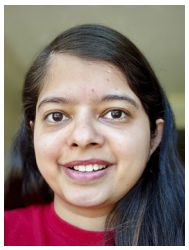
Recent H-2A Wage Hikes' Divergent Effects on Workers' Welfare and Farm Business Viability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Abstract

Starting in 2023, the H-2A program's adverse effect wage rate (AEWR) suddenly increased significantly in several states. This article demonstrates the policy's two conflicting sides. Disparities in regional AEWR growth and living wage gaps validate the policy's subscription to the social equalizing principle that protects workers' rights to fair compensation. Our analysis, however, also presents serious business repercussions confirming many farmers' claims of significantly deteriorating incomes and profit margins. This study reminds policymakers to carefully balance policy consequences affecting different constituent groups, with consideration given on timing, targeting, and remedial follow-up measures to mitigate adverse effects on affected sectors.

BACKGROUND

The U.S. farm sector generally relies on foreign farm workers for its seasonal unskilled labor needs (Escalante, Cowart, and Shonkwiler, 2023; Escalante, Perkins, and Santos, 2011). Domestic residents are usually hesitant to take on farm jobs as they normally involve physically demanding manual tasks and could expose them to serious health risks (Luo and Escalante, 2017). Potential farm workers are especially discouraged by the relatively inferior compensation and remuneration rates offered for unskilled labor that are not commensurate with the physical demands, health hazards, and work conditions they must endure (Luo and Escalante, 2017; Escalante, Wu, and Li, 2016).

After stricter immigration control policies evicted many undocumented farm workers, the farm sector relied on the H-2A Agricultural Guest Worker Program for its foreign labor needs. The program allows agribusinesses to temporarily hire non-immigrant foreign workers to perform full-time, short-term (seasonal) farm work when willing domestic workers are not available (GAO, 1997). Cognizant of the farm sector's domestic labor hiring and compensation negotiation challenges, the H-2A program was deliberately designed under federal regulations to protect the welfare and interests of foreign workers while ensuring that such hiring decisions do not displace potentially qualified domestic workers. Specifically, the H-2A program sets minimum standards for provision of housing, transportation, meals, workers' compensation, and other benefits (Mayer, 2008). Moreover, the program subscribes to a minimum hiring wage provision by having the Adverse Effect Wage Rate (AEWR) determined under a state-level, federally designed, mechanism. Technically, the AEWR mechanism serves a twofold objective:

to uphold foreign workers' welfare and to avert any possibility that H-2A wages could "adversely" affect U.S. farm labor market conditions if such wages are set too low, thereby dwindling the wage rate of domestic workers (UFW n. DOL, 2020; Rutledge et al., 2023).

Despite its economic and market foundations, the AEWR-setting mechanism has often drawn criticisms. Some contend that state-level AEWRs can be quite high, and when such rates are factored into the program's remuneration package, which already includes heftier fringe benefits, the H-2A program becomes too expensive, to the point where some businesses find it to unaffordable, and hence, it becomes a less viable labor sourcing option for farms (Critterden, 2020).

Nonetheless, H-2A program patronage has grown in recent years as farmers' hiring options have run out, and they've had to inevitably resort to "more expensive" foreign labor for the sake of sustaining farm business operations after many unsuccessful attempts to lure a reluctant domestic labor market (Escalante, Luo, and Taylor, 2020). Between 2013 and 2019, the farm sector's reliance on H-2A labor has grown, with the proportion of H-2A visa approvals to aggregate employment in the farming, fisheries, and forestry sectors increasing from 7.69% to 17.71% (Escalante, Luo, and Taylor, 2020).

In 2023, the Department of Labor (DOL) released state AEWRs that reflect radically, unusually high annual growth rates that exceed historical trends. The AEWR growth momentum was sustained the following year when levels in most states continued their upward trend.

As any policy always has multifaceted implications, this article will shed light on the important repercussions of these sudden, sharp increments in AEWRs. In this study, we present two contrasting perspectives coming from the farm workers and the agribusiness owners/operators. The following sections will discuss separately the social and economic effects of such wage policy developments on workers' welfare and farm business viability, respectively.

THE FARM LABOR PERSPECTIVE

Figure 1 presents historical plots of national average AEWRs and minimum wages from 1991 to 2024. While the AEWR is consistently higher than the minimum wage in all years, the gap between these two wage indexes started to widen in the 2000s, especially after 2010. Since 2022, the national average AEWR has already been more than twice as much as the minimum wage.

In 2023 and 2024, state-level AEWRs posted annual increments averaging 7.49% and 5.26%, respectively, which were considered to be unprecedented and exorbitant as they surpass the wage rate's historical growth trends. The national average 2022 rate of $15.03 rose to $16.13 in 2023, with the upward trend sustained through 2024 when the average rate was set at $16.98.[1]

In this article, we present explanations for the sudden rise in state-level AEWRs in 2023 and 2024 through scrutiny of regional and intertemporal trends. Moreover, the minimum wage-AEWR gap analysis is extended to include more intuitive, realistic measures of worker welfare.

