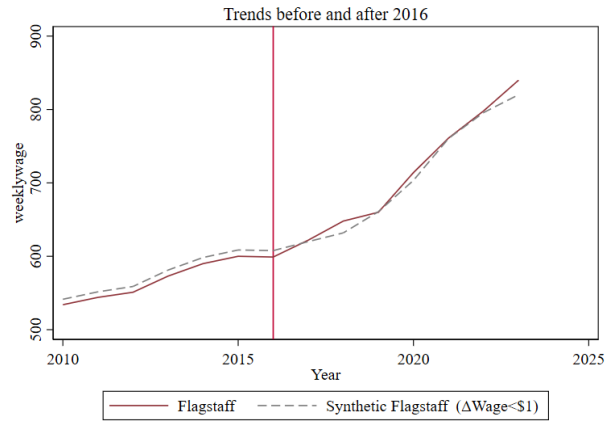




Establishment: positive; Employment: negative; Total wage: negative.

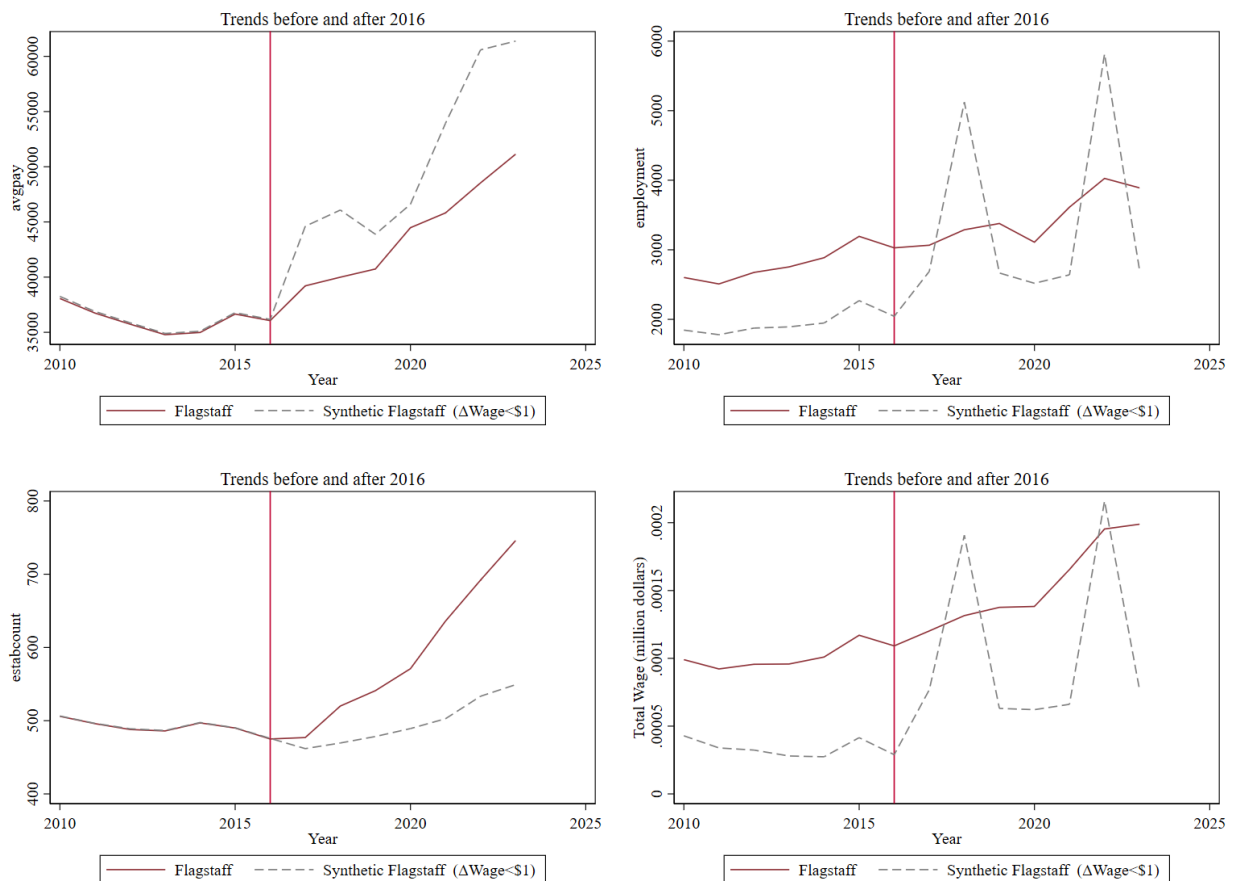
Figure 9: Impact on 1021 trade, transportation, and utilities industry

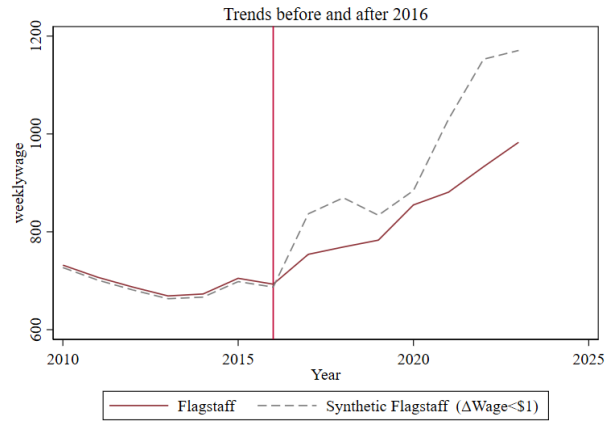




Establishment count: negative; Weekly wage: positive; Annual pay: positive; Total wage: positive.

