

# LABOR RESILIENCY IN THE FOOD SUPPLY CHAIN

SEPTEMBER 2022

FOOD  
FOOD  
FOOD

JOB QUALITY  
JOB SAFETY  
JOB SECURITY

FOOD JOB FOOD JOB

FOOD QUALITY  
FOOD SAFETY  
FOOD SECURITY



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FOOD JOB

## Executive Summary

**Problem:** Labor shortages and talent degradation are short and long-term risks to stable cost, quality, and assured supply in the food industry.

**Goals:** Decrease disruptions to supply and cost, attract and retain the best talent, build stakeholder alignment on innovative ideas to pursue, understand synergies across supply chain.

### Proposed solutions:

- All managers need training in people management, so they understand the importance of emphasizing caring, respectful supervision, and fair dealing with employees
- Re-visit and re-design recruitment and selection systems to incorporate critical, validated, techniques such as job analysis and behavioral interviewing
- Offer realistic job previews to increase retention
- Re-think superfluous job requirements, offer necessary accommodations to increase talent pool of qualified candidates, and promote from within to enhance talent pipeline
- Offer employees training to build needed skills
- Incorporate automation to help improve efficiency, outcomes, and performance
- Emphasize community outreach to understand where and how your employees live

**Opportunities:** building resilience by stabilizing employment, attracting new talent, and becoming an employer of choice.

**Risks:** Without a stable, talented, and loyal workforce, the industry will experience increased risks to supply, cost, and quality.

**Recommended next steps:** discuss internally, discuss opportunities across supply chain, and take action to address priorities.

# Table of Contents

<i>The Current Environment</i> .....	3
Unprecedented Labor Churn .....	3
Wages in Key Occupations.....	5
Regional Analysis .....	6
<b>STRATEGIC PRIORITY: STABILIZE EMPLOYMENT</b> .....	7
Tactic: Improve Job Quality with Low-Cost Interventions .....	7
Tactic: Promote From Within and Diversify Upper Ranks .....	11
Tactic: Hire Direct and Build a Loyal Workforce.....	12
<b>STRATEGIC PRIORITY: ATTRACT NEW TALENT</b> .....	14
Tactic: Thoroughly Analyze Jobs, and Required Knowledge, Skills, Abilities, other Characteristics (KSAOs).....	14
Tactic: Remove Unnecessary Skill and Qualification Requirements.....	15
Tactic: Make Accommodations for Hard to Hire Groups.....	16
Tactic: Use Realistic Job Previews (RJPs) to Retain New Workers .....	17
<b>STRATEGIC PRIORITY: BE AN EMPLOYER OF CHOICE</b> .....	18
Tactic: Gather Common Data and Track Performance.....	18
Tactic: Use Automation Technology to Make Better Jobs.....	20
Tactic: Be a Leader in Your Community .....	22
Tactic: Link Job Quality to Meaningful Goals.....	24
<b>Key Labor Risks: Sources and Solutions</b> .....	26
Staffing Shortages .....	26
Skill Shortages .....	26
Disengagement and Discontent.....	26
Critical jobs in the food industry .....	26
<b>Best Practices for Inclusive Hiring</b> .....	29
<b>Detailed Regional Analysis</b> .....	31
<b>Conclusion: Some Employment Models Will Not Last</b> .....	37
<b>Author Bios</b> .....	38

# The Current Environment

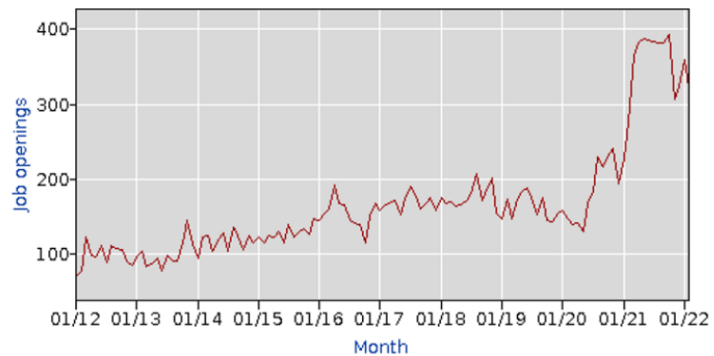
## Unprecedented Labor Churn

Quits, new job openings, and new hires are all at record levels.

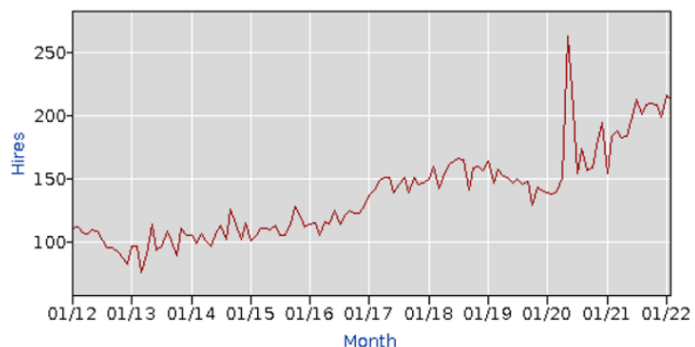
Stabilizing the food industry workforce is key to reducing risks to operations and cost, as well as ensuring food quality, safety, and security.

Job quality, safety, and security are integrally connected to goals for labor resiliency.