Regional Levels and Growth Disparities

In theory, the determination of AEWRs at the state level is inherently rooted in geographic differences in living conditions. Regional aggregation[2] of state AEWRs reveals that farm wages in the South are among the lowest in the nation, while Midwest farms pay the highest average regional wages among the production regions (Table 1). In 2000, for instance, the average AEWR in the South was $6.72 per hour, while workers in the Midwest were paid $7.68 per hour on average, separated by almost a dollar ($0.96). In 2019, the difference between the lowest (South) and highest (Midwest) regional AEWRs became wider at $2.05 ($11.33 versus $13.38, respectively).

Interestingly, state-level minimum wages in the South are not usually the lowest across the different regions. The Plains have consistently registered the lowest average regional minimum wage since 2000 (Table 1). In 2024, the region's average minimum wage was $8.70 per hour, while Atlantic states paid a minimum wage of $12.86 per hour.

The historical regional AEWR growth trends could shed light on the abrupt rise in 2023 and 2024 levels. In 2024, the South's AEWR ($14.74 per hour) grew by 8.13% over its 2022 level, which was the highest regional growth rate. The South has consistently registered the lowest annual AEWR growth rate among all regions since 2000, but prior to 2022, the South's annual AEWR increases were quite modest and sluggish compared to the other regions. During the period 2019-2022, the South's AEWR only grew by 3.64%, which was its fastest growth prior to the 2023-2024 surge. Notably, the South also began its aggressive minimum wage

hikes during this period when it registered the second highest regional growth rate at 5.13% percent (outpaced by the Atlantic region's 5.71%); the growth momentum would be sustained in 2022-2024 when minimum wages in the region grew on average by 6.66% (second to the West region's 7.70%).

The Midwest registered the second highest annual AEWR growth from 2022 to 2024 at 7.22%. However, like the other regions (Atlantic, Plains, and West), the upward adjustment began much earlier, as the Midwest's AEWRs have been increasing from 5% to 6% annually since 2019. Thus, from a regional perspective, the sharp rises in AEWRs in 2023 and 2024 could have been a more imperative policy decision. The rationale comes from the need to rectify the region's past sluggish or delayed AEWR adjustments and minimize regional wage discrepancies by recalibrating the region's AEWR to come close to (or be at par with) the higher wages in other production regions.

AEWR as a Social Equalizing Tool

The AEWR principle clearly manifests itself as a social equalizing tool that upholds workers' rights to receive adequate, fair, and just compensation. We validate this contention by relating the recent significant spikes in AEWRs to the concept of livable wages. Specifically, the newly upgraded AEWRs are compared to prevailing livable wage rates derived from the Massachusetts Institute of Technology (MIT)'s Living Wage Calculator (MIT, 2024). The MIT dataset consists of annual average state livable (living) wages that individuals must earn to afford basic needs (food, housing, transportation, taxes, and inflation) on their own, devoid of any further external assistance.

In this analysis, we calculate the gap between AEWR and livable wage rate per hour (LWH) by evaluating the ratio $(\frac{AEWR}{LWH})$. A gap exists for ratio levels less than 1. Our calculations are made under the following conditions:

- Among the different MIT household scenarios, our analysis utilizes MIT's LWH estimates for a single adult with no children, which conforms to a typical H-2A worker's living arrangement (with no accompanying dependents residing with him/her).
- State-level AEWRs are adjusted by an additional wage premium suggested by Calvin, Martin, Simnitt (2022), factoring in H2A's additional fringe benefits (including housing and transportation), which could add $2.55 per hour in hourly wages and factored together with offsetting employers' benefits of non-payment of social security and unemployment taxes.

Based on the bar plots in Figure 2, the AEWR:LWH gaps for the Midwest and Plains regions were eliminated by 2024 as their ratios reached the 1.00 demarcation line. The large AEWR increments in the last two years, however, only reduced the gaps for the other regions but not enough for the gaps to be eliminated completely. After the 2024 AEWR increase, the average AEWR:LWH ratio for the Atlantic region improved to 0.86, while the average ratios for the West and South regions reached 0.84.

Table 2 presents crucial information applicable to the domestic farm workers' living and welfare conditions. In this analysis, it is important to clarify that DOL's primary bases for setting state-level AEWRs are the farm workers' responses in the previous year's Farm Labor Survey conducted by the U.S. Department of Agriculture (USDA) among crop and livestock workers. Notably, the responses to these annual surveys mostly come from domestic farm workers who do not enjoy the same fringe benefits (housing, transportation, meals, insurance, and others) that H-2A workers are provided with. Hence, in determining the AEWR:LWH gap applicable to domestic unskilled farm workers, unadjusted AEWR data is used instead, since local workers do not generally receive such H-2A fringe benefits. The unadjusted AEWR:LWH ratios in Table 2 sheds light on the more unfortunate living situations of domestic farm workers. Based on the results, all regional gaps remain unresolved even after the stark AEWR increases in the last two years. By 2024, the gaps in the Midwest and Plains regions were only reduced to 0.13, while the other regions' gaps ranged from 0.25 to 0.28. These results only confirm the domestic farm workers' inferior compensation situation relative to their foreign counterparts.