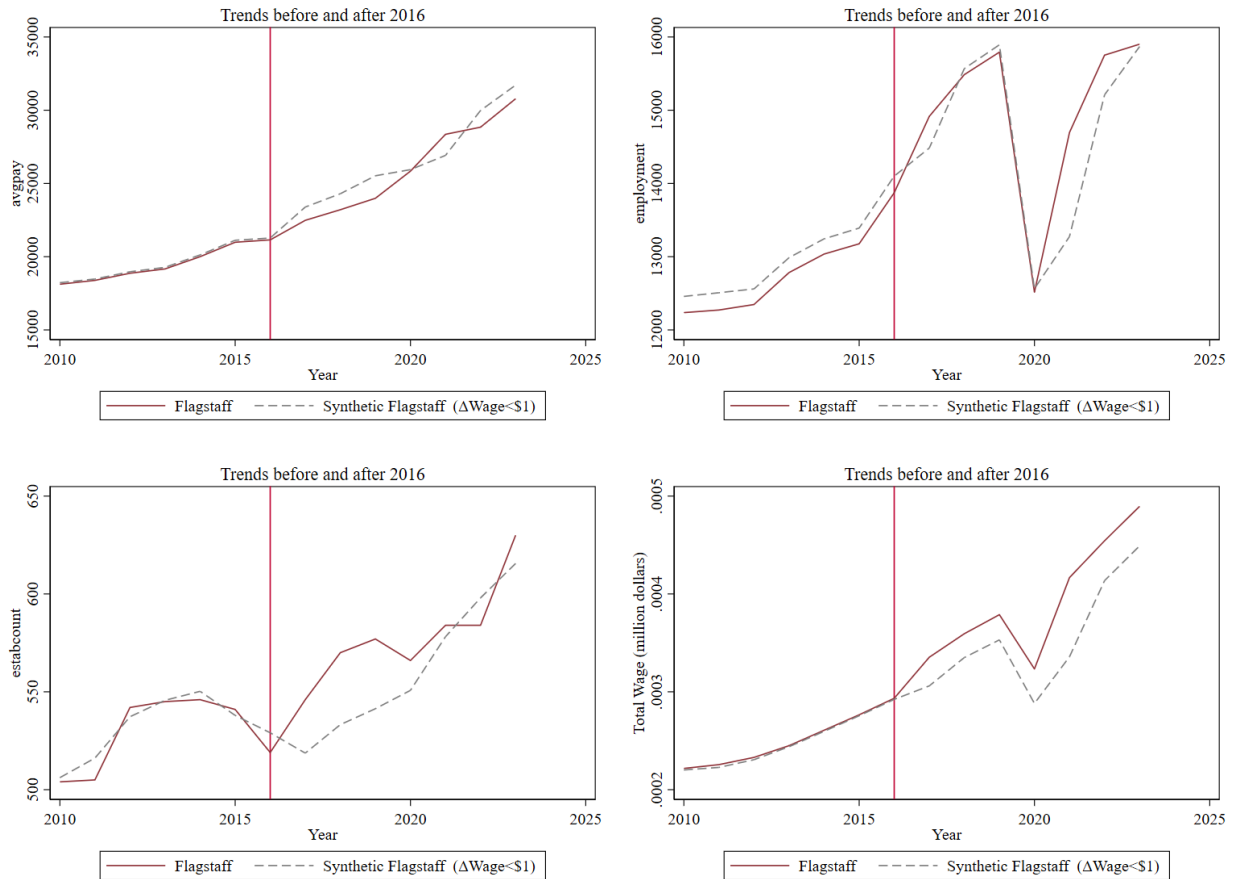
Figure 10: Impact on 1024 professional and business services industry



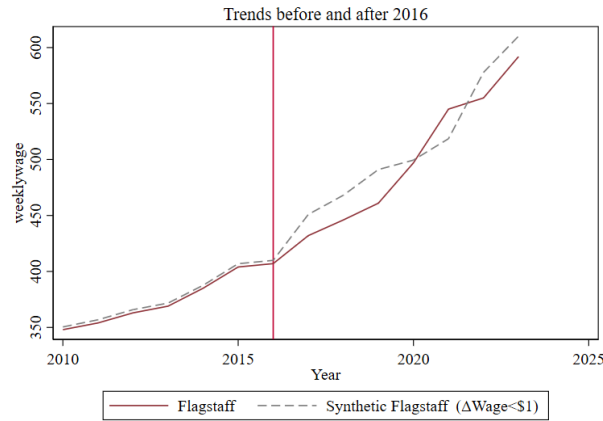


Establishment count: positive; Weekly wage: negative; Annual pay: negative.