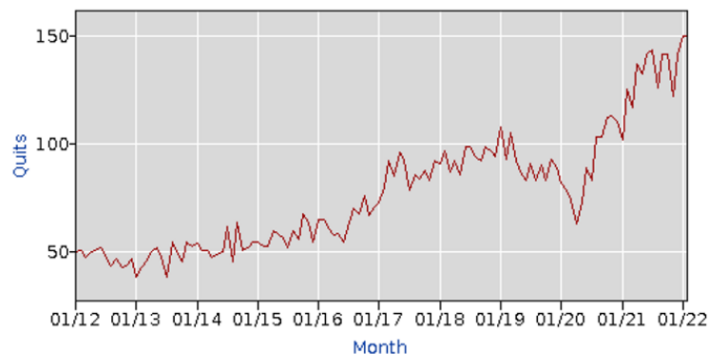
### Job Openings



### New Hires



### Quits



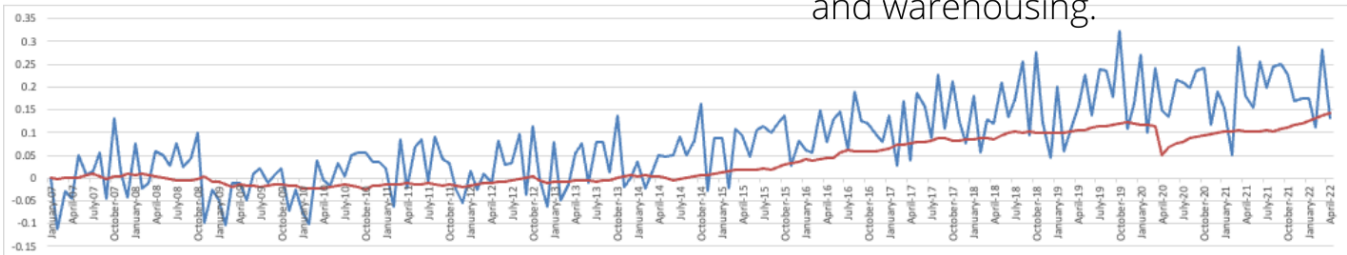
Source: JOLTS, BLS, Non-Durable Goods Industry



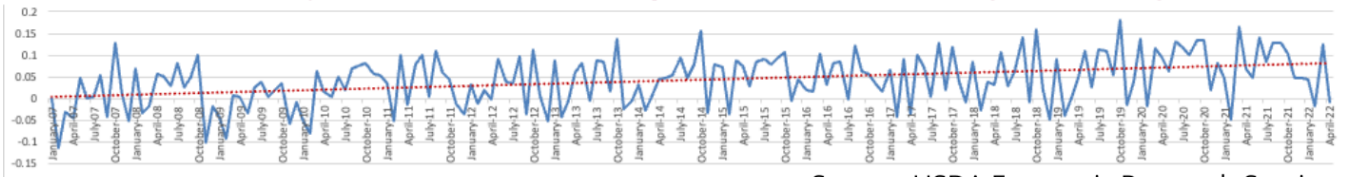
# Employment & Production Trends

Employment in Red Meat production (red line) is sensitive to the business cycle, while production trends exhibit greater seasonal volatility (blue line).

We examined wages and employment in occupations that comprise 50% of all jobs in the food manufacturing industry, animal slaughter and processing, and transportation and warehousing.



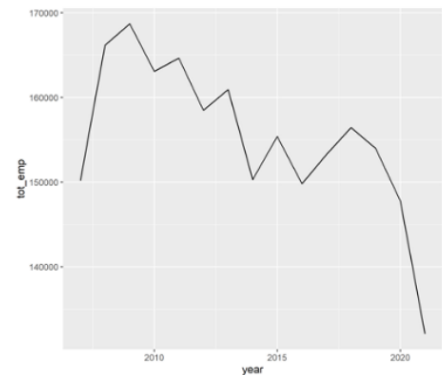
## Productivity in Red Meat production is growing



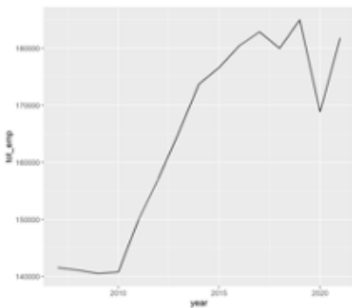
Source: USDA Economic Research Service

## Key Occupation Analysis Shows Limited Evidence of Automation - no silver bullets

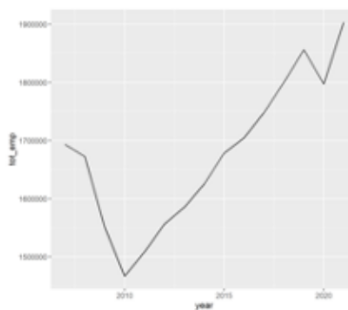
Employment is up in most key occupations. Only meatpacking cutters and trimmers employment predicted to drop significantly - 30% by 2030 (at right)



