Raise Chicago

SPRING 2014

How a higher minimum wage would increase the wellbeing of workers, their neighborhoods, and Chicago's economy

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A Report by the Center for Popular Democracy

Spring 2014

Introduction

Overview

The recession appears to be safely in the rearview mirror for corporations, whose profits and stock prices have rebounded. However, the so-called recovery has been fueled by the proliferation of jobs paying low wages. An earlier study by Action Now and Stand Up! Chicago found that low-wage jobs made up 21% of all jobs lost during the Great Recession, while constituting 58% of jobs created during the recovery.[1]

This trend has exacerbated already increasing wealth and income inequalities in the US[2] and Chicago. In 2012, Chicago had the 8th highest level of inequality by some measures.[3] Economists suggest that too much inequality may threaten not only economic growth but economic stability as well, in part because inequality slows consumption for most people.[4]

In a March 18, 2014 advisory referendum, 86% of Chicago voters decided to support a proposal to raise the minimum wage to $15 for Chicago workers at firms with $50 million or more in annual receipts (and at their subsidiaries and franchisees). This initiative allows Chicago to enable workers to get a toehold on the rockface to the middle class, rather than wait on state and federal government action. It offers the opportunity for the city to stimulate and strengthen its economy in the near term. It promises to enable individuals to invest more deeply in themselves, their families, and their communities.

In this paper, we find that the targeted $15 minimum wage will:

- Increase wages: **$1.47 billion in new gross wages**
- Stimulate Chicago's economy: $616 million in new economic activity and **5,350 new jobs**
- Increase city revenues: Almost **$45 million in new sales tax revenues**
- Decrease labor turnover: as much as **80% less annual turnover**
- Slightly increase some consumer prices: **2% price hikes** at covered firms and franchises

In accordance with the principles of a well-tuned, consumer-driven local economy, this proposed measure would enable Chicago's economy to perform better while increasing opportunity and wellbeing for more of the city's low-wage residents.

Chicago's Labor Market

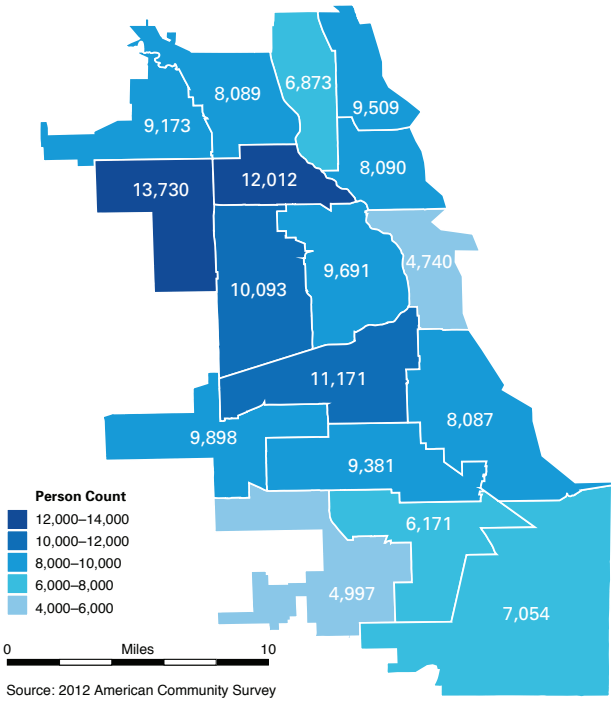
Approximately 2.7 million people live in Chicago, of whom 670,000 also work in the city. Another 362,000 people commute into Chicago—mostly from other parts of Cook County—to work. Thirty-two percent of all Chicago workers—329,000—earn less than $15 per hour. Latinos and Blacks are over-represented among workers earning low wages. The citywide average hourly wage for workers earning less than $15 an hour is $11.46, which means a full-time, full-year worker is paid $22,920 before taxes and other deductions.

Overrepresentation of Black and Latinos among Workers Earning Low Wages

	All Chicago Workers	Low-Wage Chicago Workers
Total	900,000	329,000
Latinos	26.8%	42.4%
Blacks	23.6%	28.0%
Whites	57%	46.4%

These racial disparities result in geographic disparities. Chicago residents who earn wages of less than $15 per hour are concentrated in the Austin, Belmont, Cragin, Montclare, Logan Square, Avondale, Hermosa, Brighton Park, New City, Bridgeport, and McKinley Park neighborhoods. We estimate that 35% of people who work in Chicago for low wages reside outside of Chicago, primarily in other parts of Cook County.

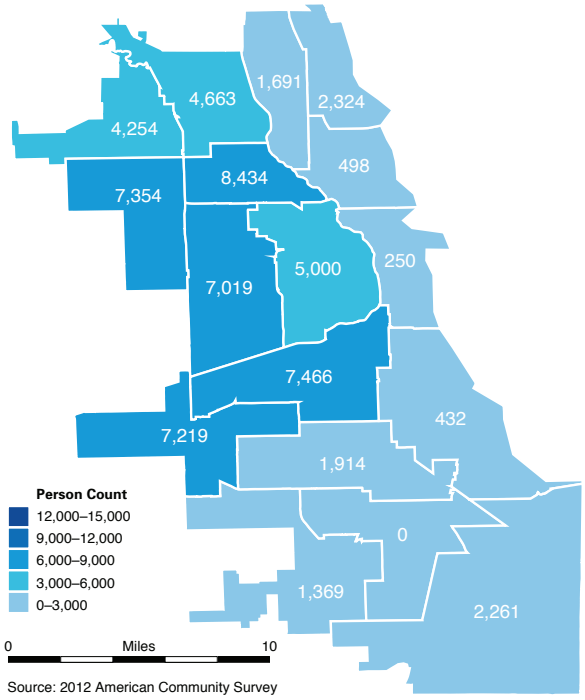
Estimated Impact, All Workers
Who live and work in Chicago