Figure 11: Impact on 1026 leisure and hospitality industry





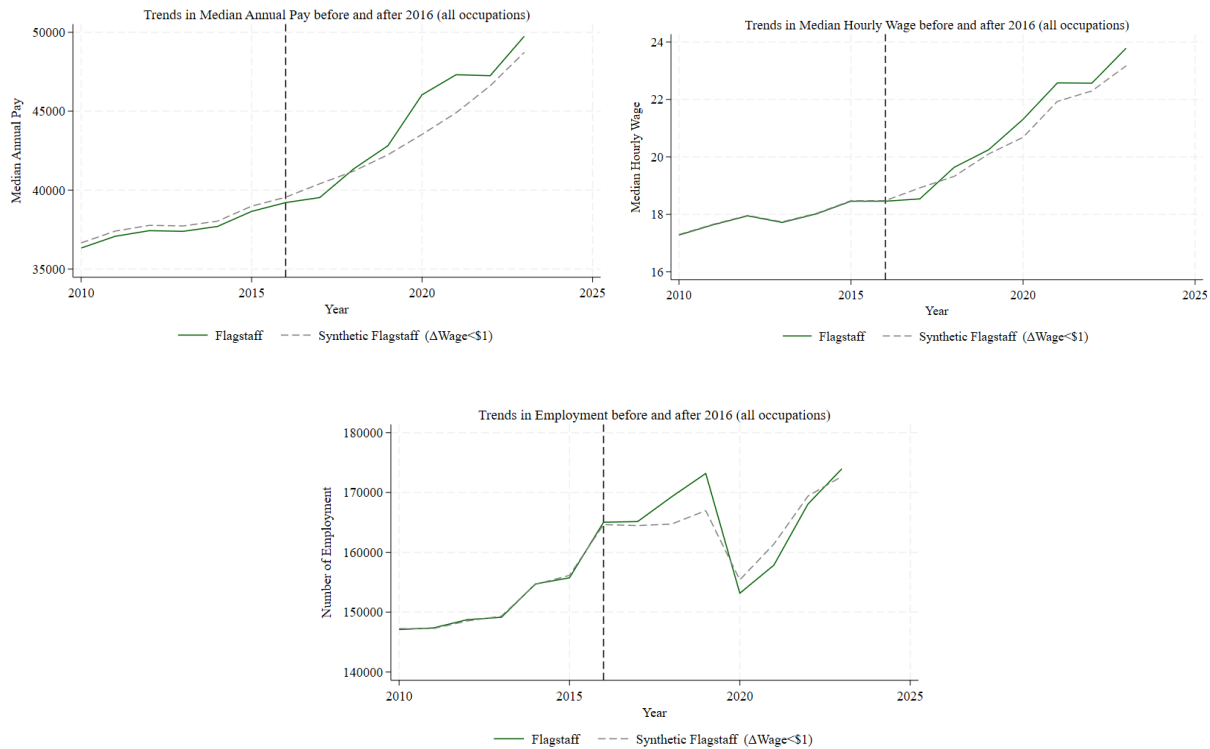


Establishment count: positive; Employment: positive; Total wage: positive.

### Impact on select occupations simulation graphics

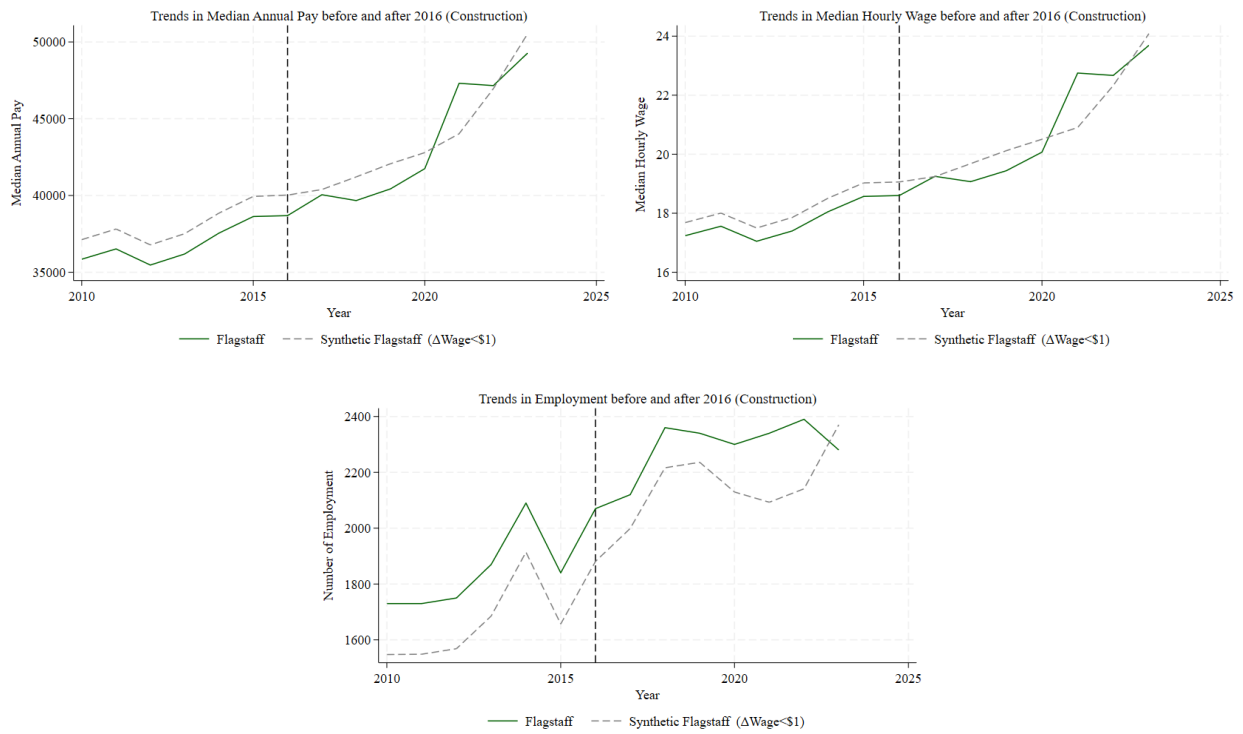
The following graphics show the difference between Flagstaff MSA and the Synthetic Flagstaff in the five outcome variables (mean annual pay, median annual pay, mean hourly wage, median hourly wage, and employment) in selected industries.