THE BUSINESS PERSPECTIVE

While the steady rise in state AEWRs in recent years upholds the social equity and welfare principle for H-2A workers, the business side of the industry suffers. The sudden radical increases in state AEWRs in 2023 and 2024 have drawn criticisms and protests at the local, regional, and national levels from farmers and their supporters in the industry and the government. Since late 2023, when expectations were high that the DOL was poised to sustain the 2023 AEWR increasing trend into 2024, farmers in Michigan, North Dakota, and Georgia (among others) called for a freeze in AEWR levels, claiming that higher labor costs would threaten the survival and viability

of farms that were already struggling with much elevated input costs brought about by, among other factors, pandemic-induced inflationary pressure (Georgia Farm Bureau, 2024; Cramer, 2024; Sloup, 2024; Vegetable Grower News, 2023a). The Georgia Fruit and Vegetable Association (GFVA), in cooperation with the National Council of Agricultural Employers (NCAE), submitted its official petition to the DOL with the additional request to modify and repeal the agency's methodology for deriving each year's AEWR (Georgia Farm Bureau, 2024). The American Farm Bureau (AFB) released an official statement of opposition to DOL's AEWR setting decisions (The Fence Post, 2023). In Congress, farmers' pleas gained support as Senators Ossoff (D-GA) and Tillis (R-NC) sponsored a bill in 2023, the "Farm Operations Support Act," that demanded the rollback of 2023 AEWRs to their 2022 levels (Vegetable Grower News, 2023b). The following year, Congressman Moolenaar (R-MI) revived the previous year's bill by introducing HR 7046 ("Supporting Farm Operations Act"), calling for a two-year freeze on AEWR levels (Shike, 2024).

More Labor-Intensive Farm Businesses

Across the U.S. farm sector, AEWR-setting policy decisions can have immediate, direct effects on regions and industries that are more highly dependent on H-2A labor. The South has emerged as the top regional H-2A employer, with about 45% of all certified H-2A workers in 2019 to 2021 (Escalante and Acharya, 2023). The West is right behind, with a roughly 29% share of the nation's total H-2A employment during the same period.

In terms of industry affiliations, farms engaged in fruit, vegetable, and horticultural production employ about 80% of the country's H-2A workforce in recent years (Castillo et al., 2021; Escalante, 2023). These industries' usual labor input requirements are substantial at every stage of their production processes, starting from the pre-planting until the post-harvest phase. The peak of their labor needs occurs during the harvest season, as the current nature of their operations requires mostly manual labor (Huffman, 2005).

Table 3 summarizes gross cash farm receipts (GCFRs) and labor data for U.S. fruit and vegetable farms to provide an overview of the labor-intensive nature of these industries' operations. These two industries are projected to register a combined GCFR of about $50 billion in 2024. Estimated total labor costs in 2024 amount to $22.8 billion for U.S. fruit and vegetable farms, under the assumption that labor accounts for 45% and 40%, respectively, of GCFR. In 2024, more than 375,000 H-2A positions have been certified by the DOL, of which 44% are expected to be employed in fruit and vegetable farms.

Anecdotal Evidence

Lewis Taylor Farms, Inc., a large corporate farm in South Georgia that is engaged in vegetable and greenhouse production, echoes the worries, concerns, and predicaments of many H-2A labor-dependent farms in the country (Caraway, 2023). The farm was among the first to hire H-2A workers in Georgia in 1997 and currently depends on the program for 80% of its labor needs (Vegetable Grower News, 2023c). The farm's struggles to employ domestic residents, even during periods of economic downturn with serious unemployment conditions, led it to the H-2A hiring option that has since sustained its operations. Currently, the farm employs 455 H-2A workers during the growing season, 50 local year-round workers, and another 250 H-2A workers during the harvesting phase of the production season (Caraway, 2023).

Bill Brim, the company's CEO and co-owner, explains that the 2023 AEWR hike alone already cost the company an additional $2.5 million in wage costs. He clarifies that such cost increases will be a difficult operating challenge for the business as the previous year's profit margins were not "wide enough to support wages at that level" (Caraway, 2023).

Declining Farm Incomes and Margins

This article provides evidence that corroborates farmers' anecdotal claims. Our analysis utilizes farm financial performance data compiled by the Economic Research Service of the U.S. Department of Agriculture (USDA-ERS) to calculate annual Value of Farm Production (VFP) for all U.S. farms.