Source: 2012 American Community Survey

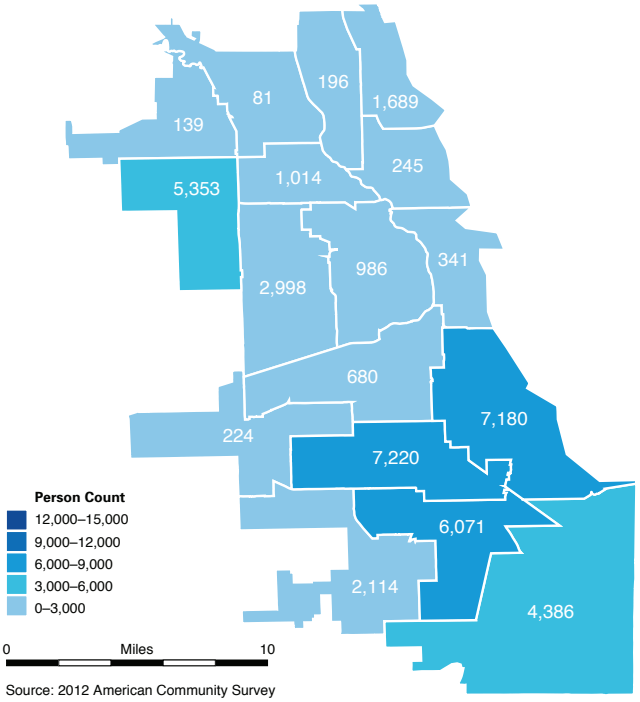
This geographic concentration of residents earning low wages means that an increase in the minimum wage will offer larger benefits to certain neighborhoods, while also stimulating the citywide economy. Latino workers earning low wages are concentrated in Logan Square, Avondale, Hermosa, Brighton Park, New City, Bridgeport, McKinley Park, Auston, Belmont, Cragin, and Montclare. African American workers earning low wages are concentrated in Chicago Lawn, Englewood, West Englewood, Greater Grand Crossing, South Shore, Hyde Park, Woodlawn, Grand Boulevard, Douglas, Auburn Gresham, Roseland, Chatham, Avalon Park, and Burnside.

Estimated Impact, Latino Workers
Who live and work in Chicago



Source: 2012 American Community Survey

Estimated Impact, Black Workers
Who live and work in Chicago



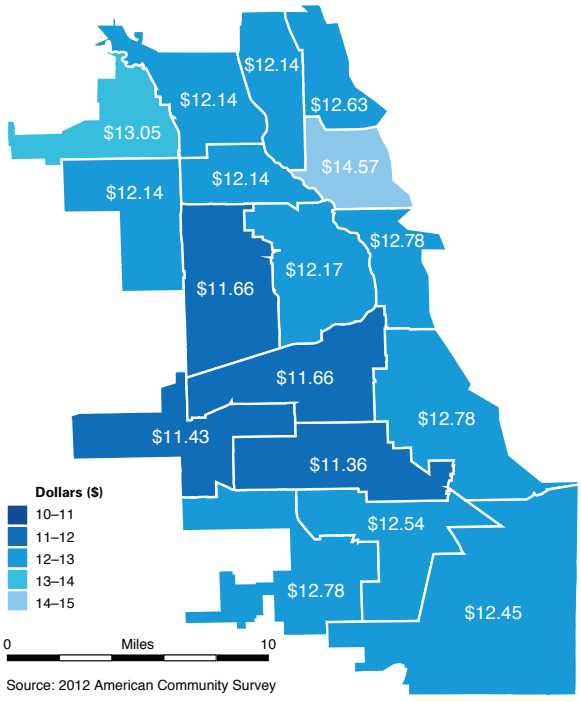
Source: 2012 American Community Survey

These neighborhoods are challenged not only by the concentration of a greater density of low-wage workers, but also by the pattern of earners' wages being lower in these neighborhoods than low-wage workers in other geographies.

The Proposal

The Raise Chicago coalition proposes to establish a minimum wage of $15 per hour for all employees working in Chicago for a firm with annual gross revenues of $50 million or greater. For the purposes of this rule, firms include corporations and their subsidiaries and franchisees.

Median Hourly Wage, Impacted Workers
Who live and work in Chicago



Source: 2012 American Community Survey

Effects on Workers and Neighborhoods

Direct Effects on Employees Covered by the Raise

The national data shows that 0.7% of companies have annual receipts greater than $50 million. These firms employ 51.5% of employees and accrue 73.2% of all receipts in the US.[5] Based on US Census data about franchises, roughly 56.2% of Chicago's workforce is employed by firms (including franchises and subsidiaries) covered by the proposal.[6] Given our calculations, this proposed measure would increase wages for 22.2% of all Chicago workers: 229,000 total workers, including 149,000 Chicago residents, would see a raise under this proposal.

