

Testimony on

House Bill No. 5370: An Act Increasing the Minimum Fair Wage

by

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WHY FAST FOOD EMPLOYERS CAN ADJUST TO A \$15 MINIMUM WAGE WITHOUT SHEDDING JOBS

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Around the nation, labor unions, civic activists and many legislators have called for a \$15 minimum wage, especially for the fast-food industry employees who make up a large share of America's low-wage workers. In response to the "Fight for \$15" campaign, New York recently mandated a \$15 minimum for fast-food workers in New York City by 2018 and for the rest of the state by 2021. Similar actions are under consideration in other states.

For workers, families, and communities, the benefits of minimum-wage increases are clear, but are there also downsides – such as a loss of jobs in affected industries? Perhaps surprisingly, the answer is no, as long as the wage increases are implemented in reasonable increments, which enable businesses to adjust gradually.

How Businesses Can Adapt without Workforce Cutbacks

Do minimum-wage hikes lead to large-scale employment losses? In 1995, Harvard labor economist Richard Freeman reviewed available studies and concluded that there was no evidence that minimum wage increases led to large employment losses. "The debate," he wrote, "is over whether modest minimum-wage increases have 'no' employment effect, modest positive effects, or small negative effects. It is *not* about whether or not there are large negative effects." Since then, research has reinforced this conclusion. As this debate has raged on, less attention has been paid to the question of why minimum-wage increases might not lead to job cutbacks. The law of demand in economics posits that raising the price of any commodity – including labor – will lead to less demand for that commodity, all else equal. So if laws increasing minimum wages do not generate employment losses for low-wage workers, something in the real world must not be "equal."

Our investigations show that businesses affected by higher minimum-wage measures often absorb the increased labor costs by making adjustments other than workforce cuts. Why might that be? Obviously, cutting workforces reduce firms' ability to serve growing customer bases or sustain or expand their operations. Businesses that want to compete and expand are likely to look for other ways to absorb higher labor costs. And it is important to recognize that some fast-food employees already make more than \$15 an hour and wages are just one kind of cost for these businesses. Earlier this year, we posted a working paper online that examines how fast-food businesses could use a variety of other adjustments to absorb the cost increases imposed by a \$15 minimum. We take into account data on growth in the fast-food industry and the impact of fast-food price increases on customer demand; and we also examine the costs of employee turnover. Our research shows that the average U.S. fast-food restaurant is likely to see its overall costs increase by only about 3.4 percent per year during a four-year phase-in for a \$15 minimum wage.

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A \$15 U.S. Minimum Wage:
How the Fast-Food Industry
Could Adjust Without Shedding Jobs

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1. INTRODUCTION

Over the past few years, there has been a growing movement in the United States to substantially raise the federal minimum wage, which has been fixed at \$7.25 per hour since 2009. One widely embraced goal within this movement is to raise the federal minimum to \$15 an hour. This would constitute a 107 percent increase over the current \$7.25 minimum. The question we address in this paper is whether it is feasible to expect that the federal minimum wage could be raised to \$15 per hour without causing major negative unintended consequences, specifically as it would affect the U.S. fast-food industry. The fast-food industry is an appropriate industry on which to focus this discussion. This is because, along with other sectors within the restaurant and food preparation sector, it employs fully 47 percent of all workers who earn at or below the federal minimum.¹

The most straightforward possible negative consequence of a minimum wage increase to \$15 an hour would be that it would generate large-scale employment losses, within the fast-food industry and more broadly. Through such an outcome, the good intentions that motivate the demand for a \$15 federal minimum wage would result instead with low-wage workers and their families being made worse off through the contraction in job opportunities.