The income effect of the 2023 and 2024 AEWR increases is initially determined for a normal, average U.S. operating farm scenario in 2024 as depicted in the USDA-ERS's projected VFP statement. The income effect derivation process uses the following parameters:

- Total Factor Payments (TFPs), comprising 16.25% of VFP, are allocated among rent, interest, and labor.
- For an average U.S. farm, labor costs account for 44.10% of TFP. In order to account for the relatively more labor-intensive nature of other U.S. farms, the labor cost segment of TFP is augmented in 5% increments until the desired labor cost-TFP proportion of about 80% is achieved (realized

when TFP is inflated by about 40%). The 80% mark coincides with claims of some fruit and vegetable farms, such as Lewis Taylor Farms, Inc.

- TFP's proportion to VFP is further adjusted by two factors: the Labor Intensity Factor (LIF) adjustment in the bullet point above and the AEWR growth plus the attendant H-2A labor cost differential due to additional fringe benefits.
- An adjusted net income margin is then derived using the newly adjusted TFP and applied to the 2024 VFP to obtain the adjusted net farm income estimate and the resulting net income margin.

Table 4 summarizes the results of the income effect analysis. The top half panel reports the income effect under an average AEWR growth scenario (6.38% for two-year growth). Results indicate that for an average U.S farm, net farm income will decline by 6.42%, while the net income margin will fall by 1.33%. In the most labor-intensive case in these states (40% increase in labor's TFP share), the income and margin reductions are 12.25% and 2.54%, respectively.

The income effect is expectedly more substantial in states that recorded the highest growth in the last two years (Georgia, Alabama, and South Carolina with a 10.70% increase). Based on the results in the lower panel of Table 4, a regular, relatively less labor-intensive farm will experience a 10.77% and 2.23% decline in net income levels and margins. More labor-intensive farms' profitability will be more adversely affected as net incomes and margins will drop by as much as 21% and 4%, respectively.

Figure 3 recalls the regional AEWR growth rates for 2022 to 2024 (last row of Table 1) and presents the plots of the changes in net farm income levels and under different LIF scenarios. The South, which has been the consistent largest regional patron of H-2A workers in recent years, records the worst regional case income squeeze scenario. Fruit and vegetable farms in the region normally fall under the 25% to 40% labor increment in TFP share and, thus, would stand to experience income reductions ranging from 12.8% to 15.6%. In contrast, the fruit and vegetable farms in the West, which is another popular work destination for H-2A workers, would experience slightly less income strains as incomes could fall by only about 8.1% to 9.9%. The nature of these regions' handling and timing of AEWR increases explains the differing trends in income repercussions.

SUMMARY AND IMPLICATIONS

This article demonstrates an instance where policymakers grapple with a difficult predicament when laying out policies for their constituents. Policy formulation has always been an intricate and challenging process as policymakers, on one hand, are bound to always uphold the preservation of the general welfare, but on the other hand, confront the reality that segments of its constituents could have varied, at times conflicting, demands and needs.

In our analysis, recent spikes in AEWRs set in an abrupt, unprecedented manner have drawn mixed reactions from different sectors in the economy. On one end, workers' rights advocates and their supporters commend the move for its alignment with social equalization principles that promote the prioritization of workers' rights to fair, equitable work compensation. On another front, however, the businesses of these workers' employers must endure and cope with the deterioration of profits and margins that could threaten business viability. In essence, every policy decision must carefully ensure the balancing of all its possible repercussions by avoiding the alienation or sacrifice of specific segments in society while satisfying others' concerns and needs.

The AEWR case is an example of policymaking's difficult, challenging, balancing ordeal. In many policy discussions around this issue, some have recommended the alternative adoption of more gradual AEWR increases instead of the actual, sudden rate spikes in several states, even if these were designed to rectify historical oversights. Moderate annual rate increases could provide producers with some lead time to lay out coping business strategies over an interim period lasting until the target, equalizing AEWR levels are eventually and ultimately realized.

A crucial consideration in this balancing approach is the timing of policy enactment. The substantial minimization of wage-living gaps, if not its complete eradication, is a time-sensitive imperative that must not be delayed for a significantly long period of time. When policymakers address this imperative, they must also deliberately factor in the agribusiness sector's tolerance and financial endurance to determine a reasonable time frame to implement such policy. The combined goals of timing and balancing requires the determination of an implementation period that is mutually feasible and acceptable for both workers and farmers.

At times, however, potentially polarizing policies may be deemed inevitable and cannot be delayed. In these situations, there seem to be no compromising solutions to address serious issues that need to be urgently addressed. In these instances, the government must quickly and promptly introduce mitigating policies to effectively offset any impending negative situations caused by the original policy. In the AEWR issue, for example, several policy ideas benefiting affected farm businesses could be explored. The government could introduce supplementary policies aimed at tempering inflationary pressures, stabilizing prices of other farm inputs, and minimizing margin squeezes caused by more expensive H-2A labor. These would allow farm businesses, especially the more financially vulnerable ones, to realize offsetting input cost effects and at least maintain operating efficiencies and profit margins. Trade-related policies could be aimed at increasing domestic consumer dependence on locally produced commodities, improving local producers' competitive stance relative to their foreign counterparts, and strengthening global trading relationships. These trade reforms should resolve the local producers' market stature as they deal with competing foreign producers with access to significantly cheaper labor inputs.