We have assumed no workforce shrinkage because the most recent evidence from studies and metastudies suggests "little or no discernible effect on the employment prospects of low-wage employees" following an increase in the wage floor as employers reduce labor turnover, improve organizational efficiency, compress wages, and modestly increase prices.[7]

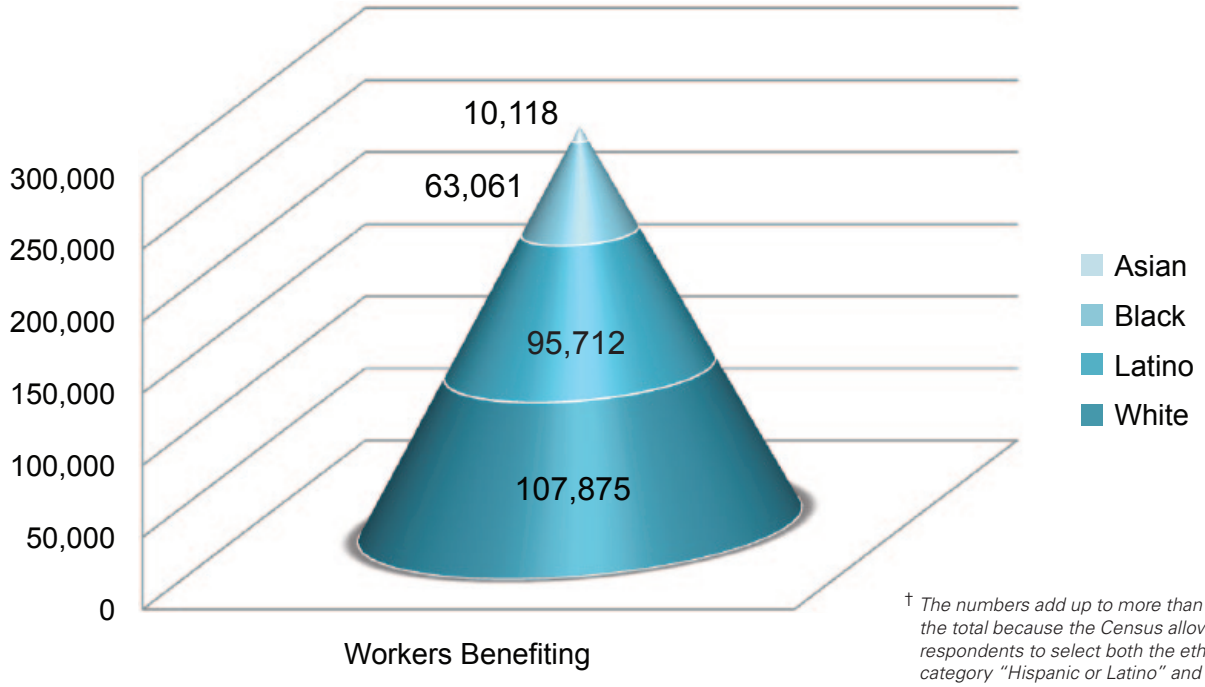
The mandate will raise the wage floor; so, we have estimated ripple effects that preserve a compressed wage ladder for employees earning up to $17.30 per hour in covered firms.

- The mean wage for affected employees* would rise 25% from $12.50 to $15.62 per hour.
- Gross wages for those who would be affected would increase by $1.26 billion per year.
- Affected workers would take home $942 million in raises per year, after all payroll and income taxes and would see greater Social Security benefits upon eligibility.

** Affected employees includes those employees with wages up to $17.30 per hour. Employees with wages currently under $15 would see an average wage increase of 30.3%*

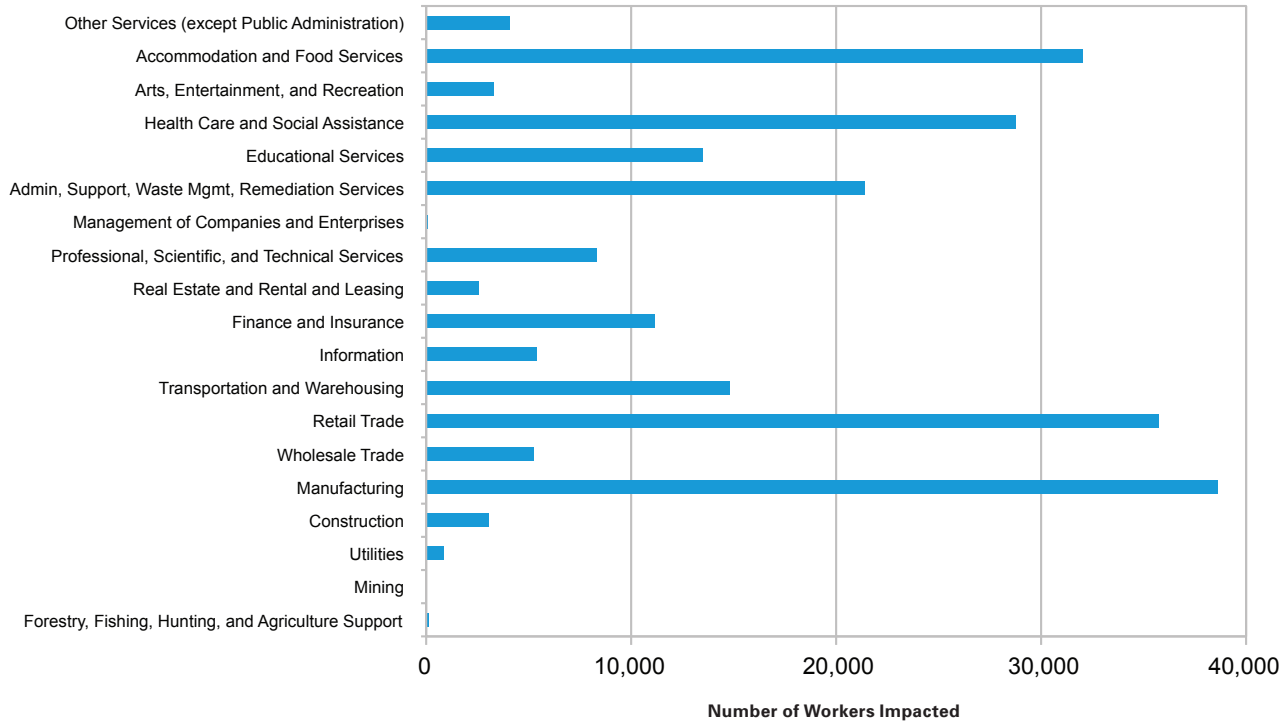
Workers in manufacturing; retail trade; accommodation and food service; health care and social assistance; and administrative, support, waste management, and remediation services will see the most raises. These five industries would account for 76% of all affected employees.

