

An \$18 Minimum Wage for California

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ABSTRACT

A proposed ballot measure, *The Living Wage Act of 2022* (hereafter LWA), would increase California's minimum wage from its current \$15 to \$16 in 2023, \$17 in 2024 and \$18 in 2025, with inflation adjustments beginning in 2027. Proponents argue that an \$18 standard will reduce poverty and recover lost purchasing power from inflation; opponents claim it will destroy jobs and hurt small businesses. Current law calls for an inflation adjustment of the state's minimum wage to \$15.50 on January 1, 2023, and likely to \$16 on January 1, 2024 and \$16.50 on January 1, 2025. Moreover, about one-third of California private sector workers are employed in 37 localities with their own higher wage standards and inflation adjustments. Most of these local standards will come close to or exceed \$18 by January 1, 2025.

To bring all these policy developments into a unified perspective, I discuss here the effects of the past increases to \$15, the likely effects of the already-mandated future inflation adjustments, and the effects of a possible increase to \$18, should LWA becomes law. To examine the effects of recent increases, I draw on a new companion study by McPherson, Reich and Wiltshire (2022). This study finds that California's minimum wage increases from \$8 in 2014 to \$15 (and higher in some cities) in 2022 have significantly increased pay for low-wage California workers, while having minimal effects on the number of jobs in the state. To forecast the effects of future increases, I also draw upon official California forecasts of wage growth and inflation. I find:

The LWA would raise pay for about 4.8 million California workers by 2025 would have a minimal effect on the number of jobs. The LWA would also restore inflation-generated losses in worker purchasing power caused by gaps in current laws, while increasing overall prices about 0.014 percent per year for three years. Equally important, increasing the state's minimum wage to \$18 would eliminate poverty among all the 3.53 million non-elderly Californians in poor working households.

1. INTRODUCTION

If passed by California voters this November, the *Living Wage Act of 2022* (hereafter LWA) would increase the state's minimum wage to \$16 in 2023, \$17 in 2024 and \$18 in 2025, for firms with more than 25 employees.¹ LWA also calls for inflation adjustments beginning in 2027, with a cap of 3.5 percent per year, as in current California minimum wage law. LWA's sponsors emphasize that an \$18 minimum wage would eliminate poverty-level wages in the state and restore purchasing power lost by inflation. Opponents claim it will reduce jobs and especially hurt small businesses.

In any case, the LWA would interact with existing minimum wage laws. California has already increased its minimum wage by 87.5 percent, from \$8 in 2014 to \$15, the highest of any state. Current law also calls for annual inflation adjustments of the state's minimum wage, to \$15.50 on January 1, 2023, and, if current official inflation forecasts are correct, to \$16 on January 1, 2024 and \$16.50 on January 1, 2025. Moreover, about one-third of California private sector workers are employed in 37 localities that have higher wage standards and that call for inflation adjustments. Most of these local standards will likely be near or exceed \$18 by January 1, 2025.

As a result, the additional increase proposed by the LWA would be smaller than the 20 percent difference between \$18 and the current California minimum wage of \$15. The state minimum wage is already likely to increase by 10 percent, to \$16.50 by 2025. An additional increase from \$16.50 to \$18 represents a change of just 9.1 percent. And this increase will apply only among the two-thirds of California workers who are not covered by local laws. The effective average LWA-related minimum wage increases among all California workers from 2023 to 2025 would thus be two-thirds of 9.1, which equals 6.1 percent, or about 2.0 percent per year over three years. To put this amount in perspective, inflation in California has averaged about 2.3 percent in recent years; it will exceed 7 percent in 2022.

Minimum wage researchers have found that such increases have had minimal effects on job numbers.² Equally important, the LWA would increase pay for 4.8 million working Californians and would lift 3.53 million non-elderly Californians above the federal poverty threshold. The costs of the minimum wage increases will be paid by modest increases in restaurant prices; the overall price level would increase about 0.014 percent per year over three years.

¹ Increases would take place one year later for firms with 25 employees or less. Such firms account for about 20 percent of total employment. In the U.S., wages of affected workers in such firms average about 50 cents lower than in those above the size threshold, which is much less than the \$1 differential in current law. Economic theory and empirical research also strongly suggest that the spillover of minimum wages from larger firms to small firms would further reduce this wage differential. The lower wage standard for small firms is therefore likely to be binding for only a small proportion of low-wage workers. I therefore proceed as if the higher standard covers all workers. The Economic Policy Institute's minimum wage model follows the same practice.

² The 138 state minimum wage increases studied by Cengiz et al. (2019) averaged about 8 percent; they found minimal effects on employment. As I discuss below, McPherson, Reich and Wiltshire (2022) find that the 87.5 percent increase in California's minimum wage between 2015 and 2022 also had minimal effects on California job numbers.

These estimates of the effects on the number of workers getting increases, on employment levels, on poverty, and on inflation depend upon subsidiary calculations. Those include:

- A baseline estimate of how many California workers are now paid less than today's equivalent of \$18;
- How many workers will be getting wage increases without the LWA;
- How many workers will receive pay increases because of vertical wage spillovers above \$18;
- What the best research tells us about employment effects of minimum wages up to \$15;
- The effects of the LWA on poverty among working families; and
- The extent to which increased labor costs are passed on to consumers in higher prices.

In this policy brief I discuss and present these calculations.³

Roadmap: I discuss the size of the proposed increase in Section 2 and the number of workers likely to get pay increases in Sections 3 and 4. In Section 5 I discuss who would pay the costs of the higher minimum wage. I estimate the effects on the number of jobs in Section 6 and the effects on poverty among working families in Section 7. I consider why modest minimum wage increases have minimal effects on employment and prices in Section 8 and I present my conclusions in Section 9. Tables 1 and 2 summarize the forecasts and calculations reported in the text.

2. EFFECTIVE SIZE OF ENACTED AND LWA-PROPOSED MINIMUM WAGE INCREASES

In this section I first examine the size of inflation adjustments mandated by current laws and then estimate the additional minimum wage increases that would result from the LWA.

