# A DIME A DAY:

## THE IMPACT OF THE MILLER/HARKIN MINIMUM WAGE PROPOSAL ON THE PRICE OF FOOD

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**THE FOOD CHAIN WORKERS ALLIANCE** is a national coalition of worker-based organizations whose members plant, harvest, process, pack, transport, prepare, serve, and sell food, organizing to improve wages and working conditions for all workers along the food chain and for a more sustainable food system.

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**THE RESTAURANT OPPORTUNITIES CENTERS (ROC) UNITED** is a national restaurant workers' organization with over 10,000 members in 19 cities nationwide. Founded initially after September 11th, 2001, by workers displaced from the World Trade Center, ROC conducts organizing, employer engagement, cooperative restaurant development, workforce development, and research and policy work.

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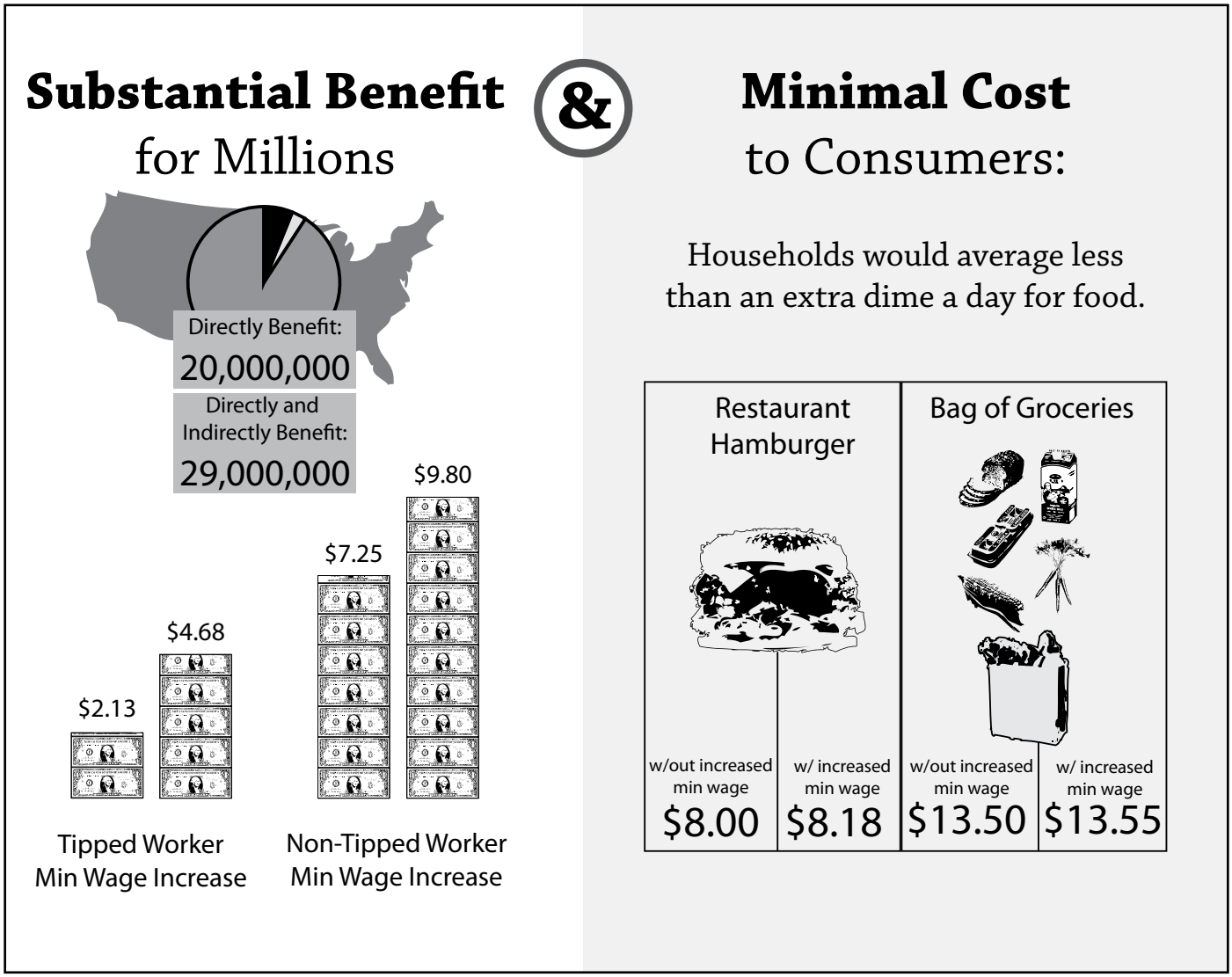
# EXECUTIVE SUMMARY

Opponents of raising the federal minimum wage often argue that, while the increase in wages may benefit low-wage workers, it will also increase the cost of food and other basic goods, thus hurting the very people the minimum wage increase is intended to help. In this report, we examine this argument by providing a detailed analysis of the potential increase in food prices of new legislation proposed by Congressmember George Miller (D-CA) in the House of Representatives and Senator Tom Harkin (D-IA) in the Senate that would increase the minimum wage to $9.80 over a three-year period in $0.85 increments, as well as increase the tipped minimum wage, which currently stands at $2.13, in similar increments until it reaches 70% of the full federal minimum.

In our analysis, we take a conservative approach, making a number of assumptions that likely overstate the ultimate impact on consumer prices. Nonetheless, we find that while the Miller/Harkin bill would provide a 33% wage increase for regular minimum wage workers and would more than double the wages of tipped workers over the same period, retail grocery store food prices would only increase by an average of less than half a percent over the three-year phase-in of the new minimum wage, and restaurant food prices would increase by less than one percent per year. This increased cost of food, both away and at home, would amount to about 10 cents more per day on average for American households over the three-year period.



# I. INTRODUCTION

The federal minimum wage currently stands at $7.25 an hour, where it has been since July of 2009, down from a peak of almost $10.60 (in 2012 dollars) in 1968. For tipped employees, including many workers in the nation's fastest-growing service industries, the minimum wage is $2.13 an hour—just $4,430 per year for a full-time worker—where it has been frozen for more than 20 years. Despite the clear evidence of this erosion in the minimum wage, some commentators argue against increasing the minimum wage. One of their central arguments is that a minimum wage increase would result in increased prices for basic goods—most especially for food—and thus would end up hurting the very low-wage workers whom a minimum wage increase is designed to help.