Employers Can Afford to Pay Family-Sustaining Wages†



† *The numbers add up to more than the total because the Census allows respondents to select both the ethnic category "Hispanic or Latino" and racial categories (e.g., White, Black).*

Estimated Impact, by Industry



Employers Can Afford to Pay Family-Sustaining Wages

Food Service

McDonald's, the quintessential fast food chain, is also among the world's most profitable. McDonald's restaurants typically have annual revenues of about $2.5 million to $2.8 million. McDonald's has more than 120 locations in Chicago. At the end of 2013, the corporation had $2.8 billion on hand.[8] Combining the total compensation for the fiscal year of the former CEO (who stepped down midyear) and the current CEO, CEO compensation in 2012 totaled $41,493,327.[9] One news report stated, "McDonald's, for example, spent $6 billion on share repurchases and dividends last year, the equivalent of $14,286 per restaurant worker employed by the company."[10] The $6.75 it would take to get many employees up to $15 per hour is 0.05%‡ of the per-worker figure.

Healthcare

Presence Health, which provides a full range of health services, made $2.45 billion in operating revenues in 2013,[11] with roughly 65%—or $1.35 billion—of that coming from public sources.[12] In Chicago, Presence Health hospital housekeepers make $12.37 per hour and cafeteria workers make $14.47, and many service workers in their long-term care operations make much less.[13] Raising their wages to $15 would put between $100 and $1400 into the pockets of each of these workers and back into their communities.

Retail

Macy's, Inc., one of the largest retail chains in the country, has two of its highest grossing locations in Chicago.[14] We estimate the Chicago locations to employ around 2000 employees.[15] The sales staff seems to average about $9.00 per hour.[16] At the close of fiscal year 2012, the corporation had $1.9 billion on hand and the CEO's total compensation package was $13,840,531.[17]

Walmart, the largest store on earth, has 3 locations in Chicago. The Walmart Corporation had $7.8 billion on hand at the end of the 2013 fiscal year.[18] The President and CEO of Walmart, Michael T. Duke, had a total compensation package of $20.6 million in 2013.[19] Chicagoans have relieved Walmart of $24 million in tax obligations through tax-increment financing (TIF) to attract Walmart to the city.[20] The proposed ordinance will help make livable the jobs the taxpayers have subsidized so handsomely. Currently, hourly pay averages $8.90.[21] Walmart could bring almost 2000 full-time equivalents to $15 before they counterbalanced their tax benefit.

‡ *This figure is a correction of an earlier version.*

Indirect effects on employees at businesses not covered by proposal

As wages at the covered businesses rise, the city's labor market will shift. Other firms will raise their wages to compete for the most talented workers. The effect will be similar to what happens in a labor market where unionized workers have won higher standards (e.g., pensions, health benefits, higher wages, paid sick time). One study found that in a geography where 20% of an industry was unionized, if union wages rose by 25% then non-union wages for comparable positions rose by 5%.[22]

We expect that raising the wage floor and the accompanying raises for others on the wage ladders in covered employers will lead to a 5% wage hike in competing firms that are not covered by the proposal.

- As much as 18.5% of Chicago's workforce—or 191,000 workers earning low wages—would see their wages rise.
- The mean hourly wage for these workers would rise from $12.50 to $13.13.
- Aggregated gross wages for those indirectly affected would rise $211 million annually.
- After taxes and other deductions, those indirectly affected by the proposal would take home $157 million and would see greater Social Security benefits upon eligibility.

Cumulative wage effects in Chicago

The proposed measure will effectively raise the wages for all Chicago workers making less than $17.30.

- The wage increase would yield an annual wage increase of $1.5 billion total gross, or $1.1 billion after deductions. Each worker directly or indirectly affected by the proposal would see an average increase of $2620 in annual income.
- 171,000 Latino workers would see an annual take-home pay increase of $508 million, or $2970 per worker per year.
- 116,000 Black workers would see an annual take-home pay increase of $ 279 million, or $2405 per worker per year.