Figure 12: Impact on all occupations



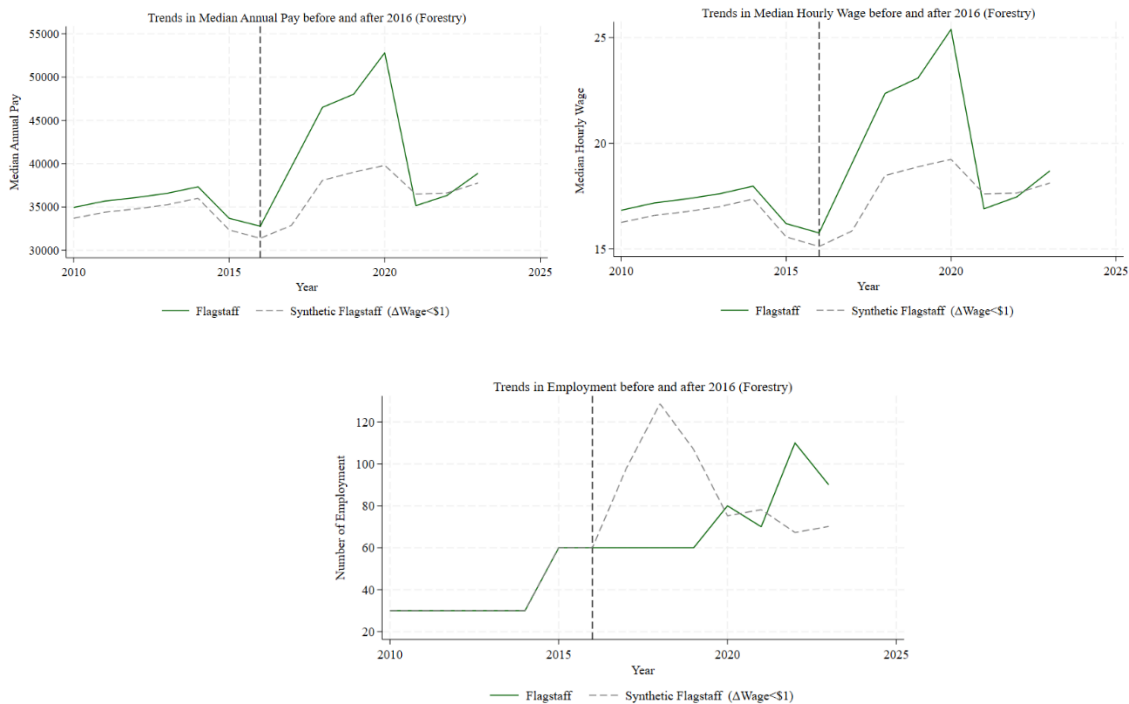
Median hourly wage: positive; Median annual wage: positive.

Figure 13: Impact on construction and extraction occupations



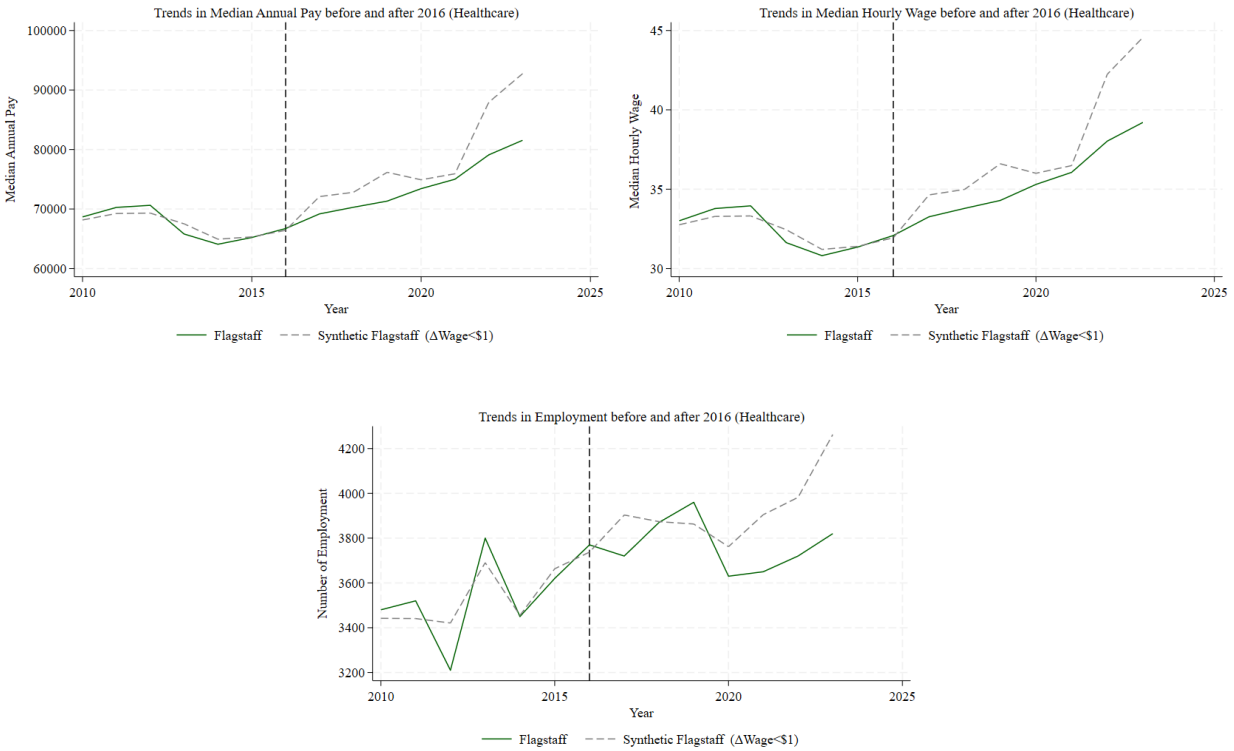
No statistically significant effects.