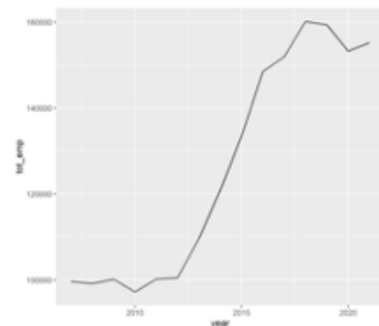
Bakers



Truck Drivers



Batchmakers

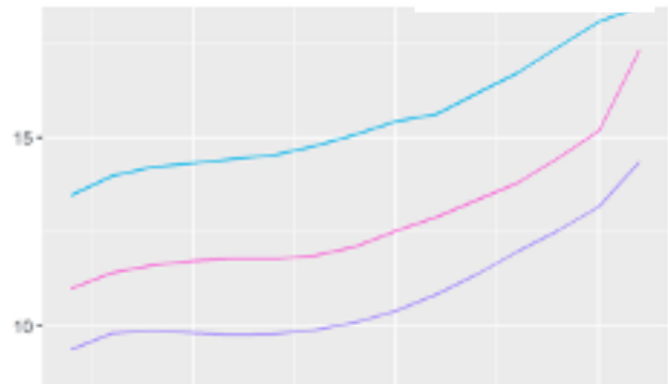


Source: BLS National Employment Matrix; Occupational Projections

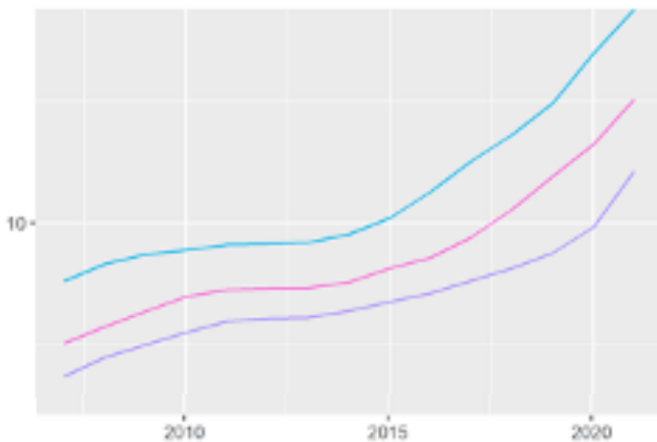
# Wages in Key Occupations

Tractor  
 h\_median  
 h\_pct10  
 h\_pct25

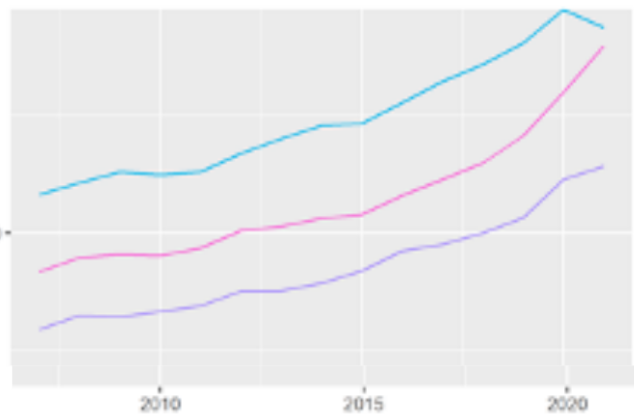
Rapid wage increases since 2020 can be seen in many occupations at the median wage level and below (25th and 10th percentile)



Packers

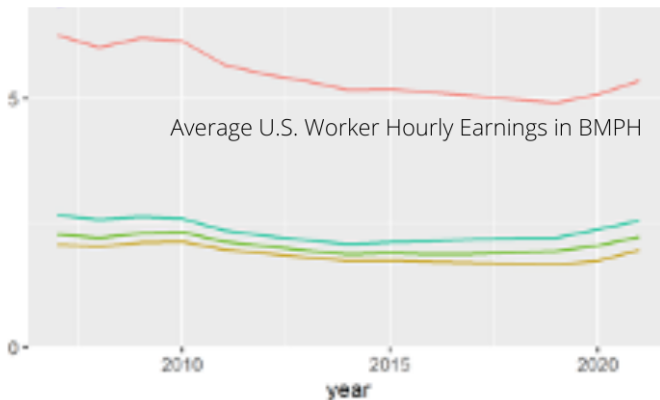


Slaughterers

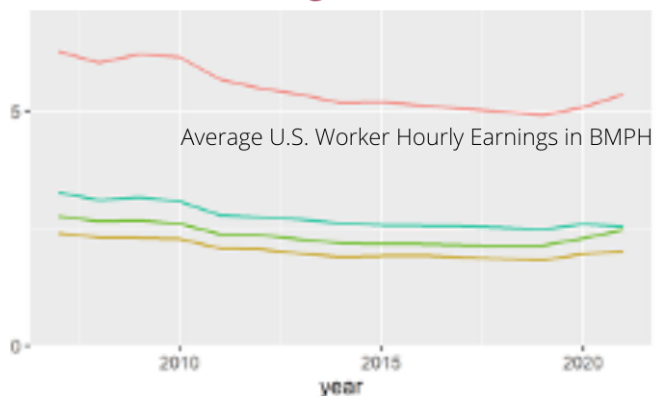


Inflation since 2010 however means real wages are mostly flat, and recent gains are real only for the lowest paid

Packers



Slaughterers

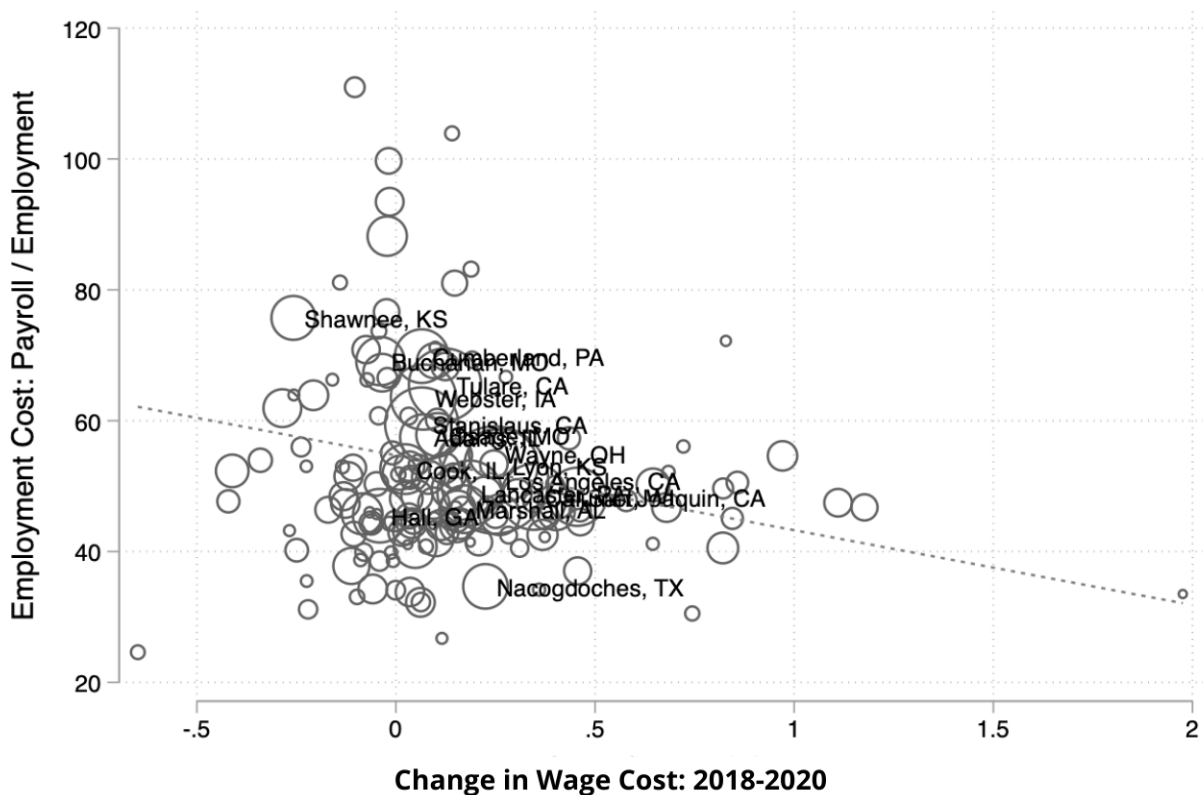


Real wages expressed here in "Big Macs Per Hour" (BMPH) - how many Big Macs a worker can buy for each hour worked. This illustrates recent wage increases in the context of longer-term declines in real purchasing power for workers.