All told, every policy must always have an unequivocal goal that should never be compromised. Without exception, any policy and its related extenuations must serve as fiscal tools of equity, inclusion, and fairness where everyone's welfare is subordinate to none.

FOOTNOTES

1 Between 2022 and 2024, the states with the 10 most significant AEWR growth trends posted average two-year growth rates ranging from 8.05% to 10.70%.

2 The regional groupings of U.S. states are as follows: ATLANTIC states include North Carolina, Virginia, West Virginia, Maryland, Connecticut, Massachusetts, New York, Vermont, New Hampshire, Maine, New Jersey, Rhode Island, and Delaware; MIDWEST states are Minnesota, Iowa, Wisconsin, Illinois, Missouri, Indiana, Ohio, Pennsylvania, and Michigan; PLAINS states are Nebraska, Kansas, Texas, North Dakota, South Dakota, and Oklahoma; WEST states include California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, and Hawaii; and SOUTH states are Arkansas, Florida, Georgia, Louisiana, Mississippi, Alabama, Tennessee, South Carolina, and Kentucky.

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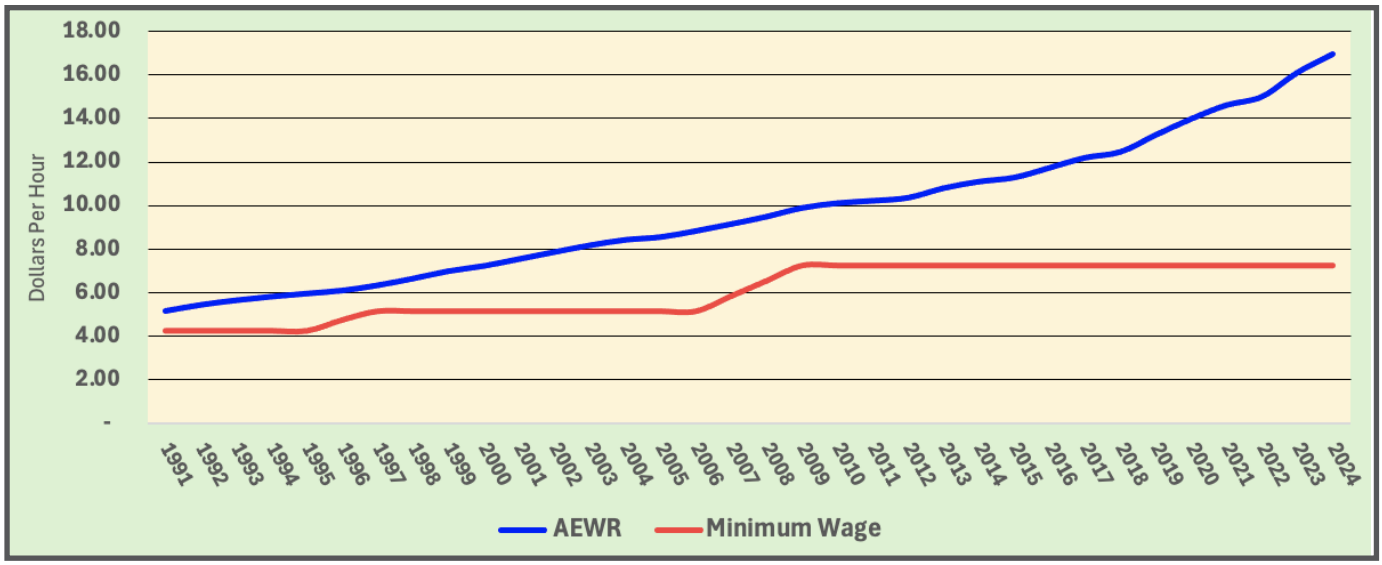

Figure 1. Historical levels of Adverse Effect Wage Rates (AEWRs) and minimum wages, national average, 1991–2024*

*Sources: Department of Labor, Foreign Labor Application Gateway (FLAG), and Wage and Hour Division (WHD)