Figure 14: Impact on farming, fishing, and forestry occupations



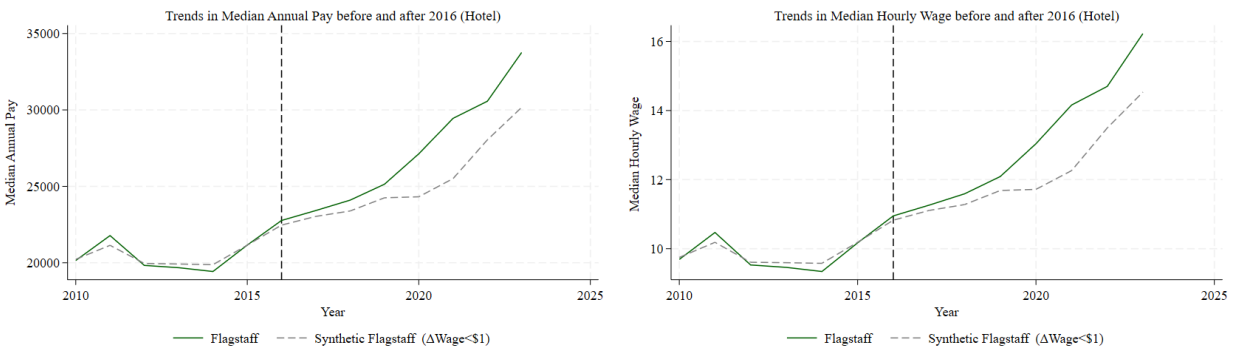
Median hourly wage: positive; Median annual wage: positive

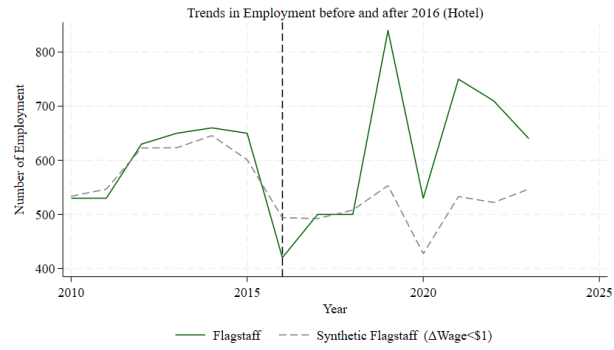
Figure 15: Impact on healthcare practitioners and technical occupations



Establishment: negative; Median hourly wage: negative; Median annual wage: negative

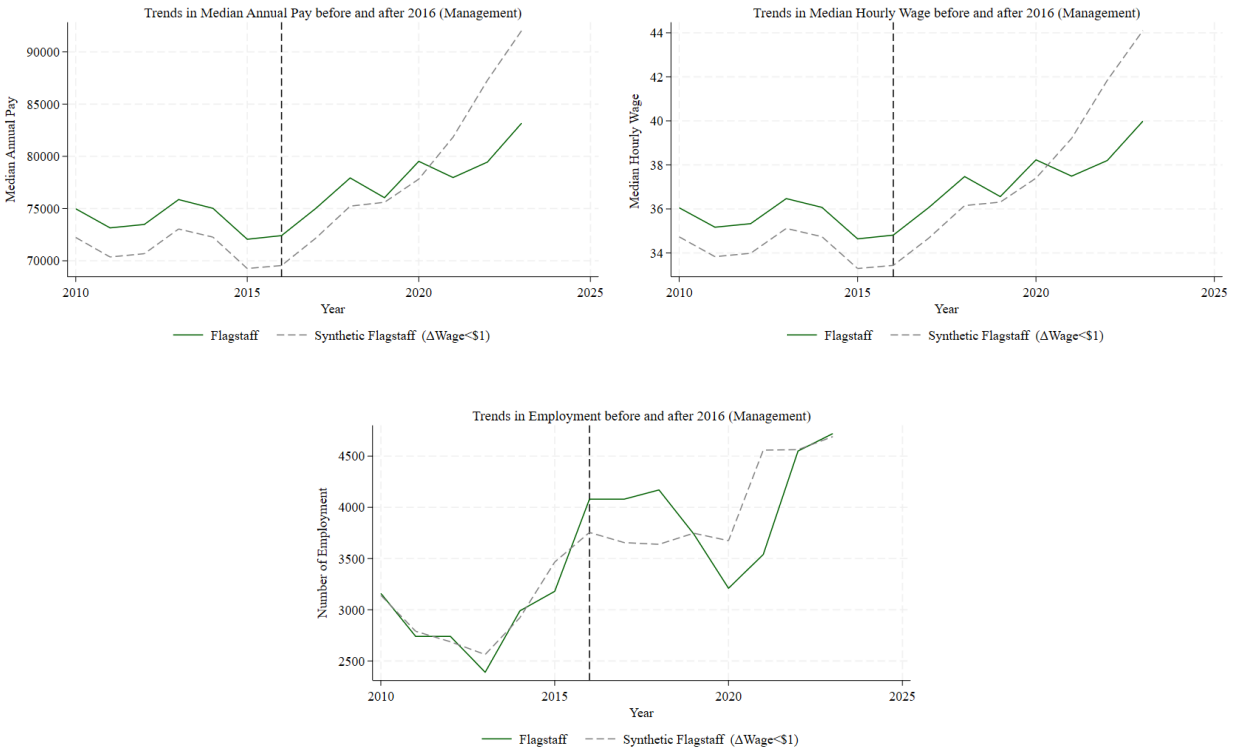
Figure 16: Impact on hotel, motel, and resort desk clerks