In this report, we provide a detailed examination of the potential price increases of an increase in the federal minimum wage. As the basis for our calculations, we use the provisions contained in legislation originally introduced in July 2012 by Congressmember George Miller (D-CA). The Fair Minimum Wage Act, H.R. 6211, proposes to increase the minimum wage by $.85 each year for the three years following the bill's enactment - up to $9.80 from its current level of $7.25—after which it would rise with inflation. The bill also proposes the same increase of $.85 each year in the minimum wage for tipped employees—in large majority waitstaff and other service workers[1]—which would continue to rise until it reaches 70% of the full federal minimum wage. This portion of the bill is a historic shift from minimum wage increase legislation of the last two decades, since the federal minimum wage for tipped workers has been frozen at $2.13 for more than 20 years. Senator Harkin (D-IA) introduced a companion bill to Miller's in the Senate, with 16 Senate co-sponsors (Senate Bill 3453), which reflected the core wage provisions of a more comprehensive Rebuild America Act bill he had introduced in March of 2012.[2]

The fact that this proposed legislation would also cover tipped restaurant workers, who have not been included in recent minimum wage increases, has reinforced the opponents who argue that this proposed legislation will increase the cost of food for American consumers, both in the grocery store and on the menu at a restaurant. Especially during an economic crisis in which millions of Americans are struggling to make ends meet, this argument raises very real concerns about working Americans struggling to be able to afford to eat out and at home.

In this report, we calculate the largest possible increase in the cost of food in restaurants and in retail outlets due to the Miller/Harkin minimum wage proposal over the three years following the bill's enactment. We assume that all employers would pass the increased labor costs due to a minimum wage increase entirely on to the consumer, and we provide an analysis

Photo: ROC United

that also includes likely 'ripple' effects that would increase wages of workers earning slightly above the new minimum wage thresholds as well. Thus, our estimates must be considered an outside maximum increase in prices possible from a minimum wage increase.

Understanding the possible increase in food costs due to a minimum wage increase is important not only because consumers worry about the price of their meal, but also because the food system represents the largest employer of minimum wage workers, and thus the workers who touch our food are the greatest beneficiaries of a minimum wage increase. Of course, this increase would be critical to all of the nearly 20 million workers who would be directly impacted, and the additional nine million who would be indirectly impacted.[3] It is estimated that all workers affected by the increase would earn an additional $40 billion in additional wages over the first several years of the bill's enactment.[4] According to the Economic Policy Institute, during this same period, "GDP would increase by roughly $25 billion, resulting in the creation of approximately 100,000 net new jobs over that period."[5]

However, for workers along the food chain, the minimum wage is of particular importance. Nearly a third of all the low-wage workers who would be affected by this bill work in the food system, or almost 8 million of the 20 million workers in the food system (see Table 1).[6] Not surprisingly, food workers face high rates of poverty; more than half (10 million workers) earn less than the poverty line for a family of three.[7] This also results, ironically, in increased food insecurity, or the inability to afford to eat. Food workers use food stamps at 1.5 times the rate of the rest of the U.S. workforce and face food insecurity, as defined by the USDA, at 1.2 times the rate of all other workers.[8] For those workers earning the minimum wage, the

**Table 1: Workers Affected by Proposed Minimum Wage Increase, by Industry, 2011**

| | Directly | | Directly & Indirectly | |
|---|---|---|---|---|
| Industry | Number | % of Total | Number | % of Total |
| Crop Production | 255,522 | 1.3% | 326,460 | 1.1% |
| Animal Production | 125,777 | 0.6% | 182,094 | 0.6% |
| Fishing, hunting, and trapping | 5,178 | 0.0% | 5,363 | 0.0% |
| Support activities for agriculture and forestry | 48,155 | 0.2% | 66,441 | 0.2% |
| Animal food processing | 8,397 | 0.0% | 20,455 | 0.1% |
| Sugar processing | 11,705 | 0.1% | 17,044 | 0.1% |
| Fruit & Vegetable Canning/Preserving | 22,959 | 0.1% | 36,186 | 0.1% |
| Dairy Product Manufacturing | 17,449 | 0.1% | 24,668 | 0.1% |
| Animal Slaughtering and processing | 74,828 | 0.4% | 153,953 | 0.5% |
| Bakery Products | 26,105 | 0.1% | 37,288 | 0.1% |
| Seafood products | 29,618 | 0.1% | 41,824 | 0.1% |
| Unspecified food industries | 8,721 | 0.0% | 11,372 | 0.0% |
| Beverage Manufacturing | 20,456 | 0.1% | 30,987 | 0.1% |
| Tobacco Manufacturing | 1,484 | 0.0% | 1,484 | 0.0% |
| Agricultural chemical manufacturing | 453 | 0.0% | 3,407 | 0.0% |
| Agricultural implement manufacturing | 11,636 | 0.1% | 14,688 | 0.0% |
| Groceries and related products, merchant wholesalers | 113,962 | 0.6% | 175,704 | 0.6% |
| Farm product raw materials, merchant wholesalers | 5,758 | 0.0% | 11,354 | 0.0% |
| Alcoholic beverages, merchant wholesalers | 13,378 | 0.1% | 24,604 | 0.1% |
| Farm supplies, merchant wholesalers | 6,285 | 0.0% | 11,245 | 0.0% |
| Grocery stores | 1,069,085 | 5.3% | 1,351,202 | 4.6% |
| Specialty food stores | 73,036 | 0.4% | 110,653 | 0.4% |
| Retail bakeries | 60,105 | 0.3% | 75,732 | 0.3% |
| Beer, wine, and liquor stores | 29,104 | 0.1% | 44,545 | 0.2% |
| Truck Transportation | 144,291 | 0.7% | 237,740 | 0.8% |
| Warehousing and storage | 62,750 | 0.3% | 99,377 | 0.3% |
| Restaurants and other food services | 3,731,814 | 18.5% | 4,668,347 | 15.9% |
| Drinking places, alcoholic beverages | 84,367 | 0.4% | 120,354 | 0.4% |
| | | | | |
| **Total Food Chain** | **6,062,376** | **30.1%** | **7,904,572** | **26.9%** |
| **Total Other Industries** | **14,064,995** | **69.9%** | **21,488,242** | **73.1%** |
| **Total All Industries** | **20,127,370** | **100.0%** | **29,392,814** | **100.0%** |

Source: Authors' analysis of CPS-ORG Files

bill's passage would result in a 33% wage increase over three years. For restaurant waitstaff, bussers, runners, and bartenders who earn the federal tipped minimum wage, it would result in more than a 100% wage increase over the same period. For these millions of working people who touch our food, the bill's passage could provide these workers the means to support themselves and their families.

Given the high percentage of food workers earning the minimum wage, one might expect that a minimum wage increase would substantially increase the cost of food. In addition to workers directly working with food, the increased minimum wage would also impact industries that supply to food chain segments, increasing the cost of supplies purchased by food chain subsectors. For example, a minimum wage increase might increase the payroll costs and thus the selling prices of firms that produce tractors, thus increasing supply costs for farm production in addition to the increased payroll costs for the workers on the farm. Thus, any calculation of an increased cost in food prices would have to consider the impact of increased supplier costs in addition to increased payroll costs for food workers. Our methodology does just that.