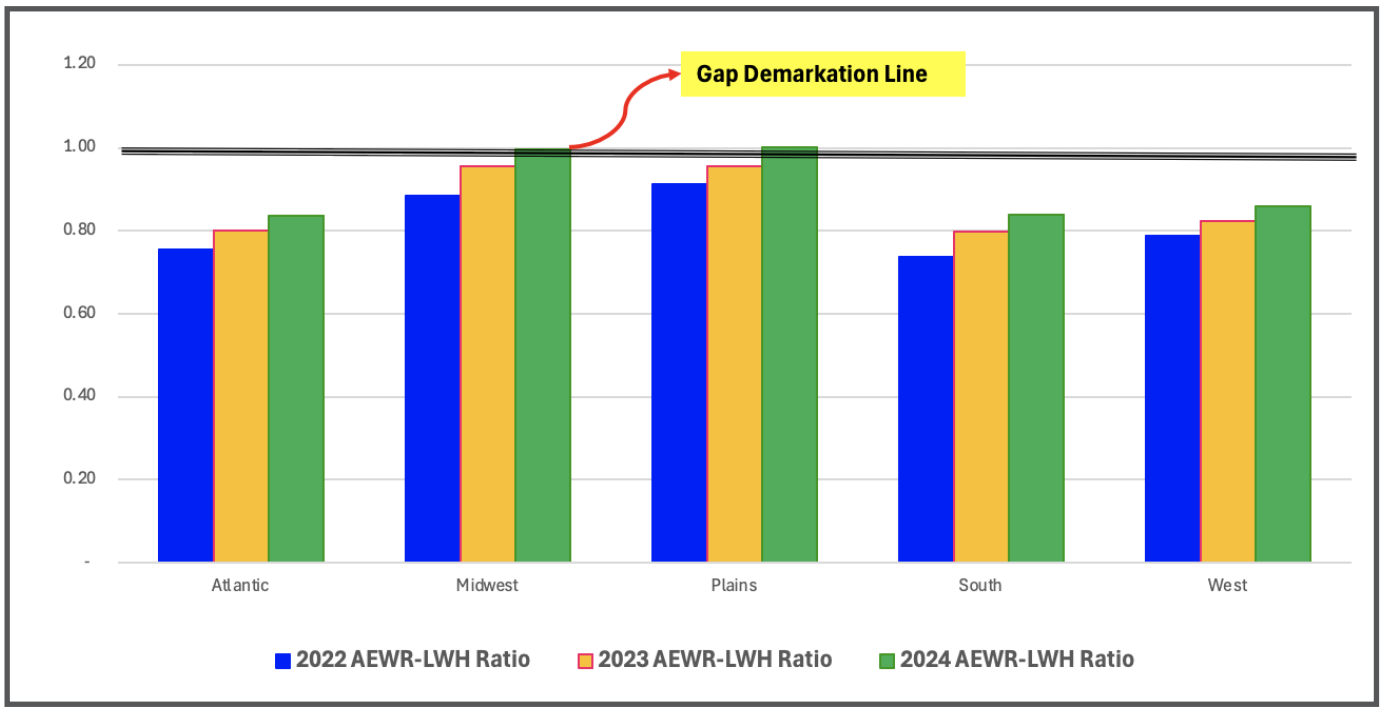

Figure 2. Adverse Effect Wage Rate to living wage (AEWR:LWH) ratios, regional averages, 2022–2024*

*Sources: Department of Labor Foreign Labor Application Gateway (FLAG) and Massachusetts Institute of Technology (MIT) Living Wage Calculator. Note: The regional groupings of U.S. states are as follows: ATLANTIC states include North Carolina, Virginia, West Virginia, Maryland, Connecticut, Massachusetts, New York, Vermont, New Hampshire, Maine, New Jersey, Rhode Island, and Delaware; MIDWEST states are Minnesota, Iowa, Wisconsin, Illinois, Missouri, Indiana, Ohio, Pennsylvania, and Michigan; PLAINS states are Nebraska, Kansas, Texas, North Dakota, South Dakota, and Oklahoma; WEST states include California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, and Hawaii; and SOUTH states are Arkansas, Florida, Georgia, Louisiana, Mississippi, Alabama, Tennessee, South Carolina, and Kentucky