# Regional Analysis

We studied wage costs and the change in wage costs from 2018-2020 in the food manufacturing industry, focusing on the largest food manufacturing counties in the U.S. using Census (County Business Patterns) and Department of Agriculture Rural Atlas data. We did not find many of the patterns that were anticipated to be associated with local variation in high wage costs and change in wage costs. This suggests broad national trends are linked.

## Counties with Lower Wage Costs Experienced Faster Wage Growth from 2018-2020



Additional graphs in the Appendix suggest weak relationships between local wage costs and wage growth local education levels, Urban / Rural areas, unemployment rates, percent foreign born, and international migration rates.

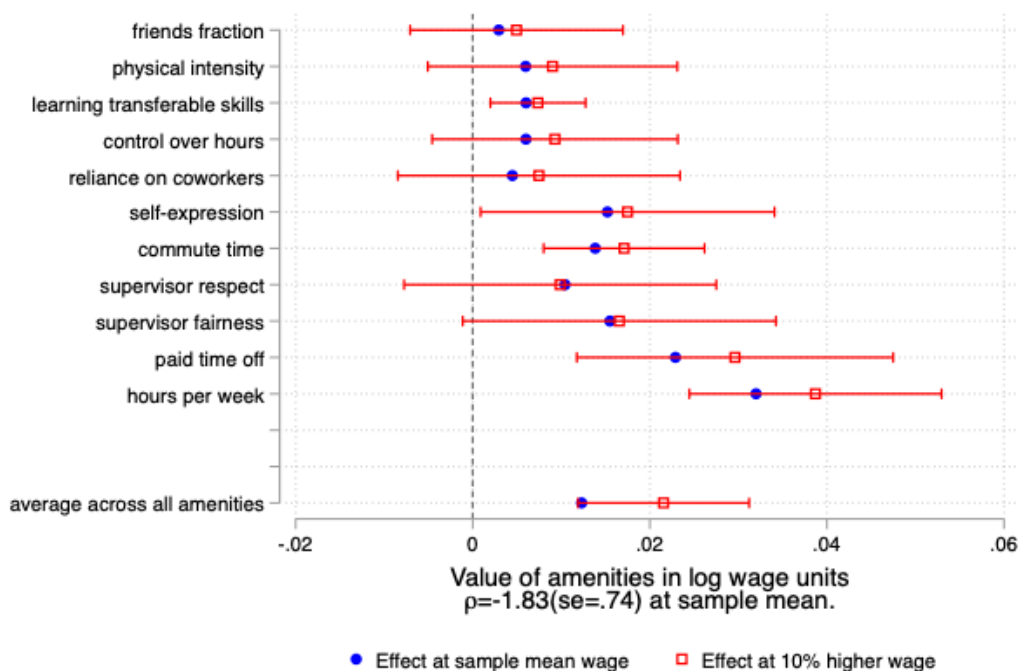
## STRATEGIC PRIORITY: STABILIZE EMPLOYMENT

Reducing turnover, investing in training and development, and being a great place to work are key to growing productivity

*Training managers to treat people fairly and with respect and giving people stable and sufficient hours, will go a long way. Decades of research evidence show that a "bad job" can be made a "better job." Improvements to job quality are possible through specific, research-backed approaches.*

### Tactic: Improve Job Quality with Low-Cost Interventions

*Research demonstrates Job Amenities Have the Same ROI as significant wage increases*



Economists surveyed over 10,000 Wal-Mart employees through Facebook and estimated the dollar value of providing amenities to workers.<sup>1</sup> This figure illustrates that the effect of a low or no-cost amenity is equivalent to a 2% wage increase on average.

- **Offering sufficient hours and stable hours each week, fair and respectful supervision, ability to express oneself, and learning transferrable skills significantly reduce turnover and associated costs.**

<sup>1</sup> Dube, A., Naidu, S., & Reich, A. D. (2021). Power and Dignity In the Low-Wage Labor Market: Theory and Evidence from Walmart Workers. Working Paper. [https://econ2017.sites.olt.ubc.ca/files/2022/04/Arindrajit-Dube\\_5Apr.pdf](https://econ2017.sites.olt.ubc.ca/files/2022/04/Arindrajit-Dube_5Apr.pdf)

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*Recommendation: Rely on Meta-Analysis Backed Research to Find What Works*

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Evidence-based management requires a reliable source of evidence. The meta-analysis of research on links between HR interventions by the Workforce and Organizational Research Center illustrates what job

characteristics can be linked to specific outcomes such as:

- turnover, commitment, performance, engagement, and burnout.
- E.g., If turnover is a problem, job characteristics linked with reduced turnover include:
  - role stressors, autonomy, perceived support from organization, coworkers, and supervisors, opportunities for training and development, job security, opportunities for advancement, opportunities for voice, unionization, and formalized HR practices.
- Check out the “Job Quality Maps” at <https://www.workresearchcenter.org/job-quality-maps>.
- Investors are increasingly going to add HR criteria to investment decisions and “warrant inclusion in standard investment analysis,” according to a report funded by the Investor Responsibility Research Center Institute (IRRCi) and authored by experts at the Labor and Worklife Program at Harvard Law School.<sup>2</sup>

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*Investing in better HR practices pays financial dividends: “an equal-weighted portfolio of companies that treat their employees the best earns an excess return of 2% to 2.7% per year.”<sup>3</sup>*

### **What is meta-analysis?**

Rather than rely on any one study, which can be influenced by many factors, meta-analysis systematically combines the results of many related studies and can highlight practices that have the greatest evidentiary support.