## Previous Studies

A few previous studies have examined the effect of a minimum wage increase on the price of food. None of these studies included an examination of a potential increase in the tipped minimum wage, since that has not been part of any legislative proposals in the last 15 years. However, all of these studies have pointed to a minimal increase in food prices as a result of minimum wage increases.

A study by Lemos, while noting that there is little empirical evidence on the price effects of minimum wage increases, provides the most detailed survey of related studies, summarizing and critically comparing almost 30 price effect studies in multiple countries of actual increases in prices associated with minimum wage increases. Most of the studies found either no or only minimal overall effect on consumer retail food prices (less than 0.4%), though a somewhat higher increase in restaurant food prices, which in no study was higher than 4%.[16]

Perhaps the most comprehensive study focused on food prices was published in 2000 by researchers at the U.S. Department

## THE MINIMUM WAGE FOR TIPPED WORKERS

The federal minimum wage for tipped workers has been frozen at $2.13 for the last 21 years, even as the general minimum wage continued to rise. This subminimum wage applies in large part to low-wage restaurant workers; 70% of those earning the tipped minimum wage are restaurant workers, and 66% are women.[10] Technically, employers are supposed to ensure that consumer tips bring every employee to the overall minimum wage every hour that they work, but data from the Restaurant Opportunities Centers United (ROC United) indicates that this rarely happens.[11]

The tipped wage has not always been so low relative to the general minimum wage. In 1991, the tipped minimum wage was still indexed to the normal minimum wage—that is, when the normal minimum wage increased in 1991, the wage increased for tipped workers as well, as it had since 1966. Throughout the 1980s, the tipped minimum wage stood at 60 percent of the normal minimum wage. In 1996, however, federal legislators amended the Fair Labor Standards Act to de-link the minimum wage for tipped workers from changes in the standard minimum wage.[12] Thus, the minimum wage has increased several times over the last 20 years, while the last time the tipped minimum wage changed was in 1991. In that time, the tipped minimum wage's value has fallen 40 percent in real terms, making it a wildly outdated pay rate for working families across the country.[13]

The exclusion of tipped workers in the final minimum wage bill of 1996 was the result of a successful lobbying effort by the National Restaurant Association (NRA), an industry lobbying group, to pay restaurant workers lower wages. According to the restaurant trade publication *Nation's Restaurant News*, in 1996, the NRA successfully lobbied to delink the tipped minimum wage from the normal minimum wage. The House Committee on Education and Workforce passed an amendment to deny a wage increase to tipped workers, "at the behest of the NRA.... [giving] industry trade groups much of what they wanted."[14] The NRA gave over $90,000 to committee members during the 1994 and 1996 election cycle.[15]

Undoing the damage that has been done to tipped workers and women would start by relinking the minimum wage for tipped workers to the normal minimum wage. Over 872,500 restaurant workers, 75 percent of them women, would receive a raise if the federal tipped minimum wage were indexed to 70 percent of the normal minimum wage of $7.25 (or roughly $5.08), as the Miller/Harkin bill proposes. Furthermore, increasing the wages for these workers would provide upward pressure on wages for the more than 10 million workers in the restaurant industry.

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of Agriculture.[17] They developed five different scenarios, with increasingly expansive estimates of additional costs, including higher total compensation costs and higher 'ripple' wage effects in slightly higher wage brackets. In their most 'expensive' scenario, they found that a 10 percent ($.50 at the time) minimum wage increase would produce an overall increase of 0.4% in food prices at retail outlets such as grocery stores and a 1.4% increase in menu prices at restaurants and bars.[18] We use a similar methodology here to examine the estimated increase in food prices due to the Miller/Harkin legislation.

Prior to the USDA study, the best-known study of increased consumer costs due to a higher minimum wage was done by Card and Krueger, who surveyed 410 fast food restaurants in New Jersey and eastern Pennsylvania before and after New Jersey's 80-cent minimum wage increase in April 1992. Card and Krueger found no statistical difference in price increases in restaurants paying the new minimum wage and at restaurants that already were paying as much as or more than the new minimum wage, and overall that fast food prices rose somewhere between 3.2 and 4 percent faster in New Jersey than in Pennsylvania following the minimum wage implementation.[19]

Finally, Aaronson also studied the effect on prices of food eaten away from home as a result of a minimum wage increase, in both Canada and the United States. His report found that, for every 10-percent increase in the minimum wage, hamburger and chicken prices rose by 1.2- to 1.6-percent.[20]

# II. HOW WE CALCULATED THE PRICE INCREASE

There are essentially four steps in our calculation of increased consumer food prices associated with the proposed increase in the minimum wage:

1. Identify jobs in the food chain;
2. Identify who would be affected by the proposed minimum wage increase, both in the food chain and elsewhere in the economy;
3. Calculate the increased wage costs;
4. Calculate the increased prices.

In the first step, we looked at the total number of workers in each of the subsectors of the food system. Table 2 indicates the total number of workers in each of the production, processing, distribution, and retail segments of the food chain that we identified in Bureau of Labor Statistics Current Population Survey (CPS) 2011 data. So, for example, there are more than two million (2,122,616) people working in some aspect of food production, and more than three million (3,453,680) workers in grocery stores and other retail food outlets such as retail bakeries and specialty food stores. In total, there are more than 19 million workers in the food system, which constitutes more than 13% of the entire U.S. workforce.

Second, we looked at what percentage of workers within each of these subsectors of the food system who would be impacted by the Miller/Harkin proposal to raise the minimum wage over the next three years. The Miller/Harkin bill proposes an $.85 raise for each of the first three years of the bill's enactment, for both tipped workers and non-tipped workers. This would bring the federal minimum wage for tipped workers from its current state of $2.13 to $4.67 within three years of enactment of the bill and the minimum wage for all other workers from its current state of $7.25 to $9.80. So the workers affected would be all those tipped workers who earn $4.67 or less and all those non-tipped workers who earn $9.80 or less.

Table 3 indicates the percentage of workers in each subsector of the food chain who earn each category of wages. So, for example, 12% of workers in food processing would be impacted by the overall minimum wage increase from $7.25 to $9.80 over three years.