The additional income will yield **$74 million in personal income taxes** to the state.

Job Creation

Without a cushion and often saddled with debt, workers who make low wages usually spend any additional money they get. This spending multiplier drives and stimulates the economy much more than additional money that higher income people might get.[23] The increase of $1.1 billion in take-home pay yields **$616 million in new economic activity** throughout the region – in downtown and neighborhood stores alike – which will **generate 5,350 new jobs** and enable residents to invest in their communities, their families, and themselves.

The additional spending will yield roughly **$44.8 million in new sales tax revenues** to the city, county, state, and regional transportation authority.

Effects on Businesses

Reduction in costs associated with turnover

Paying higher wages tends to reduce the costs of recruitment, turnover, absenteeism, and higher-wage supervision.[24] One case study found that when airport security screeners saw a substantial wage increase, annual turnover decreased from 95% to 19%, which had positive effects on employer savings, customer services, and security standards.[25]

Increased labor costs and prices

Based on the size of the increase in the minimum wage, businesses covered by this proposed measure may see costs rise as much as 4%.[26] When employers' costs rise, they may raise prices. Based on recent research, we expect the pass-through rate – the rate at which they pass on costs – of 50% pass-through rate.[27] So, consumers may see prices rise by about 2% higher among some affected firms. For a $4.00 burger, this pass-through would result in an increase of $0.08.

Conclusion

In a March 18, 2014 advisory referendum, 86% of Chicago voters decided to support a proposal to raise the minimum wage to $15 for Chicago workers at firms with $50 million or more in annual receipts (and at their subsidiaries and franchisees). This vote for the $15 minimum wage is a vote for:

- A 25% pay increase for 22% of Chicago workers.
- A 5% pay increase for up to an additional 20.5% of Chicago workers.
- An increase of $616 million in local household spending.
- The creation of 5,350 new jobs, fueled by the increase in household spending.
- A $45 million increase in sales tax revenues to invest in the safety and welfare needs of the city.
- An 8-cent increase in the cost of a $4 burger.

For relatively little, Chicago stands to gain quite a lot.

Methodology

Residence and Place of Work

Unfortunately, the geographic "Place of Work PUMAs" are not detailed enough to allow us to examine workers by where they work rather than by where they reside. We know only that 87% of earners in Cook County have the same "Place of Work PUMA" (Cook County). This is important as this proposed measure would only cover employees who work within the City of Chicago, not employees whose residence is in the City of Chicago.

Population

The Census Bureau published important data on the Commuter Adjusted Daytime Population from its 2006-2010 5-year American Community Survey (ACS) dataset. Table 1 shows that there were 2,377,334 workers who resided in Cook County but 2,581,745 persons who worked in Cook County. Table 3 shows that there were 1,219,311 workers who resided in the City of Chicago but 1,396,768 persons who worked in the City of Chicago and 906,564 who lived and worked in Chicago.[a] Table 3 thus shows us that 74.4% (906,564 / 1,219,311) of workers who resided in Chicago also worked in Chicago. We use this to assume a homogeneous distribution of 74.4% of workers who resided in Chicago by sex, race, ethnicity, wage, etc., also worked in Chicago. Thus, our neighborhood maps use numbers that are in all cases 74.4% of the ACS estimates of resident earners of Chicago. Second, for every worker who lives in Chicago, there are 0.146 (1,396,768 / 1,219,311 - 1) others who work in Chicago but reside elsewhere. We use this second fact to assume a homogeneous distribution by all categories of a further 14.6% of workers who would be affected by this proposed measure. Thus, calculations based on the number of persons who work in Chicago are in all cases 114.6% of the ACS estimates of resident earners of Chicago.

Firms and Establishments

The proposed legislation would impact workers only if they work for a firm or franchise whose parent company has greater than $50 million in receipts per year. After speaking with numerous managers of statistical and administrative data, as well as experts on minimum wage labor markets, we came to the conclusion that we would not be able to find data samples that pertained to our exact population. Thus, we used 2007 Economic Census data on the percent of firms by industry with greater than $50 million in receipts per year as a proxy for the firms that would be affected.

For franchises, we used 2007 Economic Census data on Summary Statistics by Franchise Status[b] for the United States to estimate the percent of employees that our firm-level analysis had not captured because the employee worked for a franchisee-owned franchise where the franchisee's revenues were under $50 million per year. For U.S. employment as a whole we estimated that these employees would boost employees covered from 51.5% to 56.2%. In the brief, we actually use franchise employment data by industry so that, e.g., Accommodation and Food Services with approximately 30% of employees working for franchisee-owned franchises sees a greater impact than Finance and Insurance where approximately 0.05% of employees work for franchisee-owned franchises. We also made an assumption that our figure would double count 10% of employees in franchisee-owned franchises whose franchisees already had revenues greater than $50 million per year. Given Chicago's industry composition, we estimated that 54.5% of employees would be covered by the proposed measure, slightly less than the national measure of 56.2%.

As 54.1% (1,396,768 / 2,581,745) of all workers in Cook County worked in the City of Chicago, we assume that 54.1% of all business establishments in Cook County are also situated in the City of Chicago in order to calculate administrative and advertising costs. In 2011, this amounted to 69,165 (54.1% * 127,846) business establishments.