In addressing any such proposal along the lines of a \$15 federal minimum wage, it is therefore critical to assess the relative likelihood that such a measure would generate its intended consequence—i.e. raising incomes and living standards for low-wage workers and their families—as opposed to its unintended consequence—i.e. reducing job opportunities and thereby worsening the life circumstances for low-wage workers. To preview our findings, we show that the U.S. fast-food industry could absorb the rise in its overall costs generated by an increase in the federal minimum wage to \$15 an hour without causing employment losses. More specifically, we present a scenario through which the federal minimum wage rises in two steps over four years—to \$10.50 an hour within one year and to \$15 an hour three years later. We show that the cost increases resulting from these measures could be absorbed by the fast-food industry not only without causing employment losses, but, crucially, without business firms within the fast-food industry having to reduce their average rate of profitability. This is true, regardless of whether such a redistribution from business owners to low-wage employees is justified as one means of reducing inequality within the U.S.

¹This figure comes from the Labor Department's 2013 report on the "Characteristics of Minimum Wage Workers." See: <http://www.bls.gov/cps/minwage2013.pdf>, accessed December 2014.

lower turnover and training costs, and higher productivity more generally. Second, firms could possibly cover a share of their increased costs by raising prices. Third, firms could allocate a share of the revenues generated by economic growth to cover these increased costs. Finally, firms could redistribute overall revenues within the firm—from profits to the wages of their lowest-paid workers; from high-wage workers to low-wage workers; through investing in new equipment to reduce their employment requirements relative to their overall level of operation; or through cutting back on other business expenses to cover the increased wage bill.

It is critical to recognize here that, all else equal, for firms to be forced to cut their workforce due to a minimum wage increase could impair their capacity to sustain or improve their existing level of operations and retain or expand their customer base. As such, reducing the workforce is not likely to be their preferred adjustment option for most business firms that aspire to compete effectively and expand. We also assume that the least desirable option for firms is to reduce their profit rate. These are the reasons why firms are likely to be motivated to consider the prospects for reducing turnover, raising prices and drawing on a share of their increased revenues from growth to absorb their higher labor costs before they resort to cutting their workforce or reducing profitability.

The focus of this paper is to consider the extent to which U.S. fast-food businesses could adjust to a \$15 minimum wage through some combination of these alternative possibilities, as opposed to resorting to reducing their workforces. We consider this issue through a set of simple illustrative exercises, whereby the U.S. raises the federal minimum wage in two steps over four years, first to \$10.50 within one year, then to \$15 after three more years. In assessing the likely adjustments within the fast-food industry of these minimum wage increases, we conclude that the fast-food industry could indeed absorb the increase in its overall wage bill without resorting to cuts in their employment levels at any point over the four-year adjustment period. Rather, we find that the fast-food industry could fully absorb these wage bill increases through a combination of turnover reductions; trend increases in sales growth; and modest annual price increases over the four-year period. We also show that fast-food firms would not need to lower their average profit rate during this adjustment period. Nor would the fast-food firms need to reallocate funds generated by revenues away from any other area of their overall operations, such as marketing.

Precisely because the fast-food industry operates with such a high concentration of low-wage workers, these findings specifically focused on the fast-food industry also offer broader implications. Our findings show, more broadly, how business firms within

assume that the effect of a 107-percent minimum wage can be expected to extend up to workers earning about \$17.50 per hour, which would be 17 percent above the new mandated minimum wage of \$15 (see appendix for details).

In addition, some case studies have considered the ripple effects of *living wage* ordinances implemented at the municipal level. These municipal-level living wage mandates require much larger minimum wage increases than the federal or state-level increases that were the focus of the 2008 Wicks-Lim research. These studies provide evidence supporting the idea that ripple effects from more substantial minimum wage increases, such as those that have resulted through municipal living wage ordinances, are likely to be larger than those resulting from typical federal or state minimum wage increases.

One such case study examines the impact of the living wage increase that was implemented over 1998 – 2001 at the San Francisco Airport (Reich et al. 2005). As part of this study, the researchers surveyed covered businesses before and after the wage floor increased from \$5.75 to \$10.00 per hour. Based on the changes in wage rates reported by these employers, ripple effects from this San Francisco living wage measure appears to have extended to wages about 40 percent above the new \$10.00 floor, i.e., to workers earning up to \$14.00. If we applied this standard to a minimum wage increase from \$7.25 to \$15.00 minimum wage, it would suggest that ripple effect raises would extend to workers earning up to \$21.00, not \$17.50.