2.1 Existing minimum wage laws

California's minimum wage increased to \$15 on January 1, 2022, making it the highest state minimum wage in the nation.⁴ A one-time inflation trigger in state law will increase the state minimum wage again, to \$15.50 on January 1, 2023.⁵ Then, beginning on January 1, 2024, the state minimum wage will increase annually, based on the previous year's inflation, with an annual cap of 3.5 percent.⁶ Thirty-seven localities in California have also enacted higher wage standards that are also adjusted

³ The calculations in this policy brief concern the period from the present to January 1, 2025. I also draw upon the most recent official forecasts of inflation, wage growth, and employment growth in California that would likely occur without any changes in minimum wage laws.

⁴ The District of Columbia's current minimum wage (for non-tipped workers) is \$15.50 and will increase to \$16.10 in July 2022.

⁵ As estimated by the California Department of Finance. JD Supra May 16, 2022.

<https://www.jdsupra.com/legalnews/california-minimum-wage-will-go-to-15-1794438/>

⁶ In other words, the high inflation rates of 2021 and 2022 will not affect future minimum wage inflation adjustments, unless such high rates persist into 2023.

each year for inflation; they either have a higher cap or no cap. All of these increases would occur in the absence of the LWA.

2.2 Inflation forecasts

To identify the separate effect of the LWA, I first estimate the already mandated inflation adjustments that will take place without the proposed measure. I use the most recent California inflation forecasts provided by the state’s Department of Finance (DoF) in April 2022. These, in turn, draw from consensus professional inflation forecasts, such as the Survey of Professional Forecasters (SPF).⁷ SPF’s consensus forecast takes into account recent inflation trends, the Federal Reserve’s monetary policy actions and the Federal Reserve’s inflation policy targets.

2.3 Inflation adjustments in existing statewide minimum wage law

In 2024 inflation in the previous fiscal year, using the California Consumer Price Index for urban workers (CPI-W). Based on DoF’s forecasts, as presented in Table 1, the statewide minimum wage of \$15.50 in 2023 will increase 3.0 percent, to \$16 on January 1, 2024, and an additional 3.1 percent to \$16.50 on January 1, 2025.⁸ These adjustments would occur in the absence of the LWA.

Table 1 Official California Forecasts 2022-2025

	CA CPI-W	Cumulative CPI-W	MW	Wage growth	Cumulative wage growth
2022	-	-	15.00	8.5	8.5
2023	5.0	5.0	15.50	6.1	15.1
2024	3.0	8.0	16.00	5.6	21.5
2025	3.1	11.1	16.50	-	-

Notes: Values shown correspond to the year in which they enter our calculations. They are based on California Department of Finance forecasts (see: <https://dof.ca.gov/forecasting/economics/economic-forecasts-u-s-and-california/>). The CPI-W growth forecasts are for the fiscal year from June to July. I do not show CPI forecasts for 2022 because Governor Newsom has announced that the minimum wage will increase to 15.50 in July 2022. Minimum wages areas of January 1st of the row year. Wage growth forecasts are for the leisure and hospitality industry, as estimated by DoF.

⁷ <https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/spf-q2-2022> The most recent SPF report was released on May 13, 2022. It is conducted quarterly by the Federal Reserve Bank of Philadelphia and provides a major input into federal and state government forecasts. SPF forecasts take into account the effects of recent and likely effects of Federal Reserve monetary policy on GDP, unemployment and inflation. The May 2022 SPF long-term forecast expects U.S. inflation to average 2.8 percent in the next decade.

⁸ The state minimum wage is rounded to the nearest ten cents.

2.4 Inflation adjustments in existing local minimum wage laws

Local California minimum wage laws also call for annual inflation adjustments. Thirty-eight California localities, which together account for about a third of California's jobs, have enacted local minimum wage laws above the state's level; all but one (San Leandro) also call for annual inflation adjustments.⁹ Except for San Jose, these adjustments are uncapped; San Jose's is capped at five percent.¹⁰ Using the latest forecasts of inflation, the Los Angeles minimum wage will be \$16.04 on July 1, 2022 and \$17.64 on July 1, 2025; the Oakland minimum wage, currently \$15.06, will increase to \$16.77 by January 1, 2025; the San Francisco minimum wage, already set to reach \$16.99 on July 1, 2022, will increase to \$18.92 in 2025; and the San Jose minimum wage, currently \$16.20, will be \$18.04 on January 1, 2025. The smaller cities with local laws will generally reach these levels as well.

2.5 A note on purchasing power

California's minimum wage adjustment for inflation is capped at 3.5 percent per year. However, inflation in California this year is likely to exceed 7 percent. Without the LWA, the state's minimum wage will thus lose 3.5 percent of its purchasing power by 2023. And additional losses in purchasing power could occur if inflation exceeds 3.5 percent at any time between 2023 and 2025. The LWA would more than counteract such losses.

2.6 Comparison to median wages

I discuss here the \$18 minimum wage expressed as a ratio of California's projected median wage in 2025. This ratio provides a useful benchmark for comparing California's minimum wage to those in other parts of the U.S. and in other countries.

As Table 2 shows, California's median wage is likely to be \$30.78 in 2025. Dividing 18 by 30.74 yields a ratio of 0.58. A ratio of .58 lies at the high end, but inside of, Cengiz et al.'s characterization of modest minimum wages. In their study of 138 U.S. state-level minimum wage increases between 1982 and 2016, Cengiz et al. (2019) report that the highest minimum wage to median wage ratio was 0.59. They label such increases as modest and find that they did not have adverse effects on the number of low-wage jobs.

⁹ Most of the 38 localities with their own minimum wage are located in Los Angeles County and in the six counties of the San Francisco Bay Area.

¹⁰ Three local areas in the U.S. had their own minimum wages in 2010, compared to 42 in 2020 and 53 in 2022. Most of the localities outside California do not index their minimum wages. <https://laborcenter.berkeley.edu/inventory-of-us-city-and-county-minimum-wage-ordinances>.