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<sup>2</sup> [https://lwp.law.harvard.edu/files/lwp/files/final\\_human\\_capital\\_materiality\\_april\\_23\\_2015.pdf](https://lwp.law.harvard.edu/files/lwp/files/final_human_capital_materiality_april_23_2015.pdf)

<sup>3</sup> Boustanifar, Hamid, and Young Dae Kang. 2022. “Employee Satisfaction and Long-Run Stock Returns, 1984–2020.” *Financial Analysts Journal* 78 (3): 129–51. <https://doi.org/10.1080/0015198X.2022.2074241>.

## An Example of Investing in Transferable Skills at Tyson Foods

February 04, 2021

Share



# Tyson Foods to Launch New Career Development Program for Frontline Workers

## Upward Pathways to Provide Education, Skills Needed for Career Growth at No Cost

**SPRINGDALE, ARK. – February 4, 2021** – Tyson Foods, Inc. is launching Upward Pathways, an in-plant career development program that provides frontline team members with job skills training and workforce certifications at no cost.

Build an employment pipeline and a skills pipeline. Recover investments in training by being a great place to work. Partner with Workforce Development Agencies, community colleges, vocational education, local universities (for tech hiring).

### *Background: General Skills Training and Worker Mobility*

As loyalties between workers and firms have weakened, workers and firms form fewer mutual bonds over the long-term, which may lead to inefficient under-investments in skills that could provide a higher quality, more dependable labor source with fewer risks of disruption due to attrition.

In theory, it does not make sense for employers to provide or pay for "general skills training" that would make a worker more productive if the worker can easily quit their job and take their new skills somewhere else. In economic logic, in a competitive labor market, employers only provide "firm-specific skills" that increase worker efficiency only at the firm where they currently work.

The insight suggests that investments in paying for general skills training will pay off only when workers are attached to the firms they work for and are less likely to quit for the next job that pays a little more. Middle-class workers in the U.S. once commonly had "golden handcuffs" that tied them to firms, but where unions, pensions, tenure-based promotion systems and other benefits that pay out with loyalty have declined, it may be harder to justify offering general skills training.

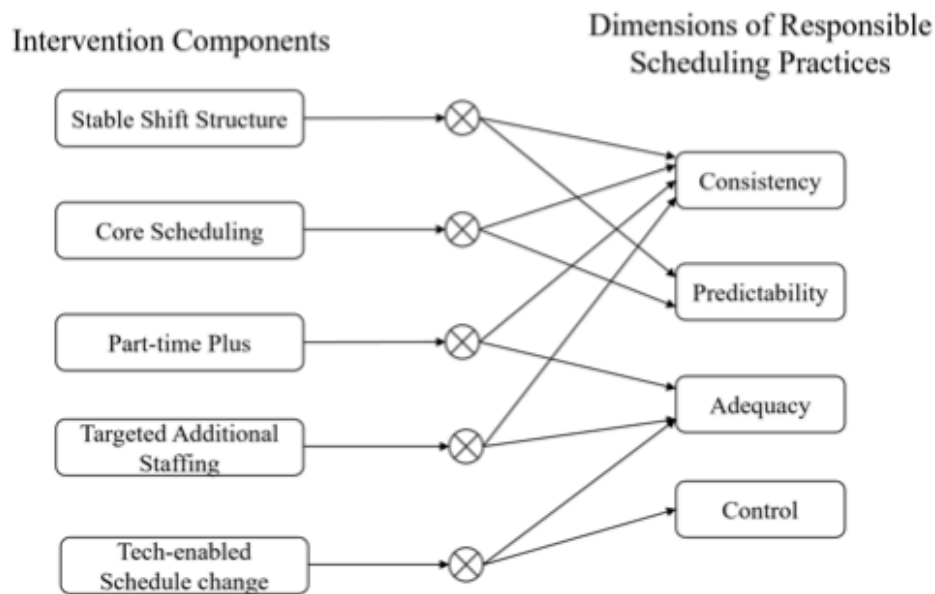


### Case Study: The Payoff from Stable Scheduling at The Gap<sup>4</sup>

*“Whatever a company can do to show people they care—it can’t be bad”*

- Gap, Inc. store manager

- The Gap conducted a pilot experiment in 28 stores where retail employees were offered stable schedules for 9 months.
- Workers’ hours increased. Workers were offered soft guarantees of 20 hours / week. Variation in hours decreased by 4%



**Figure 1 Intervention Components and Targeted Dimensions of Work Schedules**

- Stable scheduling increased sales by 3.3%, labor productivity by 5%, and overall labor demand by 1.8%.
- The only cost was \$31,000; the estimated increased sales were \$2.9 million.

<sup>4</sup>Kesavan, Saravanan and Lambert, Susan and Williams, Joan and Pendem, Pradeep, Doing Well By Doing Good: Improving Store Performance with Responsible Scheduling Practices at the Gap, Inc. (June 6, 2021). Forthcoming in Management Science, Available at SSRN: <https://ssrn.com/abstract=3731670> or <http://dx.doi.org/10.2139/ssrn.3731670>

Also see: <https://worklifelaw.org/publications/Stable-Scheduling-Study-Report.pdf>. The “Shift Project” at the Harvard Kennedy School also highlights the unequal burdens and negative impacts of schedule instability. <https://shift.hks.harvard.edu/its-about-time-how-work-schedule-instability-matters-for-workers-families-and-racial-inequality/>

**Tactic: Promote From Within and Diversify Upper Ranks**

Room for improvement: diversifying management, sales, technical, and executive workforce by promoting laborers and operatives would strengthen pipeline.<sup>5</sup>

*Diversity Statistics Suggest Room for Improvement*

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Sex of Workers in the Food Manufacturing Industry