This more extensive ripple effect observed in the San Francisco study is consistent with observations from two other studies on living wage ordinances (Fairris et al. 2005, and Brenner and Luce 2008). At the same time, Reich et al.'s wage survey did not adjust for wage increases that would have occurred in the absence of the newly-adopted living wage mandate and therefore likely reflect, in part, wage increases not caused by the living wage measure. Additionally, many San Francisco Airport workers were unionized at the time that the living wage ordinance was enacted. The collective bargaining process over their working conditions likely enabled these workers to raise their wages in response to the living wage ordinance more than would be normally the case among non-union workers. In other words, the raises observed by Reich et al. likely reflect the influence of more than the adoption of the living wage ordinance alone.

As a result, we view our two sets of ripple effect estimates—from Wicks-Lim (2008) on federal and state-level minimum wage increases and Reich et al (2005) on the San Francisco airport living wage ordinance—as providing lower- and upper-bound cost estimates, respectively, of the raises we expect to occur due to a minimum wage increase from \$7.25 to \$15.00. For the purposes of our calculations, we assume that ripple-effect

Because workers at different points in the wage distribution work varying numbers of hours, for our summary figures in Table 2, we convert the overall employment and wage figures to reflect full-time equivalent (FTE) positions. As we can see in Table 1, workers at the lowest wage rates also tend to work the fewest number of hours. The impact of these workers on the fast-food industry's overall wage bill will therefore be smaller than what their headcount number would suggest.

In row 2 of Table 2, we show that 2.5 million FTE positions should expect to experience wage raises from a \$15.00 minimum. The average raise (row 6) across these FTE positions is 59 percent, which is roughly half the 107 percent increase in the wage floor due to the minimum wage increase from \$7.25 to \$15.00. This lower average percentage wage increase reflects the fact that workers earning above the current \$7.25 minimum will receive smaller mandated and ripple effect raises. As we show in row 7 of Table 2, total raises within the fast-food industry resulting from the increase to a \$15 minimum add up to \$30.7 billion.

We can, of course, utilize this same methodology to estimate the overall set of raises, and the overall wage bill increase, that would result through minimum wage increases to other levels. In Table 3, we show our results for the case of minimum wage increases from the current \$7.25 per hour standard to \$10.50 as the new mandate. As Table 3 shows, with the increase to an \$10.50 minimum wage, we estimate that 3.5 million fast-food workers, now earning between \$7.25 and \$14.50 would receive raises. These workers work an equivalent of 2.2 million FTE positions (row 2). Across these FTE positions, the increase to an \$10.50 minimum wage would raise the average hourly pay rate by 16.0 percent from \$9.42 to \$10.96. These raises add up to a total of a \$7.1 billion increase in the fast-food industry's wage bill.

TABLE 3 BELONGS HERE

In Table 4, we then scale the total fast-food industry wage bill increases relative to the industry's total sales in 2013 of \$232 billion.⁴ We show the ratios of these wage-bill increases relative to sales resulting through minimum wage increases from the current \$7.25 figure for both \$10.50 and \$15 respectively. As we see in the bottom row of Table 4, the wage-bill increases represent 3.3 percent of sales at an \$10.50 minimum wage and 14.2 percent of sales at a \$15 minimum wage. These ratios are critical in providing a scale for measuring the extent of the adjustments that fast-food firms would need to

⁴ The figures on fast-food industry sales come from the 2012 U.S. Economic Census. See the discussion in the appendix as to how we updated these figures for 2013.

inelastic have more flexibility to raise their prices since their customers are less likely to change how much they spend even as prices rise.