### Table 2: Total Employment by Sector, 2011

| Industry | Number | % of Total |
|---|---|---|
| Food Production | 2,122,616 | 1.5% |
| Food Processing | 1,866,519 | 1.3% |
| Distribution, Warehousing & Storage | 3,218,539 | 2.3% |
| Grocery Stores and other retail food outlets | 3,453,680 | 2.5% |
| Restaurants, drinking places and other food services | 8,424,257 | 6.0% |
| | | |
| **Total Food Chain** | **19,085,610** | **13.6%** |
| **Total Other Industries** | **120,783,598** | **86.4%** |
| **Total All Industries** | **139,869,208** | **100.0%** |

Source: Author's analysis of CPS-ORG Files

### TABLE 3: Percent of Industry Workforce by Wage Category, 2011

| | HOURLY WAGE | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Industry | Below $2.97 | $2.98 to $3.82 | $3.83 to $4.67 | Total under $4.68 | $4.68 to $5.52 | $5.53 to $7.24 | $7.25 to $8.09 | $8.10 to $8.94 | $8.95 to $9.79 | Total $7.25 to $9.80 | $9.80 to $10.64 | $10.65 or above | Not paid on hourly basis |
| Food Production | 0.1% | 0.0% | 0.1% | 0.2% | 0.3% | 3.3% | 13.4% | 14.4% | 3.6% | 31.3% | 9.7% | 22.7% | 32.5% |
| Food Processing | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.2% | 3.9% | 5.3% | 2.8% | 12.0% | 7.9% | 50.9% | 28.1% |
| Distribution, Warehousing & Storage | 0.1% | 0.0% | 0.0% | 0.2% | 0.1% | 0.8% | 3.3% | 4.1% | 1.5% | 8.9% | 5.3% | 40.2% | 44.6% |
| Grocery Stores and other retail food outlets | 0.1% | 0.0% | 0.0% | 0.2% | 0.3% | 6.7% | 16.5% | 14.4% | 5.0% | 35.9% | 8.8% | 30.2% | 18.1% |
| Restaurants, drinking places and other food services | 5.3% | 1.5% | 2.1% | 9.0% | 2.1% | 11.8% | 18.3% | 14.4% | 3.7% | 36.3% | 8.5% | 14.8% | 17.5% |
| | | | | | | | | | | | | | |
| **Total Food Chain** | **2.5%** | **0.7%** | **1.0%** | **4.3%** | **1.1%** | **7.3%** | **13.6%** | **11.7%** | **3.5%** | **28.7%** | **8.0%** | **26.3%** | **24.2%** |
| **Total Other Industries** | **0.1%** | **0.0%** | **0.0%** | **0.1%** | **0.1%** | **1.6%** | **4.1%** | **4.8%** | **1.9%** | **10.7%** | **5.6%** | **38.5%** | **43.3%** |
| **Total All Industries** | **0.4%** | **0.1%** | **0.2%** | **0.7%** | **0.2%** | **2.4%** | **5.4%** | **5.7%** | **2.1%** | **13.2%** | **5.9%** | **36.9%** | **40.7%** |

Source: Authors' analysis of CPS-ORG Files

**TABLE 4: Percent of Total Industry Payroll by Wage Category, 2011**

| | HOURLY WAGE | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Industry | Below $2.97 | $2.98 to $3.82 | $3.83 to $4.67 | Total under $4.68 | $4.68 to $5.52 | $5.53 to $7.24 | $7.25 to $8.09 | $8.10 to $8.94 | $8.95 to $9.79 | Total $7.25 to $9.80 | $9.80 to $10.64 | $10.65 or above | Not paid on hourly basis |
| Food Production | 0.0% | 0.0% | 0.0% | 0.1% | 0.1% | 1.8% | 8.1% | 9.5% | 2.6% | 20.2% | 7.5% | 28.2% | 42.3% |
| Food Processing | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% | 1.7% | 2.5% | 1.4% | 5.5% | 4.3% | 45.6% | 44.1% |
| Distribution, Warehousing & Storage | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.3% | 1.4% | 2.0% | 0.8% | 4.2% | 3.0% | 38.0% | 54.5% |
| Grocery Stores and other retail food outlets | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 3.7% | 10.1% | 9.8% | 3.7% | 23.5% | 7.0% | 37.3% | 28.3% |
| Restaurants, drinking places and other food services | 1.2% | 0.5% | 0.8% | 2.6% | 1.0% | 8.0% | 13.6% | 11.9% | 3.3% | 28.7% | 8.1% | 22.1% | 29.4% |
| | | | | | | | | | | | | | |
| **Total Food Chain** | **0.5%** | **0.2%** | **0.3%** | **1.0%** | **0.4%** | **3.9%** | **8.0%** | **7.7%** | **2.5%** | **18.1%** | **6.1%** | **32.5%** | **38.0%** |
| **Total Other Industries** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.5%** | **1.5%** | **1.9%** | **0.8%** | **4.2%** | **2.6%** | **35.1%** | **57.5%** |
| **Total All Industries** | **0.0%** | **0.0%** | **0.0%** | **0.1%** | **0.1%** | **0.8%** | **2.0%** | **2.4%** | **1.0%** | **5.4%** | **2.9%** | **34.9%** | **55.8%** |

Source: Authors' analysis of CPS-ORG Files

**TABLE 5: Percent Increase in Total Payroll Costs by Industry, by Year of Implementation**

| | Direct Percent Increase | | | Direct + Indirect Percent Increase | | |
|---|---|---|---|---|---|---|
| Industry | Year 1 | Year 2 | Year 3 | Year 1 | Year 2 | Year 3 |
| Food Production | 0.3% | 1.3% | 1.9% | 0.4% | 1.2% | 2.0% |
| Food Processing | 0.1% | 0.3% | 0.5% | 0.1% | 0.3% | 0.5% |
| Distribution, Warehousing & Storage | 0.1% | 0.2% | 0.4% | 0.1% | 0.2% | 0.4% |
| Grocery Stores and other retail food outlets | 0.5% | 1.6% | 2.2% | 0.6% | 1.5% | 2.3% |
| Restaurants, drinking places and other food services | 1.0% | 2.5% | 3.3% | 1.2% | 2.4% | 3.4% |
| | | | | | | |
| **Total Food Chain** | **0.5%** | **1.4%** | **1.9%** | **0.6%** | **1.3%** | **2.0%** |
| **Total Other Industries** | **0.1%** | **0.2%** | **0.4%** | **0.1%** | **0.2%** | **0.4%** |
| **Total All Industries** | **0.1%** | **0.3%** | **0.5%** | **0.1%** | **0.3%** | **0.6%** |

Source: Authors' analysis of CPS-ORG Files

Third, to understand the total increase in wages, we had to take two steps. First, we calculated the percentage of each industry's total payroll costs that are devoted to each particular wage category. Table 4 describes the proportions of each industry's total payroll expended on each wage category. So, for example, in the grocery and food retail sector, 23.5% of total industry payroll is expended on workers who would be impacted by the increase—those who earn between $7.25 and $9.80 hourly.

Second, we calculated the percentage increase in payroll for each one of the first three years of minimum wage increase for each industry. Table 5 describes this percentage increase for each year after passage of the Miller/Harkin bill. So, for example, in grocery stores, the Miller/Harkin bill would produce a less than one percent (.5%) increase in overall payroll costs in the first year of enactment, a 1.6% increase in total payroll costs in the second year, and a 2.2% increase in the third year.