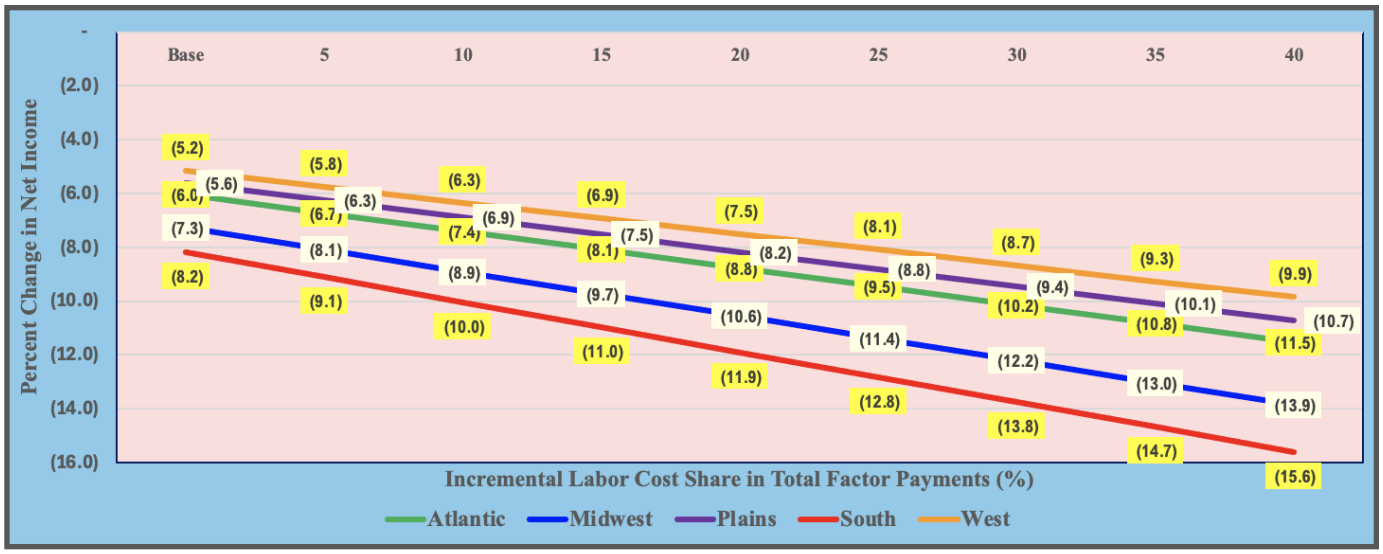

Figure 3. Declining net income levels due to AEWR increases in 2023 and 2024 under different scenarios of farm labor intensity for the U.S. production regions

Table 1. Regional Adverse Effect Wage Rates (AEWRs),[1] Levels, and Growth Rates, 2000–2024

Time Period	Atlantic	Midwest	Plains	South	West	Atlantic	Midwest	Plains	South	West
	Average AEWR ($ per Hour)					Minimum Wage ($ per Hour)				
2000–2009	8.49	9.10	8.40	7.84	8.62	6.11	5.59	4.84	5.32	5.98
2010–2018	10.86	11.78	11.65	10.05	11.30	8.08	7.61	7.46	6.82	8.01
2019–2022	13.91	14.69	14.30	12.01	14.76	10.53	8.64	7.91	8.52	10.20
2022	15.27	15.74	15.61	12.61	15.77	11.48	9.07	7.99	8.88	10.90
2023	16.34	17.24	16.51	13.87	16.60	12.12	9.42	8.38	9.13	11.41
2024	17.15	18.09	17.40	14.74	17.43	12.86	9.66	8.70	10.08	12.63
	Average Annual AEWR Growth Rates (%)					Average Annual Minimum Wage Growth Rates (%)				
2000–2009	3.53	3.76	3.94	3.39	3.47	3.48	3.83	3.34	3.84	3.90
2010–2018	2.53	2.41	2.97	2.25	2.30	2.69	1.53	3.38	1.66	2.61
2019–2022	5.84	5.59	5.48	3.64	4.76	5.71	3.09	0.58	5.13	4.76
2022–2024	6.00	7.22	5.58	8.13	5.13	5.82	3.18	4.34	6.66	7.70

Source: Department of Labor, Foreign Labor Application Gateway (FLAG)

Note: [1]The regional groupings of U.S. states are as follows: ATLANTIC states include North Carolina, Virginia, West Virginia, Maryland, Connecticut, Massachusetts, New York, Vermont, New Hampshire, Maine, New Jersey, Rhode Island, and Delaware; MIDWEST states are Minnesota, Iowa, Wisconsin, Illinois, Missouri, Indiana, Ohio, Pennsylvania, and Michigan; PLAINS states are Nebraska, Kansas, Texas, North Dakota, South Dakota, and Oklahoma; WEST states include California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, and Hawaii; and SOUTH states are Arkansas, Florida, Georgia, Louisiana, Mississippi, Alabama, Tennessee, South Carolina, and Kentucky.

Table 2. Adverse Effect Wage Rate (AEWR) and Living Wage Per Hour (LWH) Ratios, by Region						
Region	Adjusted Ratios			Unadjusted Ratios		
	2022	2023	2024	2022	2023	2024
Atlantic	0.76	0.80	0.84	0.65	0.69	0.73
Midwest	0.88	0.96	1.00	0.76	0.83	0.87
Plains	0.91	0.96	1.00	0.78	0.83	0.87
South	0.74	0.80	0.84	0.61	0.67	0.72
West	0.79	0.82	0.86	0.68	0.71	0.75

Sources: Department of Labor Foreign Labor Application Gateway (FLAG) and Massachusetts Institute of Technology (MIT) Living Wage Calculator

Note: [1]The regional groupings of U.S. states are as follows: ATLANTIC states include North Carolina, Virginia, West Virginia, Maryland, Connecticut, Massachusetts, New York, Vermont, New Hampshire, Maine, New Jersey, Rhode Island, and Delaware; MIDWEST states are Minnesota, Iowa, Wisconsin, Illinois, Missouri, Indiana, Ohio, Pennsylvania, and Michigan; PLAINS states are Nebraska, Kansas, Texas, North Dakota, South Dakota, and Oklahoma; WEST states include California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, and Hawaii; and SOUTH states are Arkansas, Florida, Georgia, Louisiana, Mississippi, Alabama, Tennessee, South Carolina, and Kentucky