This point raises a question about firms' price-setting behavior that parallels the question about firms' wage-setting behavior above. That is, why wouldn't firms that operate in markets where demand is relatively inelastic raise prices regardless of whether there is a minimum wage increase? The answer in this case is that it can be difficult for a single firm to pursue this strategy alone. If one firm among several within a competitive market environment raises its prices, it risks losing customers to its competitors which have not raised prices. Therefore even if a firm would want to raise its prices to take advantage of a relatively inelastic market demand, it will be reluctant to do so unless other firms also raise their prices concurrently. However, in the case of a regional or federal minimum wage increase, the likelihood is that all affected firms within a given area will raise their prices at about the same time. In this case, no one firm is placed at a disadvantage relative to its competitors, and all firms are able to enjoy the benefits of charging a higher price. In the absence of an area-wide policy change like a minimum wage hike, firms will face difficulties in coordinating with their competitors any such price increase. Among other factors, explicit efforts for competitive businesses to coordinate their pricing policies constitute collusion.

Increased revenues through economic growth. The overall growth trajectory of any specific sector, and of the economy overall, provides additional flexibility for firms facing cost increases resulting from higher minimum wages or any other factor. That is, on average, firms' revenues will increase as a result of overall economic growth. When faced with higher labor costs, firms could therefore allocate a share of their expanding revenues to cover their higher labor costs.

Redistribution of revenue within firm. Businesses can channel a higher proportion of any given level of revenue to cover the increased labor costs resulting from a higher minimum wage. For example, firms could lower their profit margins to cover their higher labor costs. They could also reduce the rate of wage increases for their higher-paid workers. Finally, they could reduce spending or at least slow the growth in spending in other areas, such as marketing.

4. ALTERNATIVE ADJUSTMENT OPTIONS IN PRACTICE

Taken together, the adjustment channels we have described above—raising productivity; raising prices; drawing on a share of the revenue gains generated by economic growth; or redistributing a given level of revenue—provide firms with alternative ways to absorb the cost increases generated by a minimum wage hike rather

savings that fast food firms are capable of achieving through any given minimum wage increase.

According to the U.S. Labor Department, the accommodations and food service industry had an annual turnover rate of 62.6 percent in 2013.⁶ However, Hinkin and Tracey (2010) report that among limited service restaurants specifically, turnover is substantially higher, at 120 percent. Hinkin and Tracey also estimate the costs associated with this high turnover rate within the hospitality sector (in their 2000, 2006 and 2010 studies). Their findings indicate that, on average, fast-food businesses experience a cost of roughly \$4,700 each time fast-food workers separate from their jobs (see appendix for details on these turnover cost estimates). Their estimates of employer separation costs include five major cost categories, which they term "pre-departure, selection, orientation and training, and lost productivity," (Tracey and Hinkin, 2010, p. 3).

A 2013 study by Dube, Lester, and Reich generates estimates of separation elasticities associated specifically with minimum wage increases between 2000 and 2011—that is, how much the separations rates fall as a result of these minimum wage increases. They estimate an elasticity of -0.225. This means that, for each 10 percent increase in minimum wage, the decline in the turnover rate for fast-food workers would be -2.2 percent.

We can then combine the respective findings of Hinkin/Tracey and Dube et al. to estimate the amount of cost savings that are likely to be generated through a rise in the minimum wage to \$10.50 and \$15 per hour respectively. Thus, a minimum wage increase to \$10.50 per hour is an increase of 45 percent relative to the current \$7.25 minimum. Following from the Dube et al. separation elasticity figure, a 45 percent minimum wage increase should then reduce turnover by 10.0 percent (45 percent x -0.225). This represents roughly a 12 percentage-point decline in what we have seen above from the Hinkin/Tracey research as an average turnover rate of 120 percent in the fast-food industry (i.e. 120 percent x .12). Given current employment levels within fast food, this level of decline in turnover rates translates to 456,000 fewer worker separations. The cost savings associated with this decline amounts to \$2.1 billion or roughly 28 percent of the total wage bill increase for the fast food industry that we reported in Table 4.