Table 2 Author's Projections

Forecast	January 1, 2025
California	
Median hourly wage (\$)	30.78
California employees (millions)	18.1
Projected minimum wage	
California	16.50
Los Angeles ⁱ	17.64
San Francisco ⁱ	18.92
San Jose	18.04
Oakland	16.77
Living Wage Act	18.00
Percent of workers getting a pay increaseⁱⁱ	26.7
Percent change in pricesⁱⁱⁱ	0.042
Number in working households lifted above poverty (millions)^{iv}	3.53

i. Los Angeles and San Francisco minimum wages increase on July 1 each year.

ii. Portion of California workers in 2021q2 and q3 who earn less than 1.2 times the minimum wage. Excludes self-employed, workers with imputed wages and wages less than 80 percent of the minimum wage. Hourly wages for salaried workers calculated using usual weekly hours worked. Excludes overtime hours and pay. Hourly wages trimmed below \$0.50 and above \$100 (1989 dollars). Source CPS ORG.

iii. Using an elasticity of 0.024 reported in Cooper, Luengo-Prado and Parker 2020.

iv. Using an elasticity of -0.56. See text.

In most advanced countries with statutory minimum wages, the comparable ratio lies between .50 and .60.¹¹ The average minimum wage to median wage ratio among such European countries has increased toward the upper end of this range in recent years. The current ratio in the UK is .60, scheduled to increase to .66. France's ratio is .61, New Zealand's is .71. These comparisons indicate that an \$18 minimum wage in California would lie at the high end of the international spectrum, but not outside it.

2.7 Summary

The LWA would increase the 2025 statewide minimum wage by 9.1 percent, the difference between \$18 and \$16.50, instead of the 20 percent difference between \$18 and \$15. It would have a minimal effect in the localities that have their own higher minimum wage standards.

¹¹ <https://stats.oecd.org/Index.aspx?DataSetCode=MIN2AVE>

3. PAY INCREASES AND NUMBER OF WORKERS IN LOCALITIES WITH HIGHER WAGE STANDARDS

The effects of state wide minimum wage increases rising to \$18 will differ across the state. The higher-wage localities in California would be less affected to the extent that they have smaller proportions of low-wage workers. Moreover, many affluent localities have already instituted their own higher standards. In this section I examine the geographical pattern of minimum wage increases by estimating the number of workers who would receive pay increases under existing local laws. In these areas the effects of the LWA will be smaller than in the rest of the state.

I first examine the number of jobs that are located inside all the local areas with their own minimum wage standards. I then estimate the number of jobs located in areas near these local entities that would experience pay increases because of spatial wage spillovers, with special attention to Los Angeles and Santa Clara Counties. Finally, I consider how the proportion of minimum wage workers in these expanded areas differs from the proportion of such workers in the rest of the state.

3.1 Proportion of jobs in higher minimum wage areas

Table 3 lists the 37 California localities with wage standards that also call for ongoing inflation adjustments; column 2 displays the number of private sector primary jobs located in each.¹² The jobs located in these areas account for 32.4 percent of all private primary jobs in the state.

3.2 Spatial wage spillovers

The above calculation from *OnTheMap* likely undercounts the proportion of jobs that local minimum wage laws will affect. Since employers compete for workers who live in the same commuting zone, many employers in an adjacent locality with a lower wage standard will need to match a nearby higher wage standard. Minimum wages are thus likely to affect wage levels in the remainder of a local commuting zone. Economists describe this process as a spatial wage spillover.

Economists have only recently been able to use modern causal identification methods and sufficiently granular data to estimate the size and scope of local spatial wage spillovers.¹³ Four very

¹²These data are compiled by the U.S. Census Bureau and published on its *OnTheMap* website. *OnTheMap* provides data only for private sector primary jobs. Most public sector jobs would not be affected by an \$18 minimum wage.

¹³ Using census tract level administrative data, Jardim et al. (2022) find that a ten percent increase in Seattle's minimum wage raised wages about five percent for jobs within a 40-minute drive of the city. Dharmasankar and Yoo (2022) find that Seattle's minimum wage increases led to entries of new establishments just outside Seattle; these almost exactly equaled net firm exits inside Seattle. Wiltshire (2021) finds that the entry of Walmart Supercenters into a county reduced wage and employment levels throughout the county; a subsequent 21 percent federal minimum wage increase raised employment 4.5 percent in those counties. Derenoncourt et al. (2021)'s study of voluntary minimum wage increases among very large employers, such as Amazon, Target and Walmart, finds that a ten percent increase in Amazon's voluntary minimum wage raised wages by 2.3 percent throughout the local census-designated Commuting Zone.

different recent studies, using a variety of data and methods, come to the same conclusion: local minimum wage increases spill over into the nearby zip codes of the surrounding county.

Table 3 Jobs in Localities with Indexed Minimum Wages

Private jobs 2019 (thousands)		Private jobs 2019 (thousands)	
<i>Alameda County</i>		<i>Santa Clara County</i>	
Alameda	23	Belmont	5
Berkeley	43	Cupertino	47
El Cerrito	5	E. Palo Alto	3
Emeryville	22	Los Altos	10
Fremont	106	Mountain View	87
Hayward	57	Palo Alto	109
Oakland	156	San Jose	354
		Santa Clara	109
		Sunnyvale	98
<i>Contra Costa County</i>		<i>Sonoma County</i>	
Richmond	27	Petaluma	27
		Santa Rosa	57
<i>Los Angeles County</i>		Sonoma	6
Los Angeles	1,373	Total jobs: Areas with local laws	4,310
LA County unincorporated	427	All California private jobs	13,438
Malibu	5	Percent of California private jobs	32.4
Pasadena	92		
Santa Monica	77		
W. Hollywood	29		
<i>Marin County</i>			
Novato	20		
<i>San Francisco County</i>			
	611		
<i>San Mateo County</i>			
Burlingame	25		
Daly City	14		
Half Moon Bay	4		
Menlo Park	50		
Milpitas	45		
Redwood City	59		
San Carlos	15		
San Mateo	52		
S. San Francisco	61		

In California, all local minimum wage laws (except San Francisco's) refer to areas much smaller than a county. For example, jobs located in Los Angeles and San Jose account for about half of those in Los Angeles County and Santa Clara County. If the spatial wage spillovers extend throughout these two counties, as the studies cited above suggest, the proportion of the state's jobs affected by local minimum wage laws becomes much higher than the city-based data in Table 3 suggests.