In this table, we also take into account any 'ripple' effects. Numerous studies have documented that when the minimum wage rises, employers tend to raise wages for workers just above the minimum wage as well, to maintain wage differentials between different groups of workers, by approximately the same amount as the minimum wage increase.[21]

We now know the total payroll increase for each industry as a result of the minimum wage increase, for both directly impacted workers and indirectly impacted workers. However, to understand how this payroll increase would pass on to food prices for the consumer, we had to calculate how the increased minimum wage would impact every segment of the food chain, as well as any increased cost of supplies for food industries as a result of suppliers passing on increased labor costs.

Here we assumed that every employer would pass on the cost of the increased minimum wage wholly to the purchaser. In fact, every employer has many options in facing a minimum wage increase. The most simplistic of these options are: s/he can take a lesser profit margin and keep consumer prices the same; s/he can find new efficiencies that allow her to maintain the same level of profit and a comparable price to the consumer; or s/he can wholly pass on the cost of the minimum wage increase to the consumer, which is what we are assuming here. In other words, we are assuming the highest possible cost increase for consumers given a minimum wage increase.

In order to calculate how the increased labor costs would be passed up the food supply chain, we used U.S. Bureau of Economic Analysis (BEA) input-output accounts for the U.S.

## TABLE 6: Percent Increase in Total Output Costs by Industry, by Year of Implementation

| | Including Direct Labor Costs Only | | | Including Direct and Indirect labor Costs | | |
|---|---|---|---|---|---|---|
| Industry | Year 1 | Year 2 | Year 3 | Year 1 | Year 2 | Year 3 |
| 1110 Farms | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.2% |
| 1130 Forestry, fishing, and related activities | 0.1% | 0.2% | 0.3% | 0.1% | 0.2% | 0.4% |
| 2110 Oil and gas extraction | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 2120 Mining, except oil and gas | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 2130 Support activities for mining | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 2200 Utilities | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 2300 Construction | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| 3110 Food and beverage and tobacco products | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% |
| 3130 Textile mills and textile product mills | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.2% |
| 3150 Apparel and leather and allied products | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.1% |
| 3210 Wood products | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.2% |
| 3220 Paper products | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 3230 Printing and related support activities | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| 3240 Petroleum and coal products | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |
| 3250 Chemical products | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 3260 Plastics and rubber products | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.1% |
| 3270 Nonmetallic mineral products | 0.0% | 0.1% | 0.1% | 0.0% | 0.0% | 0.1% |
| 3310 Primary metals | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| 3320 Fabricated metal products | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |
| 3330 Machinery | 0.0% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% |
| 3340 Computer and electronic products | 0.1% | 0.3% | 0.5% | 0.0% | 0.0% | 0.0% |
| 3350 Electrical equipment, appliances, and components | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 3361 Motor vehicles, bodies and trailers, and parts | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| 3364 Other transportation equipment | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 3370 Furniture and related products | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| 3390 Miscellaneous manufacturing | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| 4200 Wholesale trade | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% |
| 4400 Retail trade | 0.1% | 0.3% | 0.5% | 0.1% | 0.3% | 0.5% |
| 4810 Air transportation | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 4820 Rail transportation | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 4830 Water transportation | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 4840 Truck transportation | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| 4850 Transit and ground passenger transportation | 0.0% | 0.1% | 0.2% | 0.0% | 0.1% | 0.2% |
| 4860 Pipeline transportation | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 4870 Other transportation and support activities | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.2% |
| 4930 Warehousing and storage | 0.0% | 0.2% | 0.4% | 0.1% | 0.2% | 0.4% |
| 5110 Publishing industries (includes software) | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| 5120 Motion picture and sound recording industries | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% |
| 5130 Broadcasting and telecommunications | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5140 Information and data processing services | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5210 Federal Reserve banks, credit intermediation, and related activities | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5230 Securities, commodity contracts, funds, trusts and other financial vehicles | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5240 Insurance carriers and related activities | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5310 Real estate | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5320 Rental and leasing services and lessors of intangible assets | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| 5411 Legal services | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5412 Miscellaneous professional, scientific, and technical services | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| 5415 Computer systems design and related services | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5500 Management of companies and enterprises | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| 5610 Administrative and support services | 0.1% | 0.3% | 0.5% | 0.1% | 0.3% | 0.5% |
| 5620 Waste management and remediation services | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% |
| 6100 Educational services | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.2% |
| 6210 Ambulatory health care services | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.2% |
| 6220 Hospitals and nursing and residential care facilities | 0.0% | 0.1% | 0.2% | 0.0% | 0.1% | 0.2% |
| 6240 Social assistance | 0.1% | 0.3% | 0.4% | 0.1% | 0.3% | 0.5% |
| 7110 Performing arts, spectator sports, museums, and related activities | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% |
| 7130 Amusements, gambling, and recreation industries | 0.1% | 0.4% | 0.5% | 0.2% | 0.4% | 0.6% |
| 7210 Accommodation | 0.1% | 0.2% | 0.4% | 0.1% | 0.2% | 0.4% |
| 7220 Food services and drinking places | 0.3% | 0.7% | 1.0% | 0.4% | 0.7% | 1.0% |
| 8100 Other services, except government | 0.1% | 0.2% | 0.3% | 0.1% | 0.2% | 0.3% |
| 9000 Federal Government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 9010 State and Local Government | 0.0% | 0.1% | 0.1% | 0.0% | 0.1% | 0.1% |

Source: Author's Analyais of CPS-ORG and BEA Data

**Table 7: Total Increase in Food Prices[22]**

| | Including Direct Labor Costs Only | | | | Including Direct and Indirect labor Costs | | | |
|---|---|---|---|---|---|---|---|---|
| | Year 1 | Year 2 | Year 3 | Cumulative | Year 1 | Year 2 | Year 3 | Cumulative |
| **Percent Price Increase** | | | | | | | | |
| Retail Trade | 0.11% | 0.34% | 0.51% | 0.95% | 0.13% | 0.32% | 0.53% | 0.99% |
| Food Service and Drinking Places | 0.33% | 0.79% | 1.06% | 2.19% | 0.38% | 0.76% | 1.09% | 2.25% |
| **Annual Dollar Increase for Average Household** | | | | Average | | | | Average |
| Retail Trade | $4.09 | $12.90 | $19.47 | $12.15 | $5.11 | $12.31 | $20.37 | $12.60 |
| Food Service and Drinking Places | $8.97 | $21.65 | $29.02 | $19.88 | $10.34 | $20.89 | $29.85 | $20.36 |
| **Total** | **$13.07** | **$34.54** | **$48.49** | **$32.03** | **$15.46** | **$33.21** | **$50.23** | **$32.96** |

Source: Authors' analysis of CPA, BEA, and BLS Consumer Expenditure Survey Data

economy. This provides detailed, consistent information on the changing structure of the U.S., including the annual contributions of private industries and government to the nation's Gross Domestic Product (GDP) and the annual flow of goods and services used in the production processes of industries and going to the final uses that comprise GDP. The accounts show how industries interact as they provide input to, and use outputs from, each other to produce goods for financial consumption and total GDP.