Following the same set of steps and calculations for a minimum wage increase to \$15, we calculate that this minimum wage increase would generate a 24 percent reduction in the turnover rate. This in turn would mean a 29 percentage-point reduction relative to what had been a 120 percent turnover rate within the fast-food industry. This would then

⁶ The turnover rate is defined as the total number of separations as a percent of total employment. See: http://data.bls.gov/cgi-bin/print.pl/news.release/archives/jolts_03112014.htm, Table 16.

would be much closer to the -0.13 figure from the Okrent/Alstrom 2012 study than the -0.90 estimate from the Okrent/Kumcu study, which does attempt to separate out pure price effects from the effects of household time constraints and advertising expenditures.

We also note that assuming a price elasticity in the much higher range of -0.90 is inconsistent with the body of evidence which finds that minimum wage increases do typically generate price increases. This result emerges strongly, for example, from the research by Aaronson and his co-authors over several studies (e.g. Aaronson 2001, McDonald and Aaronson 2006, and Aaronson et al. 2008). For example, in considering evidence from the 1995-1997 period covering a two-step federal minimum wage hike, Aaronson et al. (2008) report that fast-food prices rise by about 1.4 percent in response to a 10 percent minimum wage increase. If it were the case that a rise in fast-food prices generated an equivalent or near-equivalent decline in consumer demand—as is suggested by a -0.9 elasticity—then there would be no purpose for fast-food firms to raise prices to help offset the increased wage bill resulting from a rise in the minimum wage.

Nevertheless, in order that we not underestimate the potential fall in demand from a rise in fast-food prices resulting from a minimum wage increase, we will assume a rough midpoint figure between the two estimates, at -0.50, as our price elasticity in considering both the \$10.50 and \$15 minimum wage increase scenarios.

Increased revenue from economic growth. Figures from the U.S. Economic Census indicate that from 1997 to 2012, sales in limited service eating places, adjusted for overall inflation, grew at a 2.5 percent average annual rate. This compares with the economy's overall real GDP growth rate over this period of 2.3 percent per year. In other words, sales in the fast food industry have grown slightly faster than the U.S. economy as a whole. This occurred even while the Census Bureau's price index for the industry indicates that prices have risen marginally faster than the overall consumer price index since 1998 (the first year for which the BLS provides this data). The fast food price index rose at a pace of 2.9 percent annually compared to the overall CPI, which rose by 2.4 percent annually.

These observations suggest that overall sales in the U.S. fast-food industry tends to grow at approximately the same rate as overall U.S. GDP, even after allowing that fast-food prices are increasing at a slightly faster rate than the overall CPI. For the purposes of our two scenarios—the minimum wage increase to \$10.50 in one year and to \$15 over a four-year period—we assume that sales growth in the fast-food industry will proceed at an average rate of 2.5 percent per year. We also assume that this overall 2.5 percent

At the same time, we do need to account for the fact that some components of fast food firms' spending will rise as their sales volume rises. These include spending on inputs such as wholesale food products, utilities, and, franchise royalties paid by the franchisees. Based on IBIS's 2014 report, these types of industry costs currently make up approximately 60 percent of sales revenue.⁹

There are three further key assumptions, as derived from our literature review above:

- 1) ***Cost savings from turnover reductions.*** Turnover reductions will generate cost savings for the fast-food firms that will amount to 20 percent of their wage bill increases.
- 2) ***Industry sales growth trend tied to overall economic growth.*** The fast-food industry's underlying growth trend will continue to roughly match that of the overall economy, at around 2.5 percent per year. The actual rate of sales growth will be reduced modestly due to industry-wide price increases, but will still otherwise correlate closely with overall GDP growth.
- 3) ***Demand elasticity and price increases.*** We assume that the price elasticity of demand within the fast-food industry is -0.5. We also allow that overall prices within the fast-food industry will rise by 3 percent per year over Years 2 – 5. Given our -0.5 price elasticity assumption, the 3 percent annual price increase will break down into: 1) a 1.5 percent decline in sales revenue relative to what sales would be otherwise along a 2.5 percent annual sales growth trend; and 2) a 1.5 percent increase in revenues relative to what revenues would be otherwise for a given volume of sales.