3.3 Spatial spillovers in Los Angeles and Santa Clara Counties

I apply here the spatial spillover analysis in more detail to Los Angeles and Santa Clara Counties, two of the most populous counties in the state. I use a conservative assumption: namely, spillovers extend three zip codes beyond the city's boundaries. A typical urban zip code covers about 2.5 square miles, implying that the linear distance between zip code centroids averages 1.8 miles. The third zip code from a city's border thus lies about 5.4 miles from the border. This additional commuting distance does not constitute a substantial barrier for low-wage workers.¹⁴

How many additional jobs would be affected by spatial wage spillovers that extend this distance? I focus first on Los Angeles City, which has an especially irregular shape and high job density in nearby areas. In Los Angeles County, as Table 3 shows, Los Angeles City, Pasadena, Santa Monica, West Hollywood, and the unincorporated areas of Los Angeles County have the same wage standard. Of these, only Santa Monica and West Hollywood are adjacent to Los Angeles City.

How many of the jobs that are located inside Los Angeles County but outside these areas might be affected by minimum wage spillovers? The city's perimeter is highly jagged and contains a narrow sliver that runs south to LAX. Spatial job patterns available from *OnTheMap* show that job densities in areas adjacent to the city are generally similar to those inside the city. The city's boundaries to the north and the west are largely determined by local geography, but that is not the case in the more populated and job-dense eastern and southern areas of the city

My discussion above suggested that minimum wage increases spill over to areas up to three zip codes beyond the city's boundaries. It turns out that parts of twenty of Los Angeles' 98 zip codes are located outside the city's limits. Overall, I calculate that spillover increases the number of jobs in affected areas in Los Angeles City and its immediate environs by 500,000 jobs, or about 36 percent.¹⁵

¹⁴ According to the Census Bureau's American Community Survey, the average California commute is 29.3 miles. Wursten and Reich (2021) find that higher minimum wages increase the proportion of black workers who can commute to work by car.

¹⁵ Among the twenty zip codes, about one-fourth of each zip code lies outside the city. Since a typical zip code contains about 100,000 residents (and covers about 2.5 square miles), I multiply 100,000 by the 20 zip codes and then by one-fourth of each zip code; the result indicates that 500,000 people reside in the external areas of these partly adjacent zip codes. As a back-of-the-envelope calculation, a population of 500,000 in these adjacent areas translates to approximately 200,000 jobs in these areas. Omitting the zip codes in the north and west reduces this number by half, to 100,000 jobs in spillover-affected areas. I then add the 400,000 jobs in the ten zip codes that abut the city's southern and eastern borders, bringing the number of jobs in areas affected by spillovers to 500,000.

In Santa Clara County, many, but not all, of the cities surrounding San Jose have passed their own laws and so are already counted in Table 3. A back-of the-envelope exercise for the San Jose metropolitan area, assuming a spatial spillover effect of only 20 percent, implies that 100,000 jobs are in areas affected just outside San Jose. A similar spillover effect in areas surrounding other large cities (such as Oakland, but smaller in San Francisco because of its geography) could easily add another 100,000 jobs in spillover areas. Spillovers into adjacent areas thus bring the total number of jobs in areas that are covered directly by local minimum wage laws, or affected indirectly (via spillovers), to 4.81 million jobs—approximately 38 percent of all jobs in the state.

3.4 Minimum wage bites in these local areas

Cities with local minimum wages tend to have higher overall wages than areas that do not (Dube and Lindner 2021). As a result, the proportion of *low-wage* jobs affected by local minimum wage laws (commonly referred to as the minimum wage bite) in these areas is likely to be smaller than the proportion of all jobs in these areas.

How important are the bite differences? The median wage in Los Angeles is about ten percent higher than in the state as a whole; in San Francisco and San Jose, median wages are 30 to 40 percent higher than the state median. These higher wages suggest that minimum wage bites are smaller in these cities than in the state. On the other hand, minimum wages are higher in San Francisco and in San Jose than in Los Angeles and the state.

In the absence of reliable local data on median wages in all the areas with local laws, I draw upon the distribution of county-level bites provided in Godoey and Reich (2021). They find that bites in the most affluent areas are about five percentage points lower than in average income areas. Using this result, and given the higher median wages in populous Los Angeles and Santa Clara Counties, I reduce my estimate of 38 percent above by five percent. I conclude that existing local minimum wage laws will raise pay for about one-third of the low-wage jobs in the state—or about 4.1 million jobs.

3.5 Summary

For one-third of the state’s low-wage jobs, minimum wages without the LWA would already be close to \$18 or higher because of local laws and spatial spillovers. These jobs would not receive any pay increases due to LWA. As already mentioned, in the remaining two-thirds of low-wage California jobs, LWA minimum wages would increase 9.1 percent.

The LWA would increase the state’s minimum wage 9.1 percent, or 3.0 percent per year over three years. These increases would occur mainly among the two-thirds of the state’s low-wage jobs located in areas covered only by the statewide wage standard. In other words, taking the two different areas of the state into account, the effective average statewide increase would be two-thirds of 9.1 percent, or 6.1 percent.

4. NUMBER OF WORKERS GETTING PAY INCREASES

In this section I use the most recent inflation forecasts and estimate that about 4.0 million workers, or 22.2 percent of all California employees, will receive inflation-related pay increases between 2022 and January 1, 2025 because of existing state and local laws. An additional 820,000 employees, or 4.5 percent of the state’s workers, would receive pay increases because of the LWA. In total, 4.8 million workers, or 26.7 percent of the state’s workforce, will receive pay increases.

4.1 Baseline

According to the Employment Development Department (EDD), California had 17.42 million payroll jobs in March 2022.¹⁶ In its most recent forecast, EDD projects that payroll employment will continue to increase by 0.86 percent per year, reaching 18.1 million in January 2025.

4.2 Method

To calculate the proportion of workers who would receive pay increases, I use California data from the U.S. Current Population Survey from the second half of 2021, when the pandemic’s effects were lifting. I exclude self-employed workers, workers with wages imputed by the U.S. Census Bureau, and those with subminimum wages below 80 percent of the minimum wage.¹⁷

This calculation also involves forecasting how future wage increases in the bottom quartile will compare to inflation. In the two years before the pandemic, and as well in the two years of the pandemic, growing demand for workers exceeded the growth in their supply. Wage increases in the bottom quartile exceeded inflation by about 2 percent per year (*Atlanta Fed Wage Tracker*). Hourly wage growth has particularly increased among workers 16 to 24, from 6.5 percent in 2019 to 11.4 percent in the twelve months ending in February 2022.