Table 6 indicates the percentage increase in output price due to the annual minimum wage increase for each industry. For individual industries, this gives the average price increase firms would have to charge in order to completely cover the increased costs of their own increased wage bill associated with the proposed minimum wage increase. Thus, for example, retail trade outlets would have to raise their prices 0.1% in the first year, rising to 0.5% in the third year, in order to pass on their increased wage costs.

If all industries sold directly to the 'end user' or consumer, this would be our final step. However, they do not—they purchase inputs from suppliers below them on the food chain. Since most Americans purchase food in restaurants or in retail outlets (grocery stores, delis, bodegas etc.), we sought to examine the increase in input prices as a result of the minimum wage increase all the way up to these two ends of the supply chain. To do this, we had to take the increased costs or 'outputs' for each industry from Table 6 and put them back into the inputs for each sector that purchased from that industry.

This final table thus shows the maximum increase in consumer food prices that would occur as a result of the proposed increased in the federal minimum and tipped minimum wage. It shows that in retail food outlets, taking into account both direct and indirect labor costs, the maximum increase in food prices would be cumulatively less than 1% over three years, or an average of .33% per year. In restaurants, the maximum increase in food prices would be 2.25% over three years, or an average of less than 1% per year. This would add, for example, $.45 to a $20 meal in a restaurant.

# III. WHAT DOES THIS MEAN FOR CONSUMERS AND WORKERS?

Our inquiry shows that the Miller/Harkin bill's proposal of a significant pay raise for food workers—America's lowest-paid workers—would result in a very minimal increase in the price of food for consumers. If enacted, the Miller/Harkin bill would increase wages for non-tipped workers by 33% and raise wages for tipped workers by more than 100%, and yet produce only **a maximum 1% increase in the cost of food for consumers in retails outlets and 2.25% in restaurants**. This is significant, especially considering that our inquiry included examining how workers' raised wages in non-food subsectors impacted supply costs for food subsectors as well. Even with all of these workers—almost eight million food workers and over 21 million non-food workers—receiving a significant pay raise, we would not pay more than 45 cents extra on a $20 meal even after three years of the bill's enactment.

The average U.S. household spends $3,827 a year on food at home and $2,634 on food away from home. As shown in Table 7, this means that on average over the next three years, the average households would pay less than 3 cents more a day on grocery retail, and, combining both food at home and away from home, less than 10 cents a day.[23]

Table 4 provides some insight into one of the reasons why the increase in food prices is so minimal: because their wages are so low, minimum wage workers' wages constitute a very small percentage of most industries' overall payroll. For example, in Table 4, all workers who would be impacted by the proposed tipped minimum wage increase after three years of the bill's enactment together earn only 1.0% of total restaurant industry payroll.[24] Although almost 1 million workers would be impacted by this increase, their hourly wages are so low relative to other workers—and management—in the restaurant industry, they constitute a very small percentage of overall payroll costs. It is thus puzzling that, as mentioned above, the National Restaurant Association has been the most vocal opponent to a raise for these workers, given that a raise for them would be so trivial relative to other payroll costs.

Our finding is also significant in considering the frequency of rising wages versus rising food costs. The Miller/Harkin bill represents the first raise for non-tipped minimum wage workers in five years and the first raise at the federal level for tipped workers in 21 years. On the other hand, consumer prices rise every year due to inflation. The Consumer Price Index for the twelve months ending August 2012 indicated that food prices rose by 2% over the last year simply due to inflation. Retail food prices rose by 1.5%, and restaurant prices rose 2.8%.[25] In comparison, our analysis shows that retail food prices would rise on average about a third of one percent a year and restaurant food prices would rise about three-quarters of a percent a year during the period of the bill's enactment. Thus, Congressmember George Miller and Senator Tom Harkin's proposals to raise the minimum wage—assuming it is passed on entirely to the consumer—would result in a food price increase that is, at most, approximately only one-third of the most recent annual rise in food prices due to normal inflation.

Photo: UFCW International

# APPENDIX I. TECHNICAL NOTES ON METHODOLOGY

There are essentially four steps in our calculation of increased consumer food prices associated with the proposed increase in the minimum wage:

1. Identify jobs in the food chain;
2. Identify who would be affected by the proposed minimum wage increase, both in the food chain and elsewhere in the economy;
3. Calculate the increased wage costs;
4. Calculate the increased prices.

The methodology for each of these steps is described here in turn.

The data source for the first three steps is the merged Outgoing Rotation Group file from the Current Population Survey (CPS-ORG). The CPS is a monthly household survey conducted by the Bureau of Labor Statistics to measure labor force participation and employment, with 50-60,000 households surveyed every month. Every household that enters the CPS is interviewed each month for 4 months, then ignored for 8 months, and then interviewed again for 4 more months. The detailed hours and earnings questions that form the basis of this analysis are asked of households in their 4th and 8th interview, and these households are known as the Outgoing Rotation Group and comprise one-fourth of the households in the survey in any month. By merging 12 months of the Outgoing Rotation Group, we have a full year's worth of data.

As a service to the research community, the Washington DC-based Center for Economic and Policy Research (CEPR) provides consistent, user-friendly versions of the CPS-ORG files, which are available at http://ceprdata.org. We are grateful to them for this service. The raw data is available from several sources, including the National Bureau of Economic Research, the Bureau of Labor Statistics and the Census Bureau, but the data processed by the CEPR is particularly useful since they have developed a consistent methodology for dealing with the problem of 'top-coding' of wage data. The problem is that the Census Bureau adjusts the variable for usual hourly earnings to a top-code to ensure that the product of usual hours times usual hourly wage does not exceed an annualized wage of $150,000. This essentially censures information on earnings of the very top wage earners in the country. While this affects a relatively small number of observations, it can have a more substantial impact on calculations of total industry payroll. CEPR adjusts the censured wage variables to account for these top-coded records, assuming a log-normal distribution.