Male	62%
Female	38%

Race of Workers in the Food Manufacturing Industry

White	43%
Black	19%
Hispanic	29%
Asian	6%
American Indian	1%
Native Hawaiian	1%
Two Or More	1%

White, Male Workers are Majority of the Executive, Professional, Technical, Craft and Managerial Workforce

Non-White Majority Workforce in Laborer, Service, and Operative Positions

Level	% of Workforce	% Male	% White	% Black	% Hispanic
Senior Managers	1%	78%	83%	5%	6%
Professionals	5%	54%	76%	6%	10%
Technicians	3%	55%	55%	14%	24%
Sales Workers	2%	61%	80%	4%	10%
Clericals	5%	29%	65%	9%	20%
Craft	8%	91%	63%	10%	22%
Operatives	30%	72%	41%	19%	32%
Laborers	34%	53%	22%	27%	40%
Service	5%	47%	44%	18%	28%
Managers	8%	71%	72%	8%	14%

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<sup>5</sup> Source: EEOC Data Explorer – EEO-1 Report Food Manufacturing Industry



## **Tactic: Hire Direct and Build a Loyal Workforce**

Employers should develop relationships with sources of talent trained or ready for firm-specific needs.<sup>6</sup>

See Case Study on FedEx vs. UPS below.

Permanent employees have more financial security and less stress, enhancing their overall performance and motivation while inspiring them to develop long-term relationships and team-oriented mindsets.

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<sup>6</sup> <https://www.retailtouchpoints.com/blog/strengthening-your-warehouse-workforce-amidst-the-great-resignation>

## Case Study: Can High-Turnover Business Models Thrive in a Strong Labor Market?

**Bloomberg:** “Highly Paid Union Workers Give UPS a Surprise Win in Delivery Wars: FedEx’s less costly contractor drivers were supposed to give it an edge. But labor shortages are hobbling services.”<sup>7</sup>



- UPS has been beating earning expectations
- FedEx has \$450 million in extra costs due to labor shortages
- FedEx on-time performance has sunk to 85% while UPS is at 95%
- “Even while paying union workers almost twice what FedEx Ground drivers make, UPS earns a return on invested capital that’s more than double its rival’s.”

UPS’s richer pay package makes it easier for the company to hire part-time workers at the sorting hubs, where it also offers the incentive of moving into a delivery driver job that can eventually pay ... This creates a stable workforce at the hub and a steady pool of driver candidates whose work habits are already known to the company.”

*“I came out of the lower middle class, and I’m living the dream,”*

- Dave Helminski, UPS driver for 40 years in Chicago, Marine Corps Veteran, spent a few years loading trucks before becoming a driver. Upon retirement in 2022, his pension will pay “almost the same \$100,000 a year he makes now.”

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<sup>7</sup> <https://www.bloomberg.com/news/articles/2021-11-04/labor-shortage-ups-union-drivers-give-delivery-service-edge-over-fedex-fdx>

## **STRATEGIC PRIORITY: ATTRACT NEW TALENT**

Conduct job analyses, reduce barriers to employment, promote from within, revise recruitment and selection tactics, and look in far to reach places – groups that face or have historically faced discrimination can be a loyal and resilient workforce (e.g. women, minorities, boomerang employees (retirees), part-timers, refugees, guest workers, and other migrant groups).

### **Tactic: Thoroughly Analyze Jobs, and Required Knowledge, Skills, Abilities, other Characteristics (KSAOs)**

Before identifying who would be the best fit, attracting the right talent requires conducting 'Job Analysis', a scientific process of identifying Knowledge, Skills, Abilities, and Other characteristics (KSAOs) required to successfully complete any job.

Without job analyses, job advertisements or job descriptions will be flawed. Managers will not understand who is needed to fill a job. As automation is also on the horizon for some jobs, a thorough job analysis can reveal surprising information about time use, skills, and help define strong performance and role expectations. There are several ways of conducting job analyses, including but not limited to:

- I. open-ended questionnaires,
- II. structured questionnaires,
- III. interviews with those doing the jobs,
- IV. observation of what individuals do on the job,
- V. 360-degree interviews with subject matter experts (SMEs), including those who are working on a specific job, those who have done that job before, those who have supervised the job, and customers/clients. This approach provides critical information on the job from all directions, and avoids over-reliance on one perspective, thus minimizing, if not eliminating, biases.

## Tactic: Remove Unnecessary Skill and Qualification Requirements

As job analysis discussions take place with managers, decide, for example:

- Are work experience requirements necessary or can workers be trained?
- Are degree requirements necessary?
- Does the job require background checks and drug screenings?

*"more than 60% of the population doesn't have a degree, and that many degrees don't have any relevance to the job."*

- Boris Groysberg<sup>8</sup>



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<sup>8</sup> <https://hbswk.hbs.edu/item/college-degrees-the-job-requirement-companies-seek-but-don't-really-need>

## **Tactic: Make Accommodations for Hard to Hire Groups**

- Sometimes, organizations must hire individuals who are otherwise a good fit but need an accommodation. Sometimes, groups of workers need accommodations.

### *Case Study: 150 Muslim Workers Fired at Meat-Packing Plant in 2015 Over Prayer Break Dispute<sup>9</sup>*

Muslims pray 5 times a day. A 5 minute prayer break was requested by experienced workers and they had taken such breaks for years without issue at the Colorado plant. Although facts are disputed, the report states that “a shift supervisor told a group of 11 employees they could no longer leave their stations on the meat-cutting line to pray.”

While accommodations may be a legal requirement in some cases involving religion and for workers with disabilities, the business case exists for training managers to recognize the benefits of accommodating workers’ requests even where no legal requirement exists.

Other examples of accommodations:

- Facilities for new mothers (e.g., lactation room)
- More flexible scheduling for new parents
- Assistance with transport / carpool for workers without a drivers’ license

Another opportunity to accommodate is to offer employer-provided training and change traditional ways of onboarding workers with no prior skill or experience.