Relatedly, wage increases in low-wage industries, such as accommodations and food services, have also grown faster than wage increases among all California workers. A more rapid wage growth implies a smaller minimum wage effect. To be conservative, I therefore use DoF’s higher wage growth forecasts for these industries.¹⁸

Figure 1 displays the results. The figure takes into account that low-wage workers would receive wage increases—as forecast by the California Department of Finance—even if minimum wages did not increase. To construct the figure, I combine the direct and indirect effects of minimum wage increases. The direct effect involves workers who will get pay increases because they were paid less

¹⁶ https://edd.ca.gov/en/about_edd/news_releases_and_announcements/unemployment-march-2022/. This figure excludes the self-employed and independent contractors not covered by minimum wage policy.

¹⁷ Bollinger and Hirsch (2006) recommend excluding observations with imputed wages.

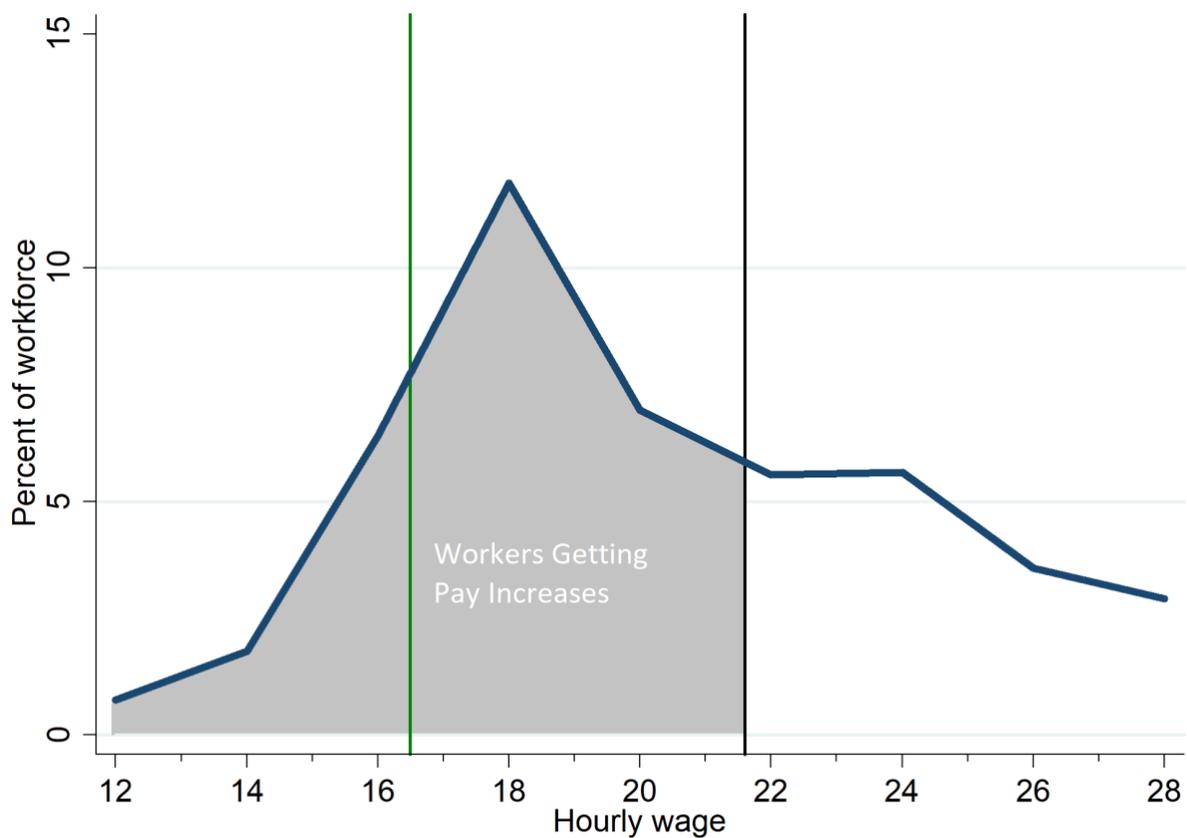
¹⁸ In unionized low-wage industries, such as home care and grocery stores, bargaining negotiations may lead to wage increases that are greater than elsewhere. I do not account for these here.

than the new minimum wage (\$18); the indirect effect involves other workers who will receive pay increases because of vertical spillover and equity effects above the new minimum wage. The research literature has established that such spillovers end at about 1.2 times the new minimum wage, or \$21.60.

4.3 Summary

About 4.0 million employees will receive inflation-related pay increases from 2023 to 2025 under existing state laws. An additional 820,000 workers would receive pay increases if LWA becomes law. These increases would occur in the parts of the state that do not have local minimum wage laws. A total of 4.8 million workers would get increases.

Figure 1 Percent of California Workers Getting Pay Increases



The blue graph indicates the projected fraction of California jobs in 2025 that would be located in each \$2 wage bin, assuming no changes in minimum wages and wages rising with inflation. The vertical green line at \$16.50 indicates California’s minimum wage in 2025, after likely state-level inflations adjustments, but without the LWA. The vertical black line indicates that spillover effects above an \$18 minimum wage would end at \$21.60. The gray area under the blue graph and to the left of the black line indicates jobs that would experience pay increases because of existing laws

and the LWA. The blue graph is based on 2020q3 and 2020q4 Current Population Survey data for California, expressed in 2025\$.

5. WHO PAYS FOR MINIMUM WAGE INCREASES?

Minimum wage workers are concentrated in only a few industries. Indeed, just two industries—restaurants and retail—account for 31 percent of all California minimum wage workers (Jacobs and Perry 2016). These two industries also have the lowest wages and the highest proportion of workers who are low wage; no other major industry comes close to employing so many low-wage workers.¹⁹ This pattern implies that higher costs due to higher minimum wages may be passed forward to consumers of these industries without having a substantial effect on overall inflation.

Restaurants and retail can indeed pass their increased costs in higher prices to consumers or in lower rents to building owners. Consumer demand in restaurants and retail is relatively inelastic—meaning that price increases have smaller effects on reducing consumer demand. And building owners cannot easily find alternative tenants. Under such conditions, businesses that shift cost increases by raising prices to consumers or lowering rents to landlords will not experience a decline in sales or profits.