In Tables 5 and 6, we now show how the fast-food industry could realistically adjust to a \$15 minimum wage without resorting to either employment losses, reductions in their profit rate, or other forms of revenue redistribution within the industry. Specifically, Tables 5 and 6 show the effects of the full set of adjustments that the fast-food industry could make in response to the higher minimum wage levels, working from our assumptions with respect to turnover; the growth trend in industry sales; and the -0.5 price elasticity of demand combined with a 3 percent annual increase in prices.¹⁰

⁹ Specifically, on p. 21, IBIS reports industry costs, as a percent of sales, to be composed of: profit (5%), wages (25.4%), purchases (35.5%), depreciation (3%), marketing (3%), rent and utilities (14%) and "other" (14.1%). IBIS describes this "other" category to include such items as administrative costs, professional fees, and franchise royalties. The 60 percent figure we use to describe spending on industry costs that will rise with increases in sales volume includes: purchases, depreciation, and utilities (half of 14%, or 7%), and "other" costs. How much of the "other" category would actually increase with sales is unclear. Therefore, we simply assume that all of the "other" category would increase.

¹⁰ Of course, the results of our exercises depend on the assumptions we have made. As an additional set of explorations, it would be useful to examine the extent to which the overall results might change through

adjustment to a \$15 minimum wage could be accomplished without fast-food business firms having to face a decline in profitability. The set of assumptions underlying this scenario are all realistic and derived from the existing relevant literature.

These results can help provide clarity on two sets of questions regarding the impact of minimum wage laws in the United States, one a purely analytic question and the other more geared to ongoing policy debates. From an analytic perspective, our illustrative exercises help to explain how it is the case that minimum wage increases can be implemented repeatedly without generating large-scale employment losses among low-wage workers. The key point that our scenario emphasizes—following from the literature we have discussed here—is that business firms do have other options available to them besides cutting their workforce. These other options, moreover, are likely to be more desirable under most circumstances, especially for firms that aspire to compete successfully and grow.

In terms of policy implications, our results offer a straightforward conclusion. Achieving a \$15 federal minimum wage within the U.S., phased in over four years, should be seen as a realistic prospect. This specifically means that *the intended consequence* of the \$15 minimum wage—to improve the living standards of low-wage workers in the U.S. and their families—can certainly prevail over the *unintended consequence* that low-wage workers and their families would suffer from widespread employment losses.

To take these errors into account, we adjust downward the weeks worked for the lowest wage workers (\$7.25 - \$8.50) by the following factor: the ratio of hours worked as reported in the CPS ORG file between the lowest two wage intervals (0.87), and apply it to average weeks reported in the CPS ASEC file for the second to lowest wage interval (\$8.50 to \$9.50). In other words, we multiply our estimate of average weeks worked for the \$8.50 to \$9.50 wage interval (45 weeks) and multiply this by 0.87 to get an average of 39 weeks worked. This adjustment creates the familiar pattern of the lowest paid workers working the least and the highest paid workers working the most.

2. Updating the 2012 Economic Census measure of overall sales in the limited service eating places industry to 2013

The 2012 Economic Census reports the overall sales for the limited services eating places to be \$223 billion in 2012. To estimate the figure for 2013, we simply take the average annual nominal growth rate between 2007 and 2012 (4.0 percent), and apply it to 2012. Therefore our estimate for 2013 sales equals \$232 billion.

3. Estimating ripple effects raises from a large minimum wage hike

As stated in the main text, we use two sets of past research to estimate ripple effect raises in our study.