Imputed Wages

This briefing paper relies primarily upon the 1-year 2012 American Community Survey (ACS) Publicly Available Microdata Sample files.[c] This offered us the necessary geographic detail required to discuss as nearly as possible the City of Chicago, the municipal jurisdiction in which this proposed measure would have effect. The Current Population Survey's Outgoing Rotation Groups, while known for their excellent wage data, did not provide the requisite geographic detail as the smallest geographic area available in the microdata is the Metropolitan Statistical Area, which for Chicago represents multiple counties in multiple states and a population of over 9.5 million, far larger than Chicago's 2.7 million.

Within this sample, we imputed hourly wages by the following formula:

$$ImputedHourlyWage = \frac{[wagp/wkhp]}{ImputedWeeksperYear}$$

The ACS weeks per year variable, wkw, is composed of intervals. Therefore, to arrive at Imputed Weeks per Year, we used a merged dataset of 2010, 2011, and 2012 public data from the Current Population Survey (CPS) in order to find low-wage workers' average weeks worked per year per interval found in the ACS: 1-13 weeks, 14-26 weeks, 27-39 weeks, 40-47 weeks, 48-49 weeks, and 50-52 weeks per year. Once we had this conversion table for CPS earners with annual taxable income under $35,000, each ACS interval was assigned a mean weeks per year by interval and this was used as the denominator for each observation. E.g., an observation with wagp = $25,000 and wkhp = 35 hours per week that fell in the interval 48-49 weeks per year (mean 48.2) was given an imputed wage of $14.82 per hour.

We then eliminated any observation whose imputed hourly wage fell below $8.25. This may bias the estimated affected persons downwards as some persons earning just below the minimum wage may also receive wage raises, but we have proceeded conservatively here. We also top-coded the data, or eliminated persons in the ACS file whose imputed hourly wage placed them among roughly the top 1% of earners (99th percentile = $156.58 per hour). These outliers, greater than or equal to $150 per hour (or $300,000 per year), had only small effects on our wage distribution and median.

It should be noted that the 2012 set of Merged Outgoing Rotation Groups from the CPS for the central city of Chicago's Metropolitan Statistical Area returned a median wage of $18.14 per hour in 2012 dollars with 34.6% of the population below $15.00 per hour and 44.7% below $17.30 per hour. This data is top-coded at $100 per hour. With the caveat that this merged dataset is not meant to be used to generate estimates at this small a geographical level, the median wage is 6.6% less than that of our ACS data and the percent of population below $17.30 is 9.8% greater than that of our ACS data. This suggests that using the ACS has biased in a downward manner both the estimated number of affected persons as well as their wage increases, but one of our chief interests lay in the geographic details within Chicago and any harmonization of the wage distribution awaits future policy briefs.

Modeling Wage Compression and Ripple Effects

The first model we used as a landmark. A simple model of the direct effects would multiply the difference between the new minimum wage and their current mean wage times the number of workers who would receive a mandated raise times the mean number of hours they work per year. Although 79% of low-wage workers in Chicago work 50-52 weeks per year, this did not give us a mean as our data on hours worked per year was divided by intervals rather than scalar.

Using the mean weeks per year per ACS interval from the CPS ORGs, we created a distribution of hours worked per week, weeks worked per year, and wages. Following our simple model of mandated raises to $15.00 per hour only, the proposed measure would raise the gross wages of affected workers from $3,709 million to $4,825 million per year. After paying income and payroll taxes, this model estimates that for workers in covered firms or franchises only, workers' new annual take-home wages for all employees who work in the City of Chicago would be $825 million.

This brief recognizes that the simple model of wage increases is unlikely to prevail. Therefore, we created two more complex models in order to better model the wage compression and ripple effects, or wage elasticity, likely to be seen based on empirical studies of minimum wage raises elsewhere around the country. Nonetheless, generating estimates of ripple effects and wage compression, especially with such a large percentage increase of the minimum wage, is of a more speculative nature than the econometrics of mandated raises.

Turning to our second model, Wicks-Lim published results in 2008 that showed smaller wage increases occurred as the employee's base wage increased such that a 10% increase in the minimum wage translated into a 4.4% wage increase for 5th percentile earners, a 2.4% wage increase for 10th percentile earners, a 1.5% wage increase for 15th percentile earners, and no increase for 20th percentile earners.[d] This data is consistent with the equation ($R^2 = 0.977$):

$$WageElasticity = -0.3009310299 * \ln(percentile_{wage}) + 0.9259235617$$

The current minimum wage increase at issue in Chicago is an 81.8% raise that surpasses our 5th, 10th, and 15th percentile earners (25p: $9.71 per hour) and thus makes Wicks-Lim's 2008 model hard to follow straightforwardly. Following 2013 research, however, we decomposed this 81.8% wage into a series of mathematically equivalent wage hikes in order to better model its effects.[e] Rather than one large increase of the minimum wage, we can view it like this:

$$1.818 = \frac{(\$15.00/hour)}{(\$8.25/hour)} = 1.127^5$$

In other words, as five sequential raises: $8.25 → 9.30 → 10.48 → 11.81 → 13.31 → 15.00.

In this model, we used the Wage Elasticity equation above in a series of five sequential raises on each earner in the 1-year 2012 ACS dataset to model the wage compression and ripple effects at the firms that would be covered by the ordinance. Each eligible earner was assigned a percentile with discriminations at 0.2 percentiles to plug into our Wage Elasticity equation for each of the five raises.