Recent empirical studies of minimum wages have been able to access price data, but representative commercial rent data for low-wage industries is scant. The price studies show that minimum-wage related costs are fully passed through to prices in the restaurant and grocery store industries.²⁰ The most comprehensive price study (Cooper, Luengo-Prado and Parker 2020) uses data on 27 metro areas to examine price effects in restaurants and in consumer expenditures more broadly. This study finds statistically significant but small price effects in restaurants, but not in other industries. The authors estimate that a 1 percent higher minimum wage increases overall prices by 0.024 percent.

Multiplying 0.024 times a 6.1 percent minimum wage increase, I estimate that the LWA would increase overall prices by a 0.042 percent, or .014 percent per year for three years.²¹ A price increase of this magnitude is not likely to drive customers away.²²

¹⁹ The restaurant industry also has the highest proportion of low-wage labor costs in operating costs (Wursten and Reich, forthcoming).

²⁰ For restaurant studies, see Allegretto and Reich (2018); Cooper, Luengo-Prado and Parker (2020); For supermarkets, see Renkin, Montialoux and Siegenthaler (2021). A recent study of the Los Angeles minimum wage (Esposito et al. 2021) concludes that restaurant consumers in affluent areas would pay the costs of a higher minimum wage, but not restaurant consumers in lower-income areas. However, Esposito et al. can compare only price changes after the first phase of the Los Angeles minimum wage. Without price data before the minimum wage went into effect, they cannot rule out that differential price trends preceded the minimum wage.

²¹ This estimate is based on separate estimates for the two-thirds of the state without local laws and the one-third of the state with such laws.

²² Recent studies show that minimum wages increase worker productivity in agriculture, nursing homes and large retail establishments; and reduces employee turnover costs (Manning 2021). These adjustments would mitigate price increases in those sectors.

Summary

The LWA will increase prices by .014 percent per year for three years. Price increases in less affluent neighborhoods are likely to be a bit lower, increases in more affluent neighborhoods are likely to be a bit higher.

6. EMPLOYMENT EFFECTS

In this section I estimate the likely employment effects of the LWA, drawing from the best research to estimate these effects.

6.1 Employment baselines

EDD reports that nonfarm payroll enrollment grew at an average of 348,000 jobs per year over the economic expansion period 2011 to 2019.²³ EDD's most recent (and pre-pandemic) ten-year forecast projected that employment would grow by 1.501 million jobs over the period 2018 to 2028. This projection translates into an average annual job growth of 150,000 jobs, or 0.86 percent, per year. Job growth in 2021 considerably exceeded this amount.²⁴ It is therefore likely that job growth will continue to grow at the rate of 150,000 jobs per year. At this growth rate, California will have 18.1 million employees in 2025.

6.2 Research evidence

In the past three decades, an enormous number of studies have examined the employment effects of minimum wage increases in the U.S. The growing number of state and federal minimum wage events, advances in the availability of data and computing power, and improvements in causal econometric methods have each improved the quality of empirical research and allow a determination of which studies are most credible. At the same time, the growing recognition that low-wage employers possess wage-setting and price-setting power has led economists to understand that minimum wages need not have negative employment effects. As a result, the weight of the high-quality research evidence has visibly tilted the view of the economics profession. In a [2015 survey](#) of leading economists, only 26 percent were concerned that a federal minimum wage of \$15 would generate significant employment losses. The old consensus that all minimum wages

²³ <https://www.labormarketinfo.edd.ca.gov/file/lfmonth/employment-highlights.pdf>;
<https://www.labormarketinfo.edd.ca.gov/data/employment-projections.html>.

²⁴ Employment grew by 109,000 between December 2021 and January 2022 (seasonally adjusted).
<https://www.labormarketinfo.edd.ca.gov/>

must reduce employment has given way to a new conventional wisdom: modest minimum wage increases have minimal employment effects (Cengiz et al. 2019; Clemens 2019; Manning, 2021).²⁵

6.3 McPherson, Reich and Wiltshire (2022)

This study provides the most relevant findings for analyzing future California minimum wage increases. The authors use state-of-the-art statistical methods and multiple government datasets to examine the pay and employment effects of recent California and local minimum wage policies. The minimum wages they analyze include the long run-up from an \$8 California minimum wage in 2014 to the \$15 California minimum wage in 2022 and the run-ups to \$15 in San Jose in 2019, \$15.59 in San Francisco in 2019, and increases in other California cities. By comparison, the highest minimum wage level in prior studies reached only to \$13. The authors focus on pay and employment trends among the two groups that are most affected by minimum wage increases: teens and restaurant workers. McPherson et al. thus provide the best evidence on the likely effects of future minimum wage increases in California.

The authors use a “synthetic control” method that compares pay and employment trends in California with those in “synthetic California.” Synthetic California consists of a composite of the states that have remained at the federal \$7.25 minimum wage level; the synthetic control algorithm assigns weights to each of these states so that the composite best matches pay and employment trends in California between 20029 and 2014, when the state’s minimum wage remained at \$8. Pay and employment trends since 2014 in Synthetic California thus are likely to evolve as they would have in California, if the state’s minimum wage increases had not been implemented. McPherson, Reich and Wiltshire then compare pay and employment trends in California after the minimum wage increases to those in synthetic California.

McPherson et al. find that minimum wages as high as \$15 in the state increased pay and did not generate detectable employment losses. Relative to synthetic California, pay increases in California continued through the run-up through 2022. These results hold in both affluent counties of California, such as San Francisco, and in poorer ones, such as Fresno.

6.4 Other employment studies

The most influential study of minimum wage effects on jobs is Cengiz et al. (2019). These authors examined the effects of 138 state minimum wage changes in the U.S. between 1979 and 2016. Using

²⁵ Other relevant papers: Godoey and Reich 2021 show that minimum wages do not reduce employment, even in counties where the minimum wage is as much as 82 percent of the median wage. Wursten and Reich (2021, 2022) find that minimum wages reduce racial wage gaps and that they do not hurt small businesses. Recent papers also show that minimum wage increases expand the labor supply of young black workers (Wursten and Reich 2021), low-skilled single mothers of children five and under (Godoey et al. 2022) and workers at or near retirement age (Borgschulte and Cho 2019). Reich 2021 provides a recent review of minimum wage research.

a state-of-the-art stacked event study design, Cengiz et al. find that state minimum wage policies increased average wages by a statistically significant 6.8 percent among affected workers and *increased* employment among affected workers, but by a statistically insignificant 2.8 percent. Cengiz et al. do not detect significant employment effects when/where minimum wages in their sample are high relative to median wages. This study has been updated for higher minimum wages by Godoey and Reich (2021) and McPherson, Reich and Wiltshire (2022).