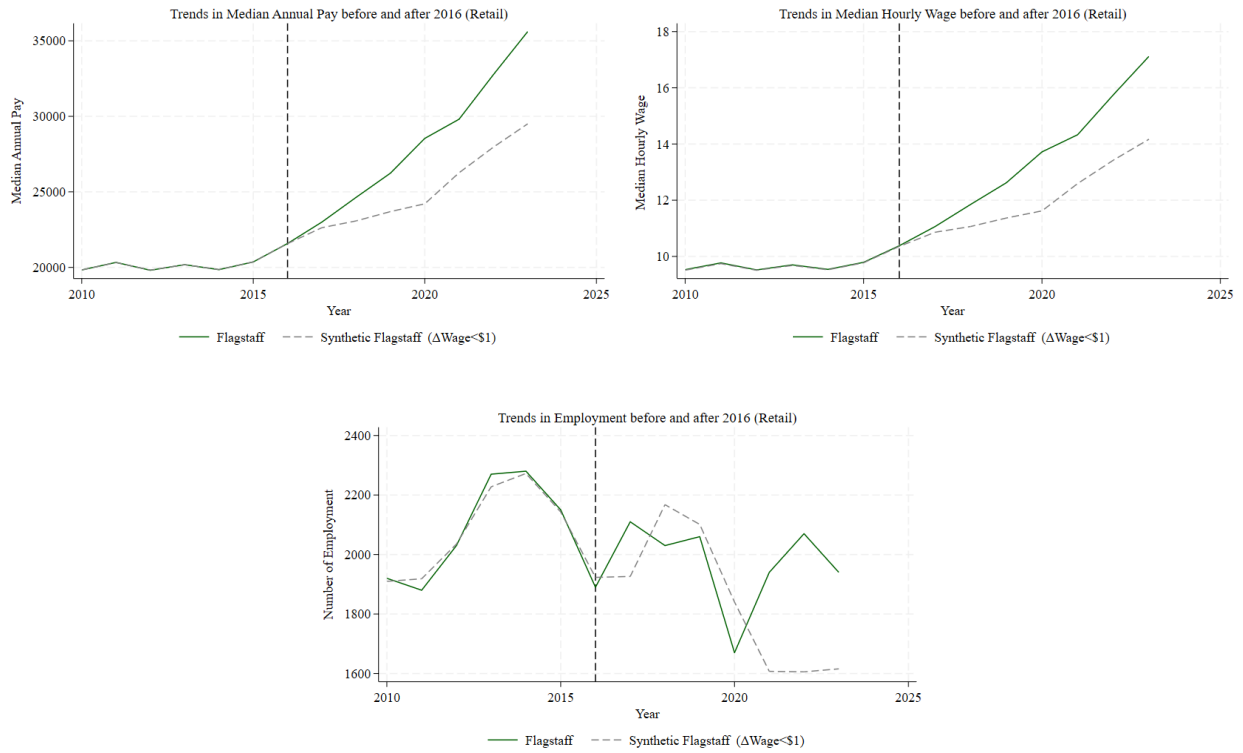
Employment: positive; Median hourly wage: positive; Median annual wage: positive.

Figure 17: Impact on management occupations



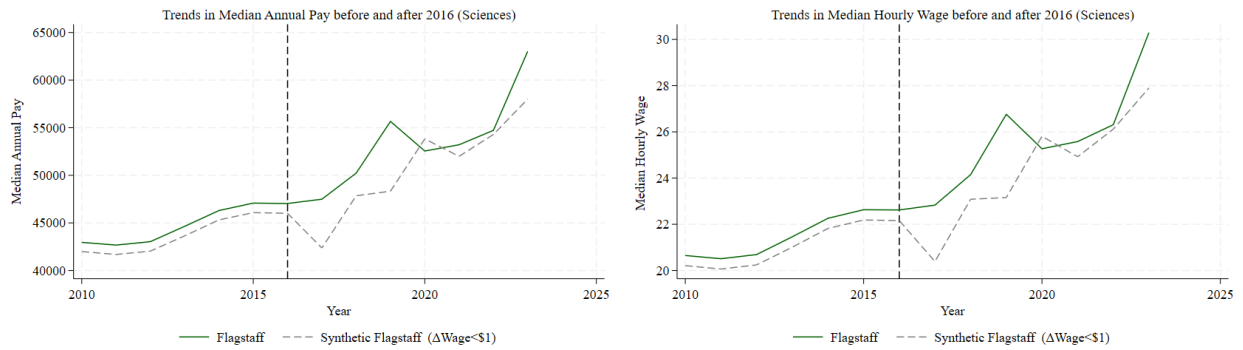
Median hourly wage: negative; median annual wage: negative

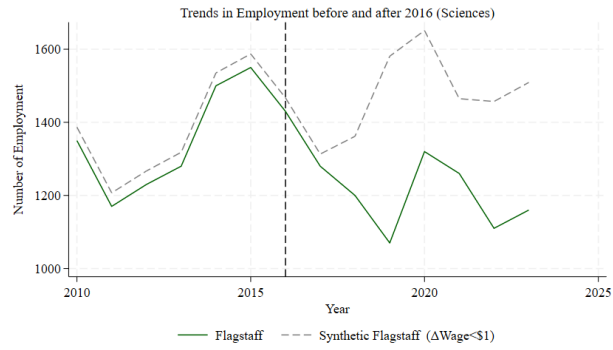
Figure 18: Impact on retail salespersons



Employment: positive; median hourly wage: positive; median annual wage: positive.