Surprisingly, even with 100 gradations between the lowest wage and the 20th percentile wage, this method shows sharp wage compression at the low end of the scale. Eventually, the relatively high-earners among those eligible for a wage increase are technically above the 20th percentile and ineligible for ripple effects. In sum, after a few sequential raises this very complex model becomes more similar to our simple model and estimates that for workers in covered firms or franchises only, workers' new annual take-home wages for all employees who work in the City of Chicago would be $877 million.

Turning to our third model, Wicks-Lim and Pollin published a study in 2013 that modeled a minimum wage increase of 44.5%, far surpassing the 20th percentile earner in their study.[f] Rather than attempt to model a series of successive raises, they decomposed the earners into a wage hierarchy that could then receive wage increases that maintained that wage hierarchy. Using further findings from Wicks-Lim's 2008 study, we break the minimum wage increase of 81.8% into five raises in order to establish a ceiling of workers who might receive ripple effects. According to the 2008 research, the ceiling for ripple effects is 25-30% greater than the penultimate base wage rate when looking at average minimum wage increases of 8% over the period 1983 – 2002. Using our previous series of five sequential raises of 12.7% (similar to Wicks-Lim and Pollin's three sequential raises of 13.1% that nearly match previous percentage raises in the federal minimum wage), the penultimate base rate before $15.00 per hour is $13.31 and 130% of $13.31 is $17.30. If we were to think of this 81.8% raise as a series of eight raises near the 8% mark found by Wicks-Lim, averaging 7.7%, the penultimate base wage before $15.00 per hour would be $13.92 and 130% of $13.92 is $18.10. Given the size of the raise considered in Chicago, we estimate that the ripple effects are likely to only reach as high as $17.30 more in accordance with the severe wage compression seen in our first complex model.

Once we established a ceiling of $17.30 per hour, we analyzed the wage distribution of workers below that ceiling. Finding four clear spikes in the wage distribution, we interpreted these as a demarcation of our wage hierarchy into four groups:

- $8.25 – $10.00 (25%)
- $10.00 – $12.25 (27%)
- $12.25 – $15.00 (27%)
- $15.00 – $17.30 (22%)

The first group was given a mean 63.8% raise to $15.00 per hour (almost exactly twice the size of the raise Wicks-Lim and Pollin's first group received). Keeping this doubling constant, the next group received a 34.2% raise to $15.10 per hour, the third received a 15.0% raise to $15.85 per hour, and the fourth received a 2.8% raise to $16.70 per hour.

Although it came to the highest estimate, we chose this model as the one that most realistically preserved some semblance of a wage hierarchy among the 40% of workers earning below $17.30 per hour. In sum, this model estimates that for workers in covered firms or franchises only, workers' new annual take-home wages for all employees who work in the City of Chicago would be $942 million.

No Layoffs

One study that looked at teens and restaurant workers found no change in employment nor any substitution of present workers with respect to age or sex.[g] Another study of the retail industry by the Wharton School of Business actually found that a $1 increase in associate payroll led to $4 to $28 in new sales each month due in part to well-paid employees with low turnover becoming better employees with greater attachment to the job and increased on-the-job experience.[h]

Looking to another city's minimum wage law, Santa Fe, NM instituted a $8.50 living wage ordinance in 2004 that applied to all private employers with more than 25 employees, increased this to $9.50 per hour in 2006, and extended coverage to all employers in 2007. From 2004 to 2007, Santa Fe's unemployment rate decreased in a manner consistent with that of other cities in the state and the state as a whole.[i] In addition, in 2004 the Temporary Assistance for Needy Families caseload in Santa Fe dropped by 4.9% while it increased in the rest of the state by 4.5%.[j]

Transfers of Consumption

The $1,100 million in net take-home pay from the wage increases to those inside and outside of covered firms and franchises represents a reallocation of money from firms to workers and thus a shift in consumption as firms and households spend differently. Although it is reasonable to assume that consumers would exhibit more local spending than firms, and possibly a lower savings rate (or more spending than firms), this brief does not estimate the changes in local sales tax revenues due to this shift in spending and focusing solely on sales tax revenues from the new economic activity generated by the spending multiplier.

Sales and Income Taxes

Sales taxes as of March 2014 are paid to Illinois, Cook County Home Rule, and City of Chicago Home Rule, and Regional Transportation Authority (RTA) and their respective rates are 6.25%, 0.75%, 1.25%, and 1.00%, or 9.25% in total.[k] Qualifying food and drugs are taxed differently at 1.00% and 1.25% to Illinois and the RTA, respectively. In the U.S. as a whole, groceries account for 13% of personal expenses and health care accounted for 4%. We use this to estimate that 17% of new consumption would be taxed at qualifying sales tax rates for food and drugs.

Labor Turnover and Productivity

Total annual turnover in the U.S. in 2013 was around 42%, but may be much higher in some of the particular industries that would be affected by this measure. Retail Trade saw 48% turnover, Leisure and Hospitality saw 63% and Accommodations and Food Services saw 62%.[l] A recent review of the costs of labor turnover suggests that for employees earning less than $30,000 annually, the costs of labor turnover are 16% of their earnings.[m]

Another study that focused on the retail industry suggests that sales in fact rise when payroll increases. While not all industries are the same as Retail, productivity can increase in any industry which is the same as selling more widgets for the same cost. If we placed all Chicago employers at a mean low sales-lift, we might plausibly estimate that each $1 increase in payroll leads to $4 of new sales.[n] With total annual Chicago firm payroll increased by $1,471 million, we could estimate new annual Chicago sales of $5,884 million. Although not pursued in this brief, this is another potential source of revenues in both sales tax and corporate income tax.