Clemens and Strain (2021) represents the most prominent recent study that finds negative minimum wage employment effects. The authors use the same stacked event study method as Cengiz et al. and the same CPS data, but for a more recent time period—2011 to 2019. They find disemployment effects of 2.5 percentage points, but only among workers 16 to 21, and only in a group of seven states, including California, in which multi-year minimum wage increases exceeded 38 percent.²⁶

The Clemens and Strain study holds very limited relevance for California. Most important, during Clemens and Strain’s study period, McPherson et al. (2022), do not detect statistically significant employment effects among California teens. They also do not find significant employment effects when they extend their sample period 2019-2022.²⁷ Second, wages for teens have increased substantially since the end of the Clemens and Strain sample period. As a result, minimum wage increases affect a smaller percentage of employed teens than was once the case.²⁸

6.5 Summary

The most pertinent research shows that an \$18 minimum wage by 2025 would most likely not have any discernable effect on California’s job numbers.

7. EFFECTS ON POVERTY AMONG WORKING HOUSEHOLDS

The federal poverty threshold in 2022 for an average-size family of three is \$23,030 per year; this threshold increases each year to adjust for inflation. Current inflation and forecasts of future inflation suggest the threshold is likely to increase to about \$25,800 by 2025.²⁹ I begin with a hypothetical

²⁶ Most of Clemens and Strain’s states with large minimum wage increases are quite small. Unfortunately, they do not provide separate results for each of these states. These detailed results would show whether their findings are caused by data outliers in the small states.

²⁷ Other studies find that employment declines among workers 16 to 24 are concentrated entirely on teens 16 to 19 (Manning 2021). Teens account for only two percent of all U.S. work hours.

²⁸ School enrollment in California is now compulsory until 18; as a result, almost all California teens ages 16 to 18 are enrolled in school and very few hold jobs (<https://www.bls.gov/web/empsit/cpseea16.htm>).

²⁹ The federal poverty threshold, first defined in 1964, is based primarily on the cost of a subsistence basket of food. It largely ignores the rising share of household spending on housing and childcare.

calculation of how a minimum wage increase to \$18 would affect poverty among households with at least one worker.³⁰

In restaurants and other low-wage industries, a full-time work week averages about 30 hours. Without the LWA, the 2025 California minimum wage would be \$16.50. At that rate, a full-time low-wage worker who is employed for 50 weeks per year would make \$24,750 a year, which would be less than the projected 2025 federal poverty threshold. In contrast, at \$18 per hour, the same worker would make \$27,000 a year, higher than the projected 2025 federal poverty threshold.³¹

While the above hypothetical calculation is suggestive, it cannot tell us whether other behavioral adjustments—such as greater labor supply among workers or reduced labor demand by employers—might offset or reinforce the mechanical effect of raising the wage standard. I therefore draw on studies of minimum wages that take into account all behavioral adjustments by workers and employers. In this section I first review the best study of these causal effects of minimum wages on poverty. I then use its results to estimate the effects of the state and local laws and the LWA on poverty among working families.

7.1 Research

The best study is Dube (2019); it has been confirmed by Rinz and Voorheis (2018) and Godoey and Reich (2021). According to Dube, 72 of 78 previous studies found that minimum wages substantially reduced poverty, although the size and the credibility of the estimates varied considerably. Using national CPS data and much improved statistical methods, Dube obtained the most credible estimates of the effect of minimum wages on poverty.³² As Dube (2019, Table 2) reports, a one percent increase in the minimum wage reduced by 0.45 percent the proportion of nonelderly individuals in families with incomes under the poverty line. Using confidential administrative data available only to Census Bureau researchers, Rinz and Voorheis (2018) replicated Dube’s results.

³⁰ I exclude poor households without any workers from this analysis because they would not be affected by a minimum wage increase.

³¹ The federal poverty threshold takes into account the number of people in a household and the number of earners. It does not account for California’s higher living cost, which is ten percent higher than the national level.

<https://www.bea.gov/data/prices-inflation/regional-price-parities-state-and-metro-area>

³² See also Godoey and Reich 2021. Rinz and Voorheis (2018) replicated Dube’s estimate with administrative earnings data from the Social Security Administration. Using the administrative data reduced CPS measurement error and improved the precision of the estimates. The authors also used the longitudinal nature of the SSA data to study longer-run effects on wages at the bottom of the wage distribution. The effects on deep poverty (at the 5th percentile of the wage distribution) were considerably larger than Dube’s CPS-based estimates. Godoey et al. (forthcoming) found that minimum wage increases allowed single mothers of young children to remain in the labor force, which would also reduce poverty.

As Dube (2019) reports, during the period 1984 to 2013 an average of 13.2 percent of all non-elderly individuals lived in families with incomes under the federal poverty line.³³ Dube's national poverty elasticity estimates therefore are pertinent for our calculations here. We use Dube's results to estimate the effects of the California minimum wage increases on the number of the working poor.

7.2 Method

Dube's poverty elasticity of 0.45 includes non-elderly households with at least one working adult as well as households who do not have a working adult. Yet minimum wage increases affect only the employed. To calculate minimum wage effects on poverty in working families, we apply estimates from the U.S. Census Bureau's American Community Survey (ACS): In 2019 about 80 percent of poor non-elderly California families contained at least one working adult.³⁴ To calculate poverty reduction among the share of poor non-elderly *working* families, I therefore divide Dube's -0.45 poverty elasticity by 0.8, for an adjusted working poverty elasticity of -0.56.

The next steps consist of a) calculating the effective minimum wage increase that would obtain in 2025, b) multiplying that number by Dube's adjusted elasticity, and c) comparing those results with the number and percent of Californians who live in households with at least one wage earner and with household income under the federal poverty level.