First, we use the estimates from chapter 11 of Pollin et al. 2008. For these estimates we take the following steps:

- 1) We modeled each minimum wage hike to take place over multiple steps if the minimum wage increase in total, is larger than 15 percent. E.g. we modeled a minimum wage increase from \$7.25 to \$10.50 to occur in three steps.
- 2) We then assume raises in each step will conform to the same size and distribution as those reported in Table 11.1 Panel B from Pollin et al. 2008 (p. 204). These raises are largest for those who are at the current \$7.25 rate and smallest for those around \$10.50.
- 3) Because these wages lead to a compression of the wage rates at the bottom of the distribution, we require that the raises for workers at any particular point in the "old" distribution (i.e., the wage distribution prior to a minimum wage increase) are at least sufficient enough to place them at or above the wages of workers who sit below them in the "old" distribution. In other words, we assume ripple effect raises will be large enough to, at minimum, preserve the wage hierarchy.

Second, as we explained in the main text, we use the wage rate observations of Reich et al. (2005) before and after the San Francisco's \$10.00 living wage mandate for covered workers at the San Francisco airport to model a second set of ripple-effect raises. To do this, we take the following steps.

- 1) We assume that the extent of raises will be 40 percent past the new minimum wage level. This is based on the observed impact of past living wage ordinances on wages, as for example, in the Reich et al. 2005 study. See Table A.2.
- 2) Because only the Reich et al. 2005 provides any details about how much different wage rates increased before and after a new living wage, we use their observations to determine how large raises should be at different points in the wage distribution.

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Table 1. Estimated Wage Increases from a \$15.00 Minimum Wage for U.S Fast-Food Restaurants
(figures are for 2013)

Wage Group	\$7.25-\$8.50	\$8.50-\$9.50	\$9.50-\$10.50	\$10.50-\$11.50	\$11.50-\$12.50	\$12.50-\$13.50
1. Number of Workers (% of workforce)	1,143,000 (30%)	1,258,000 (33%)	534,000 (14%)	191,000 (5%)	191,000 (5%)	114,000 (3%)
2. Average wage	\$7.74	\$8.87	\$9.92	\$10.91	\$11.92	\$12.87
3. Average annual hours	1,026	1,355	1,476	1,580	1,727	1,715
4. Annual wage bill before \$15 minimum	(26 hrs/wk x 39 wks/year)	(30 hrs/wk x 45 wks/year)	(34 hrs/wk x 44 wks/year)	(36 hrs/wk x 45 wks/year)	(37 hrs/wk x 46 wks/year)	(40 hrs/wk x 43 wks/year)
5. Average wage after \$15 minimum	\$9.1 billion	\$15.1 billion	\$7.8 billion	\$3.3 billion	\$3.9 billion	\$2.5 billion
6. Average raise	\$15.00	\$15.60	\$16.35	\$16.60	\$16.90	\$17.05
7. Annual cost of raises	93.8%	75.9%	64.8%	52.2%	41.8%	32.5%
8. Annual wage bill after \$15	\$8.5 billion	\$11.5 billion	\$5.1 billion	\$1.7 billion	\$1.6 billion	\$0.8 billion
	\$17.6 billion	\$26.6 billion	\$12.9 billion	\$5.0 billion	\$5.6 billion	\$3.3 billion

Wage Group	\$13.50-\$14.50	\$14.50-\$15.50	\$15.50-\$16.50	\$16.50-\$17.50	\$17.50-\$18.50
1. Number of Workers (% of workforce)	76,000 (2%)	76,000 (2%)	76,000 (2%)	76,000 (2%)	76,000 (2%)
2. Average wage	\$13.95	\$14.98	\$15.98	\$16.99	\$17.96
3. Average annual hours	1,629	1,782	1,779	1,706	1,788
4. Annual wage bill before \$15 minimum	(39 hrs/wk x 42 wks/year)	(37 hrs/wk x 48 wks/year)	(40 hrs/wk x 44 wks/year)	(41 hrs/wk x 41 wks/year)	(41 hrs/wk x 44 wks/year)
5. Average wage after \$15 minimum	\$1.7 billion	\$2.0 billion	\$2.2 billion	\$2.2 billion	\$2.4 billion
6. Average raise	\$17.35	\$17.65	\$18.1	\$18.7	\$19.15
7. Annual cost of raises	24.4%	17.8%	13.3%	10.1%	6.6%
8. Annual wage bill after \$15	\$422 million	\$362 million	\$287 million	\$222 million	\$162 million
	\$2.1 billion	\$2.4 billion	\$2.5 billion	\$2.4 billion	\$2.6 billion

Source: See appendix.