For workers without requisite experience or skills, consider hiring on probation, and provide opportunities for development such as Training/Certifications for the F&B industry:

- Good Manufacturing Practice (GMP) Certification
- Hazard Analysis and Critical Control Points - HACCP Certification
- HAZMAT Training
- Six Sigma
- Occupational Safety and Health Administration (OSHA)
- Safe Quality Food (SQF) Certification

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<sup>9</sup> See “Dispute Over Prayer Breaks Divides Muslim Meatpacking Workers”, January 14, 2016. <https://www.npr.org/sections/thesalt/2016/01/14/462825374/at-meatpacking-plant-a-dispute-over-muslim-workers-prayer-breaks>

## **Tactic: Use Realistic Job Previews (RJPs) to Retain New Workers**

After attracting candidates, organizations must be ready to select those that would be the best fit with the organization and the job. Here it is critical to focus on **attitude** (e.g., conscientiousness, willingness to do routine jobs, physical labor) in conjunction with skills.

Offer **realistic job previews (RJPs)**. Realistic Job Previews are designed to (i) share company culture, (ii) describe the role's responsibilities in detail, (iii) discuss the work environment, (iv) share perks offered (or not), (v) development opportunities, and (vi) allow the candidate to meet with managers and senior leaders. The key is to be honest and realistic – don't oversell or undersell.

- Benefits of RJPs include (i) enhanced productivity of new hires, (ii) increased job satisfaction, (iii) higher retention, and (iv) self-selection, meaning those potential candidates who would not fit with the organization would withdraw from the selection process, increasing the organization's selection hit-rate as well as saving time spent on selection.

## STRATEGIC PRIORITY: BE AN EMPLOYER OF CHOICE

### Tactic: Gather Common Data and Track Performance

Employers should track key data related to becoming the employer of choice. At right is a sample scorecard.<sup>10</sup>

*Exhibit 4. Employer-of-Choice Scorecard*

Many of the areas addressed in this report already cover practices that are associated with being an employer of choice. A checklist from Branham (2005) is provided below.

There is no one size fits all solution. The greatest gains in a local context will depend upon the needs in that context. Even so, using common assessment and measurement tools to track progress will ground efforts to become an employer in choice in a common understanding of what it takes to get there.

We discuss training in more detail below. Here, as an example of ineffective interventions in the food industry, we emphasize that well-intentioned one size fits all solutions may not work even within the same company.

EOC Indicators	2005	2004
Voluntary Turnover Rate	11.9%	13.2%
Employee Referral Rate	21.2%	17.4%
Ratio of Jobs Filled Internally	39.8%	33.5%
New Hire Retention Rate	76.3%	71.8%
Quit Rate	13.5%	14.4%
Ratio of Acceptances to Offers	64.7%	59.7%
Percentage of Engaged Employees	36.6%	27.9%
Absenteeism Rate	4.0%	5.1%

*“Even when effective training plans are embraced by a plant, training methods are often ineffective. More specifically, training the wrong people, not training enough people or not providing enough training can render the attempt useless. Often times, consultants are brought in as experts in the field. The problem is that a consultant is not always able to apply the principles on a plant specific basis, as they are unfamiliar with the surroundings, nuances and general operating procedures (ERG, 2004).”<sup>11</sup>*

<sup>10</sup> Branham, L. (2005). Planning to become an employer of choice. *Journal of organizational Excellence*, 24(3), 57-68..

<sup>11</sup> Shinbaum, Samantha, Philip G. Crandall, and Corliss A. O’Bryan. 2016. “Evaluating Your Obligations for Employee Training According to the Food Safety Modernization Act.” *Food Control* 60 (February): 12–17. <https://doi.org/10.1016/j.foodcont.2015.07.014>.



## ***Exhibit 2. Summary Checklist of Employer-of-Choice Engagement Practices***

Because it is difficult to focus on implementing several practices all at once, you may wish to use the checklist to put items in order of importance or urgency as you begin to plan your employer-of-choice strategy.

### **To match candidates' expectations with work realities:**

1.  Conduct realistic job previews with every job candidate.
2.  Hire from pool of temp, adjunct staff, interns, and part-time workers.
3.  Hire candidates referred by current employees.
4.  Create a realistic job description with a short list of most critical competencies.
5.  Allow team members to interview candidates.
6.  Hire from pool of current employees.
7.  Create a way for candidates to "sample" the work experience.
8.  Survey or interview new hires to find out how to minimize new hire surprises in the future.

### **To match the person to the job:**

9.  Make a strong commitment to the continuous upgrading of talent.
10.  See that all hiring managers perform talent forecasting and success-factor analysis.
11.  Cast a wide recruiting net to expand the universe of best-fit candidates.
12.  Follow a purposeful and rigorous interview process.
13.  Track measures of hiring success.

### **To match the task to the person:**

14.  Conduct "entrance interviews" with all new hires.
15.  Work to enrich the jobs of all employees.
16.  Delegate tasks to challenge employees and enrich jobs.

### **To provide coaching and feedback:**

17.  Provide intensive feedback and coaching to new hires.
18.  Create a culture of continuous feedback and coaching.
19.  Train managers in performance coaching.
20.  Make performance management process less controlling and more of a partnership.
21.  Terminate nonperformers when best efforts to coach or reassign don't pay off.
22.  Hold managers accountable for coaching and giving feedback.

### **To provide career advancement and growth opportunities:**

23.  Provide self-assessment tools and career self-management training for all employees.
24.  Offer career coaching tools and training for all managers.

25.  Provide readily accessible information on career paths and competency requirements.
26.  Create alternatives to traditional career ladders.
27.  Keep employees informed about the company's strategy, direction, and talent need forecasts.
28.  Build and maintain a fair and efficient internal job-posting process.
29.  Show clear preference for hiring from within.
30.  Eliminate HR policies and management practices that block internal movement.
31.  Create a strong mentoring culture.
32.  Keep career development and performance appraisal processes separate.
33.  Build an effective talent review and succession management process.
34.  Maintain a strong commitment to employee training.