- a) Effects of existing state minimum wage laws on poverty Existing state laws will increase the minimum wage by 10 percent (from \$15 to \$16.50) in the two-thirds of the state without local laws.
- b) Effects of local minimum wage laws on poverty. In these areas, without the LWA, the minimum wage will increase from its current average level of about \$15.50 to an average of about \$18, or a 14 percent increase.
- c) Taking a weighted average of the 10 percent state increase and the 14 percent local increases, the effective statewide increase without the LWA would be 11.3 percent
- d) Effects of the LWA. As I estimated above the LWA would further increase the minimum wage by 6.1 percent

³³ According to a different poverty standard,, after taking into account the state's high cost of living and the effects of federal and state safety net programs, non-elderly poverty rates in California are about 16.5 percent.

<https://calbudgetcenter.org/resources/new-census-figures-show-many-californians-struggle-to-afford-basic-needs/>

³⁴[https://data.census.gov/cedsci/table?q=non-elderly%20poor%20individuals%20in%20California&tid=ACST1Y2019.S1702 \(Poverty Status of Families\) and S1709 \(Poverty Status by Work Experience of Unrelated Individuals\), selecting on California.](https://data.census.gov/cedsci/table?q=non-elderly%20poor%20individuals%20in%20California&tid=ACST1Y2019.S1702%20(Poverty%20Status%20of%20Families)&cid=ACST1Y2019.S1709%20(Poverty%20Status%20by%20Work%20Experience%20of%20Unrelated%20Individuals)&all_geo_types=N)

- e) Adding 11.3 and 6.1 together yields a weighted average minimum wage increase of 17.4 percent.
- f) Multiplying 17.4 percent by 0.56 implies that the poverty rate would fall by 9.7 percentage points.
- g) Estimates from the ACS indicate that 3.53 million Californians in 2019 had at least one wage earner and that their household’s income fell under the federal poverty threshold. This finding translates into a poverty rate of 9.1 percent among California’s working households.

7.3 Impact on poverty

I have estimated that minimum wage increases over the period 2022 to 2025 would reduce poverty by 9.7 percentage points. I have also estimated that the California poverty rate in 2019 was 9.1 percent. In other words, minimum wage increases between 2022 and 2025, including the LWA, would more than eliminate poverty among 3.53 million Californians.

This reduction in poverty from a modest minimum wage increase seems dramatic, but it is not as large as it appears. To some extent, it is an artifact of applying a single poverty threshold—and a low one at that. Many of the workers receiving pay increases were already close to the poverty threshold; the minimum wage increases would bring them only a bit above. Still, it is better to be above the threshold than to be below it.³⁵

To summarize, the minimum wage increases discussed here would lift 3.53 million Californians above the poverty threshold and eliminate poverty among Californians in households that have at least one worker.

8. WHY MINIMUM WAGES NEED NOT REDUCE EMPLOYMENT

In this section I contrast a common, but outmoded, perspective on the economics of minimum wages to the approach taken by modern labor economics.

8.1 The Myth of Competitive Labor Markets

A common view of minimum wages states that: “[they] would make workers more expensive, so businesses likely would hire fewer of them.” (January 2022 report of the California Legislative Analyst’s Office on LWA). This reasoning applies only under the unrealistic assumption that labor markets are perfectly competitive. In such imaginary markets, employers have no wage-setting

³⁵ And recall that the federal poverty threshold does not account for California’s higher living costs.

power. They can attract as many workers as they want without having to raise their wage. Under such unrealistic conditions, any increase in the market wage will produce a decline in employment.

8.2 Employers Possess Wage-Setting and Price-Setting Power

As economists have come to recognize, labor markets rarely fit the description of a competitive market. Drawing upon considerable economic research, modern labor economists recognize that most employers possess substantial power to set wages (Card 2022), just as many businesses possess the power to set prices.

This wage-setting power applies especially in low-wage labor markets. In this environment, the price of labor and the employment of labor are not tied tightly together. Indeed, employers possess wage-setting power even when there are many employers in the same labor market. A recent government report (U.S. Treasury 2022) summarizes the state of knowledge on the extent of labor market competition. It suggests that wages are 20 percent lower than they would be if labor markets were fully competitive.

The Nobel Prize Committee recognized the importance of these labor market realities in a series of Economics Nobel Prizes, awarded in 2001, 2010, and 2021. In these circumstances, employers can hire workers more easily when minimum wages rise; a mandated wage increase therefore might not reduce the number of workers hired. Indeed, the above-mentioned Treasury report lists a minimum wage increase as among the tools that would make labor markets more competitive.

Employers of low-wage workers also possess price-setting power. A minimum wage increase affects all employers in low-wage industries. If all restaurants are facing a cost increase, it becomes easier for them to adapt through modest price increases.

What level of price increases will absorb the higher costs of labor? The effects of minimum wages on an employer's costs depend on the proportion of its workforce that is low-wage and on the proportion of its operating costs that are labor costs. In restaurants—which employ about a fifth of all low-wage workers, labor costs are about one-third of operating costs and wages vary from the minimum wage to well above it. A ten percent increase in the minimum wage on average would entail an average labor cost increase of about two percent, which in turn implies that overall costs increase by one-third of two percent, or less than one percent. Price increases in other industries would be even smaller. In retail, which employs about 13 percent of all low-wage workers, low-wage labor costs are less than 10 percent of operating costs; in health care, which also employs about 13 percent of all low-wage workers, low-wage labor constitutes an even smaller share of operating costs. The price effects in other industries would also be very small.³⁶

³⁶ Nonprofits, such as those in childcare and care for the developmentally disabled, constitute an important exception. In-home support workers' pay and job numbers are determined through government budgets.

9. CONCLUSION

After I take into account inflation adjustments in existing state and local minimum wage laws, I find that increasing the state minimum wage to \$18 by 2025 would effectively increase minimum wages by another 6.1 percent, or 2 percent per year over three years. The LWA would increase pay for 4.8 million working Californians and lift 3.53 million Californians in non-elderly working families out of poverty. The LWA would also restore the loss in purchasing power caused by high inflation in 2022. The higher labor costs would be paid mostly by slightly higher restaurant prices for consumers. The effect on the overall price level would be about 0.014 percent per year over three years.

The effect of the LWA on job numbers is likely to be minimal. At some point, a much higher minimum wage could reduce job numbers. However, as the best evidence indicates, that point lies somewhere above a minimum wage of \$18 by 2025. Minimum wages improve the lives of low-income workers and their households. Public discussions of the LWA should focus on its potential benefits.

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