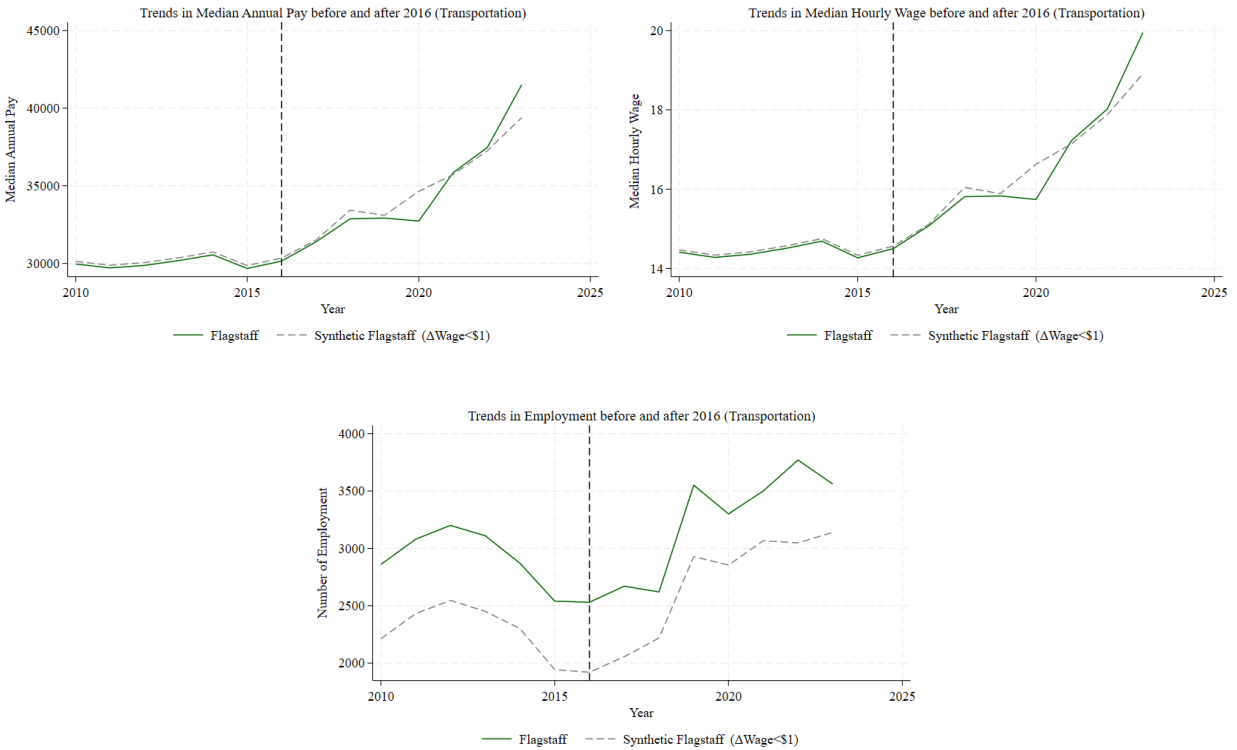
Figure 19: Impact on life, physical, and social science occupations





Employment: negative.

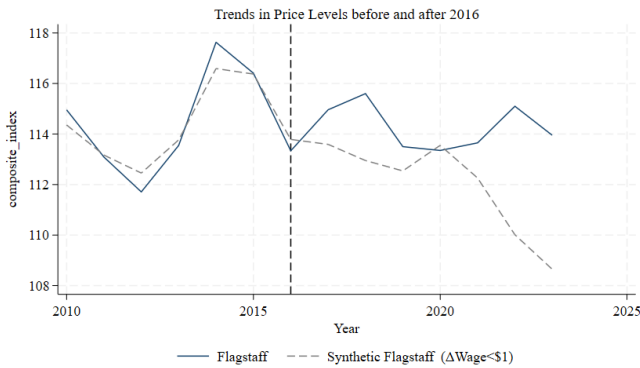
Figure 20: Impact on transportation and material moving occupations



Employment: negative.