Corporate Profits and Efficiency

For the U.S. as a whole, according to 2007 Economic Census data, payroll is 16.9% of receipts. This squares comfortably with the overall estimates of this model where a 25% raise in payroll is 4% of sales. If we look at our five core industries, payroll is 26.4% of sales. Even were we to assume that our entire payroll in these industries earns less than $17.30 per hour, small efficiencies generate parity. To maintain a 2% increase in consumer prices or less and anywhere from a 1% to 10% profit margin while assuming 38.3% labor turnover (JOLTS does not include Administrative and Support and Waste Management and Remediation Services, so this is the employment weighted average of the other four industries), both profit and profit margins could be maintained solely by an 80% decrease in turnover costs and a 3.4% increase in labor productivity.

Social Insurance Expenditures

Due to the complexities of health care coverage in the U.S., we do not make models to assess the adjustments to public health expenditures we would expect from this proposed measure. We do, however, wish to note that the mean annual income among the lowest of low-wage earners affected by the proposed measure would rise from $15,400 to $25,300 and the next step in the wage hierarchy would rise from $20,100 to $27,000. Although an analysis of the impact of the proposed measure on Chicago's impoverished households requires a detailed household analysis of Chicago's workers, rather than the person-level analysis shown in this brief, this raise should help attenuate poverty in Chicago to a small degree and thus reduce social insurance expenses accordingly, including public health expenditures.

Increase in Prices

Wicks-Lim and Pollin used five previous studies to estimate that business cost increases as a percentage of sales fits the following equation ($R^2 = 0.732$):

$$\frac{BusinessCostIncrease}{Sales} = 0.0454 * PercentMinimumWageIncrease^{0.6363}$$

As our percent minimum wage increase is 0.818, we estimated that the business-cost-to-sales ratio would be 4.00%.

If we were to eliminate the fifth study as an outlier, and decided for theoretical reasons upon a linear function, we could use the following equation instead ($R^2 = 0.993$):

$$\frac{BusinessCostIncrease}{Sales} = 0.0345853626 * PercentMinimumWageIncrease + 0.0071834279$$

Using this function, we would estimate that the business-cost-to-sales ratio would be 3.55%.

Finally, were we to use our own numbers from Chicago, what would we see? We would actually estimate a lower cost-to-sales ratio in covered firms and franchises as shown below

First, note that current payroll includes both wage and non-wage pay. Although the per hour wage and salary compensation from employers was equal to 71.9% of all compensation for all private industry employees in the U.S. in December 2013,[o] let us conservatively assume that Chicago's impacted employees would be more like part-time Leisure and Hospitality workers whose wage and salary compensation amounted to 84.5% of all compensation.

Using our 2012 ACS data to estimate actual wage and salaries, we estimate that Chicago's total wage and salary compensation would increase in covered firms and franchises by $1,261 million, or 2.8% of wages and salaries and, conservatively, 2.4% of total compensation (2.8% / 84.5%).

Next, in our five core industries, the weighted average of payroll-to-receipts for all size firms is 26.3%. Using this number we can see that our business-cost-to-sales ratio would be 0.6% (2.4% * 26.6%) for the entire Chicago economy. Note that this percentage would be even smaller if we used 71.9% rather than 84.5%. Keep in mind, however, that some firms would see no change from this proposed measure.

Now, let us further assume that the weighting of covered and uncovered firms and franchises is equal with respect to payroll for the 40.7% of employees earn less than $17.30 and we have assumed a homogeneous distribution of these 40.7% employees among all firms such that uncovered and covered firms and franchises both reported 40.7% of their employees in this group. As all employees in the Chicago economy exhibit a mean 48.1 weeks/year * $25.57/hour * 40.2 hours/week, then 1,031,940 employees have annual wages and salaries of $51,022 million of which employees earning less than $17.30 make 18.9%.

For uncovered firms and franchises, the estimated direct impacts are 0% greater annual wages and salaries for 18.9% of payroll or a 0.0% increase in payroll leading to no increase in prices. For covered firms and franchises, the estimated direct impacts are 24% greater annual wages and salaries for 18.9% of payroll or a 4.53% increase in firm wages and salaries. For every $100 of wages and salaries, this is an increase in costs of $4.53 per year. But for every $100 of wages and salaries, there is also $18.34 of non-wage compensation ($100 / 84.5%) - $100). So $4.53 / $118.34 is an increase of 3.83% of total employee compensation among covered firms and franchises.

Next, in our five core industries, every $118.34 of payroll leads to $448.26 of sales (26.3% weighted average of payroll-to-receipts for all size firms). Using this number we can see that our business-cost-to-sales ratio would be even lower among covered firms and franchises than previously expected, at 1.0% ($4.53 / $448.26). This number, however, would of course be higher or lower depending on whether covered firms and franchises had the same 26.3% weighted average as the U.S. and the same 18.9% of payroll paid to employees under $17.30 per hour as exhibited by all Chicago firms in aggregate.

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Methodology

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