## STEP 1: Identify jobs in the food chain

Below are the CPS Codes we used to identify jobs in the food chain, along with associated NAICS codes and sector descriptions:

### Industries Identified as Part of the Food Chain

| | NAICS CODE | CPS/Census Industry Code |
|---|---|---|
| **Food Production** | | |
| Crop Production | 111 | 170 |
| Animal Production | 112 | 180 |
| Fishing, hunting, and trapping | 114 | 280 |
| Support activities for agriculture and forestry | 115 | 290 |
| **Food Processing & Ag Product Manufacturing** | | |
| Animal food processing | 3111, 3112 | 1070 |
| Sugar processing | 3113 | 1080 |
| Fruit & Vegetable Canning/ Preserving | 3114 | 1090 |
| Dairy Product Manufacturing | 3115 | 1170 |
| Animal Slaughtering and processing | 3116 | 1180 |
| Bakery Products | 3118 exc. 311811 | 1270 |
| Seafood products | 3117, 3119 | 1280 |
| Unspecified food industries | Part of 311 | 1290 |
| Beverage Manufacturing | 3121 | 1370 |
| Tobacco Manufacturing | 3122 | 1390 |
| Agricultural chemical manufacturing | 3253 | 2180 |
| Agricultural implement manufacturing | 33311 | 3070 |
| **Wholesale, Distribution, Warehousing & Storage** | | |
| Groceries and related products, merchant wholesalers | 4244 | 4470 |
| Farm product raw materials, merchant wholesalers | 4245 | 4480 |
| Alcoholic beverages, merchant wholesalers | 4248 | 4560 |
| Farm supplies, merchant wholesalers | 42491 | 4570 |
| Truck Transportation | 484 | 6170 |
| Warehousing and storage | 493 | 6390 |
| **Grocery Stores and other retail food outlets** | | |
| Grocery stores | 4451 | 4970 |
| Specialty food stores | 4452 | 4980 |
| Retail bakeries | 311811 | 1190 |
| Beer, wine, and liquor stores | 4453 | 4990 |
| **Restaurants, drinking places and other food services** | | |
| Restaurants and other food services | 722 exc. 7224 | 8680 |
| Drinking places, alcoholic beverages | 7224 | 8690 |

## STEP 2: Identify Who Would Be Affected by Minimum Wage in First Three Years of Implementation

The proposed minimum wage legislation would make the following adjustments in the minimum wage in each of the first three years:

| | Tipped Minimum | Regular Federal Minimum |
|---|---|---|
| Current | $2.13 | $7.25 |
| Year 1 | $2.98 | $8.10 |
| Year 2 | $3.83 | $8.95 |
| Year 3 | $4.68 | $9.80 |

Those who are identified as being *directly* affected by the minimum wage increase must indicate both that they are paid on an hourly basis and have an hourly wage rate below the indicated threshold.

Those who are identified as being *indirectly* affected by the minimum wage increase must indicate both that they are paid on an hourly basis and have an hourly wage within $.85 of the new threshold.

As shown in Tables 3 and 4, these workers are then classified into wage brackets, based on whether they would be affected by the minimum wage in different years. We are able to calculate the percentage of workers in each wage bracket, as a simple proportion of all workers who are in that particular wage bracket. For each wage bracket, we can then also calculate the average wage and the total wages paid to that wage bracket. This allows us to also calculate the proportion to total wages that are paid to workers in that wage bracket, again as a simple proportion of all wages paid in the industry to workers in that particular wage bracket.

## STEP 3: Calculate the increased wage costs

For workers who are directly affected, it is assumed that all workers below the new threshold would have their wages raised exactly to the new threshold.

For workers who are *indirectly* affected, their new wage is calculated as:

$$W_{y+1} = W_y + \frac{(Z+.85) - W_y}{4}$$

where $W$ is the wage in the original year $y$, and $Z$ is the new minimum wage threshold.

While estimates of the magnitude of these ripple or spillover effects vary, there is wide consensus that the effects are limited to those earning wages roughly within the same range above the new wage threshold as the increment of wage increase.

In this case, an $0.85 increase in the minimum wage would also affect wages of those earning up to $0.85 above the new threshold. The magnitude of the wage increase decreases, however, the farther above the new wage threshold you go, eventually shrinking to zero. In our calculations, therefore, we assume that workers above the new wage threshold receive a raise equal to 25% of the difference between their previous wage and the indirectly-affected cutoff of $0.85 above the new wage cutoff. For example, in year 1, the new minimum wage would be $8.10, and the indirectly-affected cutoff would be $8.95. Someone with an old wage of $8.55 would receive a wage increase of $.10 (($8.95-$8.55)/4) and so would receive a new wage of $8.65.[26]

In each case, we are then able to calculate a wage differential for each year and express this as a percentage increase of the total wages paid in the base year, as shown in the following equation:

$$X^i_{y+1} = \frac{\sum_1^N W^i_{y+1} - W^i_y}{\sum_1^N W^i_y}$$

where $X$ is the percentage increase in wages in industry $i$, $W$ represents each individuals' hourly wage in industry $i$, $y$ is the base year, and $N$ represents the number of workers in industry $i$.

## STEP 4: Calculate the increased prices

The main datasource for this analysis is the Bureau of Economic Analysis (BEA) Input-Output (I-O) Account Data (see: http://www.bea.gov/industry/io_annual.htm). The annual input-output accounts provide a time series of detailed consistent information on the flow of goods and services that make up the production process of industries. The accounts show how industries interact as they provide inputs to, and use outputs from, each other to produce GDP. The Standard Input-Output tables include both a make table and a use table, with summary information for the whole economy divided into 65 broad industry sectors. For our purposes, the Use Table is appropriate, since it shows the inputs to industry production and the commodities that are consumed by final users. For each industry, the cost of production consists of the fixed cost of intermediate inputs plus compensation of employees and the net value of taxes less subsidies. This combined with the gross operating surplus results in total industry output.

The employee compensation data in the I-O tables combines both wages and other forms of compensation. However, the BEA provides the breakdown between wages and supplements to wages by industry in their GDP by Industry accounts, available here: http://www.bea.gov/iTable/index_industry.cfm. Since from our previous step, we know the percentage increase in total wage costs associated with the proposed minimum

wage increase, it is a simple calculation to then estimate the additional percentage increase in total output costs, assuming the entire additional wage costs are passed on to the output costs, rather than being absorbed in improved efficiencies or reduced gross operating surplus. This calculation is given by the following equation, which produced the results in Table 6:

$$\Delta P_i = \frac{(X^i)(S^i)}{O_i}$$

where $\Delta P_i$ is the percentage change in output price $P$ in industry $i$, $X^i$ is the percentage increase in wage costs that was calculated in step 3 above, $S^i$ is the total wages & salary component of inputs into industry $i$ and $O_i$ is the total industry output. It should be noted that before combining the data from the CPS with the BEA, we had to combine industries from the CPS to match the BEA industry divisions. In the process, we lose detail on the grocery stores and other retail food outlets, which are combined into the single 'retail trade' category in the BEA data.