Table 3. Overall Wage Increases in U.S. Fast Food Industry Due to Minimum Wage Rise to \$10.50

Affected Workers Only	\$7.25-\$14.50
1. # of Workers	3.5 million
2. # of FTE positions	2.2 million
3. Avg. Wage per FTE position	\$9.42
4. Annual Wage Bill Before New Minimum	\$43.5 billion
6. Avg. Wage per FTE After New Min.	\$10.96
5. Avg. Raise per FTE position	16.0%
7. Annual Cost of Raises	\$7.1 billion
8. Annual Wage Bill After New Minimum	\$50.6 billion

Source: See appendix.

Table 5.
Fast-Food Industry Adjustment from \$7.25 to \$10.50 Minimum Wage
between Years 1 and 2

Fast-food revenues in Year 1 = \$232 billion

Profit margin in Year 1 = \$11.6 billion (5% of revenue)

Assumptions:

- *Fast-Food Employment Growth at 1 percent*
- *Price elasticity of demand = -0.5%*

1. Year 2 wage bill increase relative to \$7.25 minimum wage	\$8.2 billion (= \$7.6 billion from Table 4 + \$0.6 billion due to 1% employment growth*)
2. Cost savings from reduced turnover	\$1.5 billion (= 20% of wage bill increase)
3. Remaining wage bill increase to be covered from revenue sources	\$6.7 billion (= rows 1- 2)
4. Revenue increase from 3% price increases (with -0.5 price elasticity)	\$3.5 billion (= \$232 billion x 0.015)
5. Revenue increase from underlying 2.5% sales growth	\$6 billion (= \$232 billion x 0.025)
6. Revenue remaining after covering \$6.7 billion in labor cost increase	\$2.8 billion
7. Revenue increase necessary to retain 5% profit margin	\$0.5 billion (= \$12.1 - 11.6 billion)
8. Revenue increase necessary to cover other costs due to 1% increase in sales volume	\$1.4 billion**
9. Revenue increase available for other uses	\$0.9 billion (= rows 6-7-8)

Notes: *1 percent employment growth increases overall wage bill by 1 percent. The wage bill includes total wages (after \$11 minimum wage) of \$59.4 billion (see Tables 1 and 3) plus a 7.65 percent payroll tax, for a total of \$64.0 billion. Thus, the overall wage bill increases by \$0.6 billion due to 1 percent employment growth. **This figure equals 60 percent of \$2.3 billion, the increase in revenue due to 1 percent growth in sales volume, assuming current prices (i.e., 1 percent x \$232 billion).

Table A.1: 2013 Wage Distribution For Limited Service Restaurant Workers (2013\$)

10 th percentile	\$7.90
25 th percentile	\$8.36
50 th percentile	\$9.03
75 th percentile	\$9.92
90 th percentile	\$13.07
Mean	\$9.86

Source: May 2011 OES, adjusted to 2013 using average annual wage growth among average fast food cooks between 2011 and 2013, or 0.5 percent annually.

Table A.3. Cost savings due to lower turnover rate at \$10.50 and \$15 minimum wages

1. Minimum Wage:	\$10.50	\$15.00
2. % Minimum Wage Increase	45%	107%
3. % Change in Turnover Rate (Row 2 x -0.225)	-10%	-24%
4. Percentage point change in industry turnover rate (Row 3 x 120%)	-12%	-29%
5. Number of fewer worker separations based on 3.8 million workers	456,000	1.1 million
6. Cost savings (Row 5 x \$4,700)	\$2.1 billion	\$5.2 billion
As % of wage bill increase due to higher minimum wage	28% (=\$2.1 b./ \$7.6 b.)	16% (=\$5.2 b./ \$33.0 b.)