Table 3. Farm Cash Receipts and Labor Costs, U.S. Fruit and Vegetable Sector, 2018–2024							
Financial and Labor Measures	**2018**	**2019**	**2020**	**2021**	**2022**	**2023F**	**2024F**
Gross Cash Receipts, $'000							
Fruits and Tree Nuts	29,350,820	29,194,440	27,832,041	30,641,709	26,913,586	26,801,455	27,564,587
Vegetables and Melons	18,678,919	19,097,959	21,053,596	19,471,584	25,205,469	22,740,681	22,710,417
Labor Cost Estimate, $'000[1]	20,679,437	20,776,682	20,945,857	21,577,403	22,193,301	21,905,676	22,801,663
Fruits and Tree Nuts	13,207,869	13,137,498	12,524,418	13,788,769	12,111,114	12,487,484	13,162,242
Vegetables and Melons	7,471,568	7,639,184	8,421,438	7,788,634	10,082,188	9,418,192	9,639,421
Certified H-2A Workers	242,762	257,667	275,439	317,619	371,619	378,513	375,066
AEWR ($ per Hour)	12.47	13.25	13.99	14.62	15.56	16.13	16.98
Total H-2A Wages per Hour ($)	3,027,242	3,414,088	3,853,392	4,643,590	5,782,392	6,105,415	6,368,621
Fruits and Veg Sector's H-2A Share[2]	1,331,987	1,502,199	1,695,492	2,043,180	2,544,252	2,686,382	2,802,193

Source: USDA-ERS, 2024

Note: [1]The labor cost figures for fruit and vegetable farms are calculated based on the findings of Castillo et al. (2021) that labor costs account for 45% and 40%, respectively, of these industries' gross cash receipts.

[2] Castillo et al. (2021) estimates that foreign workers comprise 44% of all hired labor. We assume here that all foreign workers are employed under the H-2A program.

Table 4. Estimated Effects of 2023–2024 AEWR Increases on 2024 Net Farm Income Levels and Margins, All U.S. States

Net Income Effect under Two AEWR Growth Scenarios	Incremental Labor Intensiveness (Additional Labor Share in Total Factor Input Costs)								
	Base	5%	10%	15%	20%	25%	30%	35%	40%
A. Average State AEWR Growth between 2022 and 2024 (6.38%) [1]									
Labor's Share in Total Factor Payments (TFP)	44.10%	49.10%	54.10%	59.10%	64.10%	69.10%	74.10%	79.10%	84.10%
Adjusted TFP's VFP Share with AEWR Change[2]	17.58%	17.73%	17.88%	18.03%	18.18%	18.33%	18.48%	18.63%	18.78%
Adjusted Net Income Margin after AEWR Increments[3]	19.37%	19.22%	19.07%	18.92%	18.77%	18.62%	18.47%	18.32%	18.17%
Change in Net Income after AEWR Increments[4]	-6.42%	-7.15%	-7.88%	-8.61%	-9.34%	-10.06%	-10.79%	-11.52%	-12.25%
Change in Net Income Margin after AEWR Increments[5]	-1.33%	-1.48%	-1.63%	-1.78%	-1.93%	-2.08%	-2.23%	-2.38%	-2.54%
B. Highest State AEWR Growth between 2022 and 2024 (10.70%) [6]									
Labor's Share in TFP	44.10%	49.10%	54.10%	59.10%	64.10%	69.10%	74.10%	79.10%	84.10%
Adjusted TFP's VFP Share with AEWR Change[2]	18.48%	18.73%	18.99%	19.24%	19.49%	19.75%	20.00%	20.25%	20.50%
Adjusted Net Income Margin after AEWR Increments[3]	18.47%	18.22%	17.96%	17.71%	17.46%	17.21%	16.95%	16.70%	16.45%
Change in Net Income after AEWR Increments[4]	-10.77%	-11.99%	-13.21%	-14.44%	-15.66%	-16.88%	-18.10%	-19.32%	-20.54%
Change in Net Income Margin after AEWR Increments[5]	-2.23%	-2.48%	-2.74%	-2.99%	-3.24%	-3.49%	-3.75%	-4.00%	-4.25%

Notes:

[1] The state-level annual AEWR increases in 2023 and 2024 were 7.49% and 5.26%, respectively. The average of these two rates is 6.38%.

[2] In the USDA-ERS's forecasted 2024 estimates, the share of Total Factor Payments (TFPs) in Value of Farm Production (VFP) is 16.25%. In this row, this share is increased by the AEWR incremental effect for 2023 and 2024, further adjusted by additional H-2A fringe benefit costs for housing, meals, transportation, and other.

[3] Net income margins are adjusted by factoring in TFP's larger share of VFP.

[4] Net incomes are then recalculated using the adjusted net income margin in the previous row. The changes in absolute net income levels are based on deviations of the newly derived net income from the 2024 net farm income estimate of $116 billion.

[5] The changes in net income margins are based on the baseline 2024 net income margin of 20.70%, derived from total VFP of $560 billion and a net farm income estimate of $116 billion.

[6] Among all states, Georgia, Alabama, and South Carolina posted the highest average AEWR growth rate from 2022–2024 of 10.70%.