The output from each industry then will go to a mixture of intermediate inputs to other industries and to final uses (including personal and government consumption and exports). Thus, for example, of the total output from farms in 2010 of $330.9 billion, $76.5 billion (or less than 25%) goes directly to final uses. The largest portion of the output ($193.9 billion) goes into the food, beverage and tobacco products (food processing) industry, but the remainder is spread across some 28 other industry sectors in amounts specified in the tables. In order to fully account for the potential contribution of increases in wage costs to final consumer prices, we must account for the ways that increased output costs in one industry then contribute to increased input costs in subsequent industries along the value chain, which in turn further increase output costs for subsequent industries, and so on, until the full increased costs are passed through the entire input-output chain to the final consumers. In the real economy, such additional costs may take longer than a year to work their way through the economy, as, for example, the higher costs of grain in the summer of 2012 associated with the extreme drought across much of the U.S. is not expected to be reflected in processed food prices until well into 2013.

For the purposes of our analysis, however, we assume that the entire additional costs are passed through the entire economy in a single year. This calculation is given by the following equation.

$$\Delta O = \sum_{0}^{N} (P_0) * A + (P_1) * A + \cdots + (P_n) * A$$

where $O$ is a vector of increased consumer output prices, $P$ is a vector of increased prices, with a value for N=0 of the calculated price increase given in the equation on the previous page, and A is the matrix of input-output coefficients-sector purchasing per dollar of output, as calculated in the BEA I-O tables. For n=1, P is the resulting vector of the sum of additional price inputs given by the product of ($P_0$) and $A$. This round of calculations continues until $P_n$= 0, indicating that the entire additional costs have been passed on to the final consumer.

## Endnotes


1 Kasperowicz, Peter. "Dozens of House Dems propose boosting minimum wage to $9.80 an hour," *The Hill*, 27 July 2012. http://thehill.com/blogs/floor-action/house/240715-dozens-of-house-dems-propose-boosting-minimum-wage-to-980-an-hour (accessed October 14, 2012).

2 S. 3453--112th Congress: Fair Minimum Wage Act of 2012. (2012). In GovTrack.us (database of federal legislation). Retrieved October 9, 2012, from http://www.govtrack.us/congress/bills/112/s3453.

3 Authors' Analysis of Community Population Survey Outgoing Rotation Groups (CPS-ORG) files, 2011

4 Hall, Doug. "How raising the federal minimum wage would help working families and give the economy a boost." Economic Policy Institute. 14 August 2012. http://www.epi.org/files/2012/ib341-raising-federal-minimum-wage.pdf (accessed October 14, 2012).

5 Ibid.

6 Authors' Analysis of CPS-ORG files, 2011

7 "The Hands That Feed Us." The Food Chain Workers Alliance. 6 June 2012. p. 20. Available at: http://foodchainworkers.org/wp-content/uploads/2012/06/Hands-That-Feed-Us-Report.pdf.

8 Ibid.

10 Tipped Over the Edge." Restaurant Opportunities Center United. Available at: http://rocunited.org/tipped-over-the-edge-gender-inequity-in-the-restaurant-industry/. 13 February 2012. Page 12.

11 Ibid.

12 Fair Labor Standards Amendments of 1977, Pub. L. No. 95-151, § 3, 91; Stat. 1249 (1977) (codified as amended at 29 U.S.C. § 203(m)) (raising the tipped worker minimum wage to 60% of the full minimum wage in 1980). Fair Labor Standards Amendments of 1996, Pub. L. No. 104-188, § 2105(b), 110 Stat. 1929 (1996) (codified as amended at 29 U.S.C. § 203(m) (tipped subminimum wage de-linked from the normal minimum wage).

13 The tipped minimum wage should be worth $3.54 in 2011 dollars to equal $2.13 in 1991 dollars. National Women's Law Center (NWLC) calculations from BLS CPI calculator, http://www.bls.gov/data/inflation_cal- culator.htm.

14 Liddle, Alan. "Associations urge Senate to retain wage provisions," Nation's Restaurant News.,Vol. 30 Issue 25, p1, 24 June 1996.

15 This is only a portion of the NRA's total contributions during this time period. The NRA spent nearly three quarters of a million dollars on Congressional races during the 1994 election cycle. During the 1996 cycle, the NRA spent over one million dollars for all candidates. In addition to campaign contributions, the NRA also pays for political lobbying. 1996 expenditures are not available, but the NRA spent almost $1.4 million on lobbying in 1998, the latest year available after the 1996 minimum wage vote. Restaurant Opportunities Centers United's analysis of Center for Responsible Politics data, http://www.opensecrets.org (January 2012).

16 Lemos, Sara. "A Survey of the Effects of the Minimum Wage on Prices," *Journal of Economic Surveys.* Vol. 22, No. 1, 187-212, 2008.

17 The USDA study used an input-output model using data published by the Bureau of Economic Analysis (BEA) to understand how the increased payroll costs from a minimum wage increase would be passed up the food chain to consumers.

18 Lee, Chinkook, Gerald Schluter, and Brian O'Roark. "How Much Would Increasing the Minimum Wage Affect Food Prices?" Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Technical Bulletin No. 747-03. May 2000.

19 Card, David, and Alan B. Krueger. Minimum Wages and Employment: A Case Study of the Fast-Food Industry, *American Economic Review*, Vol. 84, No. 4, September 1994, pp.772-93.

20 Aaronson, Daniel. Price Pass- Through and the Minimum Wage, The Impact of the Minimum Wage on Prices of Food Away from Home in the U.S. and Canada, Federal Reserve Bank of Chicago, February 1998.

21 For a detailed review of these studies, see Lemos, Sara. "A Survey of the Effects of the Minimum Wage on Prices," *Journal of Economic Surveys,* Vol. 22, No. 1, 187-212, 2008.

22 In Year 2, the percentage increase in food prices is actually lower when indirect labor costs are included versus when direct labor costs are calculated alone. The reason for this seeming paradox is that, in calculating indirect effects, many of the people whose wage would have increased directly in year 2 already saw some substantial wage increases indirectly in year 1, while the number of people who indirectly benefit in year 2 is less than in year 1.

23 Survey of Consumer Expenditures (http://www.bls.gov/cex/)

24 Since different states have varying tipped minimum wages, the percentage of total payroll increase for tipped workers will be higher in certain states; the national average is 2.5%.

25 CPI News Release August 2012, Accessed from the U.S. Bureau of Labor Statistics October 1, 2012. Economic News Release: Consumer Price Index Summary. U.S. Dept of Labor: Bureau of Labor Statistics. http://www.bls.gov/news.release/cpi.nr0.htm.

26 This calculation follows the methodology of Hall, Doug and David Cooper.*How raising the federal minimum wage would help working families and give the economy a boost, Issue Brief #341* (Washington DC: Economic Policy Institute). 14 August 2012.

# A DIME A DAY:

## THE IMPACT OF THE MILLER/HARKIN MINIMUM WAGE PROPOSAL ON THE PRICE OF FOOD

OCTOBER 24, 2012

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