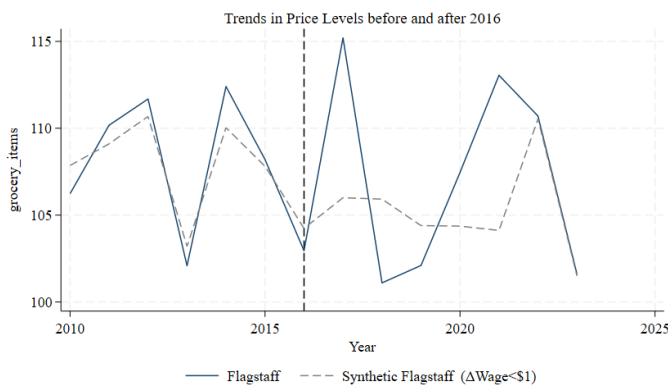
## Impact on cost-of-living simulation graphics

Figure 21: Impact on cost of living - composite index



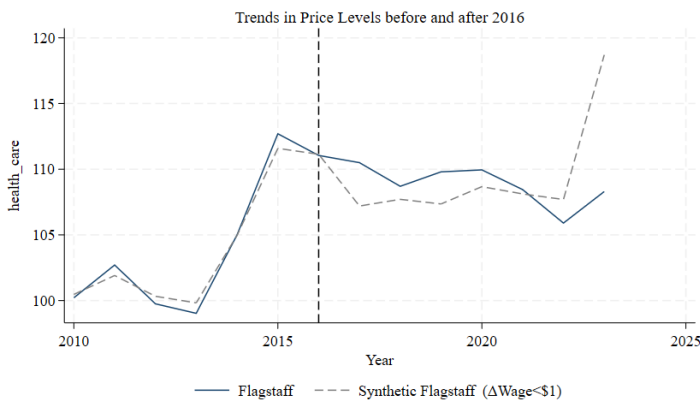
Impact is positive, meaning the minimum wage pushed up cost of living in general.

Figure 22: Impact on cost of living - grocery Items

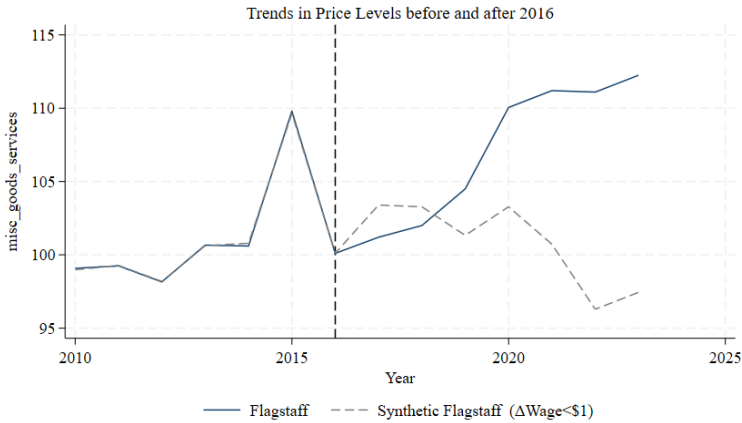


Impact is not statistically significant.

Figure 23: Impact on cost of living - healthcare



Impact is not statistically significant.



Impact is positive, meaning the minimum wage increase pushed up cost of living in miscellaneous goods and services.



## **Appendix B. Interview & Focus Group Questions in the Qualitative Method**

### **Business owner and manager focus group questions**

Can you describe how your business operations have been impacted by Flagstaff's higher-than-average minimum wage?

Have you adjusted the types of benefits, hours, or responsibilities of employees as a result of the wage increase?

How has the wage increase affected your employees' performance, morale, or job satisfaction, from your perspective? Have you noticed any changes in productivity or customer service since the wage increase?

Have you made any operational or strategic adjustments to accommodate the higher wage (e.g., raising prices, reducing staff, adjusting hours, increasing technology)?

Looking ahead, what are your concerns or expectations for your business considering the current minimum wage policy? Are there any policy changes or solutions you would suggest to help businesses cope with the higher wage?

### **Employee interview questions**

How long have you been in your position?

About how many hours per week do you work? Across how many jobs?

Do you know about the Flagstaff minimum wage law and how it works? Is your wage at/above the minimum wage?

Do you feel that your financial situation is better or worse since the COVID pandemic? E.g., do you need to work more/fewer jobs, longer/shorter hours, do you experience income increase/decrease, expenses increase/decrease, more/fewer job opportunities, easier/harder to get a job, do you feel more/less job security

When the minimum wage automatically increases each year, how does it affect your morale?

Do you notice any changes in how the business(es) you are in operate(s)?

What do you think of the impact of the minimum wage law in Flagstaff? Do you generally feel positive/negative about it and why?

Do you believe your current hourly wage is sufficient to cover your basic living expenses such as housing, food, and transportation? Why or why not?

What changes, if any, would you like to see in how wages are set or adjusted, and why?

## Appendix C. Compilation of Study Groups, Outcome Variables, and Impacts

Study Groups	Study Industries, Occupations, and Cost of Living Measures	Outcome Variables / Economic Indicators	Positive (+) or negative (-) impact
Industries	All Industries	Establishment count	+
		Employment	-
		Weekly Wage	-
		Annual Pay	-
	Construction	Establishment count	+
		Employment	-
		Total Wage	-
	Manufacturing	Establishment count	+
		Employment	-
		Total Wage	-
	Trade, Transportation, Utilities	Weekly Wage	+
		Annual Pay	+
		Total Wage	+
	Professional and Business Services	Establishment count	+
		Weekly Wage	-
Annual Pay		-	
Leisure and Hospitality	Establishment count	+	
	Employment	+	
	Total wage	+	
Occupations	All Occupations	Hourly median wage	+
		Annual wage	+
	Retail Salesperson	Employment	+
		Hourly median wage	+
	Hotel Clerks	Annual wage	+
		Employment	+
	Healthcare	Hourly median wage	+
		Annual wage	+
	Transportation	Employment	-
		Hourly median wage	-
	Forestry	Hourly median wage	+
		Annual median wage	+
	Management	Hourly median wage	-
		Annual median wage	-
	Scientific Jobs	Employment	-
Cost of Living	Composite Index		Increased
	Misc Goods and Service		Increased