### **To make employees feel valued and recognized:**

35.  Offer competitive base pay linked to value creation.
36.  Reward results with variable pay aligned with business goals.
37.  Reward employees at a high enough level to motivate higher performance.
38.  Use cash payouts for on-the-spot recognition.
39.  Involve employees and encourage two-way communication when designing new pay systems.
40.  Monitor the pay system to ensure fairness, efficiency, consistency, and accuracy.
41.  Create a culture of informal recognition founded on sincere appreciation.
42.  Make new hires feel welcome and important.
43.  Ask for employee input, then listen, and respond.
44.  Keep employees in the loop.
45.  Provide the right tools and resources.
46.  Keep the physical environment fit to work in.

### **To reduce stress from work-life imbalance and overwork:**

47.  Initiate a culture of "giving-before-getting."
48.  Tailor the "culture of giving" to the needs of key talent.
49.  Build a culture that values spontaneous acts of caring.
50.  Build social connectedness and cohesion among employees.
51.  Encourage fun in the workplace.

### **To inspire trust and confidence in senior leaders:**

52.  Inspire confidence in a clear vision, a workable plan, and the competence to achieve it.
53.  Back up words with actions.
54.  Place your trust and confidence in your workforce.



## Tactic: Use Automation Technology to Make Better Jobs

If employers undertake a thorough job analysis to understand what workers are doing today, they will be better equipped to make informed decisions about which technologies to implement and what can reasonably be expected to provide a return on investment.

***BEWARE THE “SO-SO” Technologies. Ask yourself, does it raise the productivity of my workforce? If not, may not deliver benefits that are as strong as promised.***

- MIT Report on the Future of Work

Robots require maintenance as well as set up and training costs. They are likely to exceed the cost of workers in many situations, perform worse, and lead to greater volatility in production. A better approach may be to think about job augmentation and which tasks might be best to invest in automation within F&B manufacturing / distribution industry?

- As technology is making strides and expanding its reach, numerous jobs are being automated. For example, robotic fruit and vegetable grippers can be more precise than human pickers and lead to less wastage.
- Some advantages of automating processes in F&B are
  - I. minimizing human contact with food improves perceptions of hygiene and minimizes contamination,
  - II. machine vision ensures accuracy and helps increase consistency, a hallmark of the F&B industry,
  - III. cobots, or collaborative robots, are becoming more common and can have numerous applications where human and robots are required to work closely.

### **What will it take to support automation (i.e., labor, technology, etc.)?**

- In order to successfully introduce/increase automation within the F&B industry, we will need to (i) **train employees to work with robots**. This training should include technical training in operating robots, as well as psychological training, as many individuals would need to be convinced that they can successfully work alongside robots and/or cobots. Next, (ii) automation invariably leads to, and requires, a **culture shift** which can be minor or major depending on the size of the organization and its history. But, in each case, individuals would need training in change management to prepare them for robot (co-worker) interactions. This requires the use of the “unfreeze → introduce change → refreeze” model. Most individuals are not resistant to change, they just want to be informed and prepared. In other words, tell your people what change is coming, why it is necessary, how it will affect them, and then introduce the change.

**Best at Large Scale**

*“Automation still succeeds best at large scale. Because of high set up costs, such systems need to pay for themselves over a large number of operations. Advances in technology promise to enable robotics to be deployed more flexibly and productively at smaller scales, but it is still early in that cycle.” – MIT Report on the Future of Work*

- Given that the cost of automation is steadily decreasing, this is a good time to co-opt suppliers in the training programs. Many suppliers need training in where they might automate.

## Myths and realities about automation

- There are several persistent myths about automation that keep organizations from fully drawing the benefits. Among these, the most repeated one is that people will become unemployed – no, the

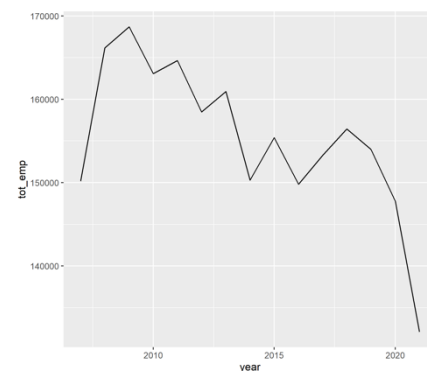
truth is that people are still required to operate the machines, so, what people do will change to some extent. Similarly, increasing automation means more service engineers will be needed – and they can't all be virtual, or work from home. These changes will, of course, require training, as noted above.

- Next, some jobs should be automated – for example, assembling sandwiches in extreme heat is not the best way to go about it – neither for the employee, the product, or the consumer.

*“The case for investing in job quality not job quantity: Contrary to the conventional narrative in which automation renders jobs increasingly scarce, we anticipate that, due to slowing labor force growth rates, rising ratios of retirees to workers, and increasingly restrictive immigration policies, over the next two decades industrialized countries will be grappling with more job openings than able-bodied adults to fill them–*

MIT Report on the Future of Work

**Cutters and trimmers predicted employment will drop 30% by 2030 and is already down 30,000 from peak.**



## Tactic: Be a Leader in Your Community

*Prioritize social investment using employee survey data.*

Whatever the personal concerns or civic interests employees have, listen, prioritize, invest, and act to address their interests and challenges in the community. For example, if housing shortages are a problem, build housing. If daycare is a problem, build a daycare. To appeal as an employer of choice, being a community leader can provide multiple benefits. Other ways to invest in workers' community include donation-matching, and helping workers build equity and credit.

*Example: Tanimura & Antle built 100 units of subsidized housing*

In the Wal-Mart study cited above, a short commute has the same effect on turnover as a 2% wage increase. Tanimura & Antle built 100 units of subsidized housing to help employees facing housing shortages.<sup>12</sup>

## Could Good, Affordable Housing Solve Farmworker Shortage?

STATELINE ARTICLE | January 5, 2017 | By: [Tim Henderson](#) | Read time: 6 min



Apolonio Garcia, a farmworker for Tanimura & Antle, at the company's 100-unit worker housing project in Spreckels, California. The affordable housing provided there helped attract workers.

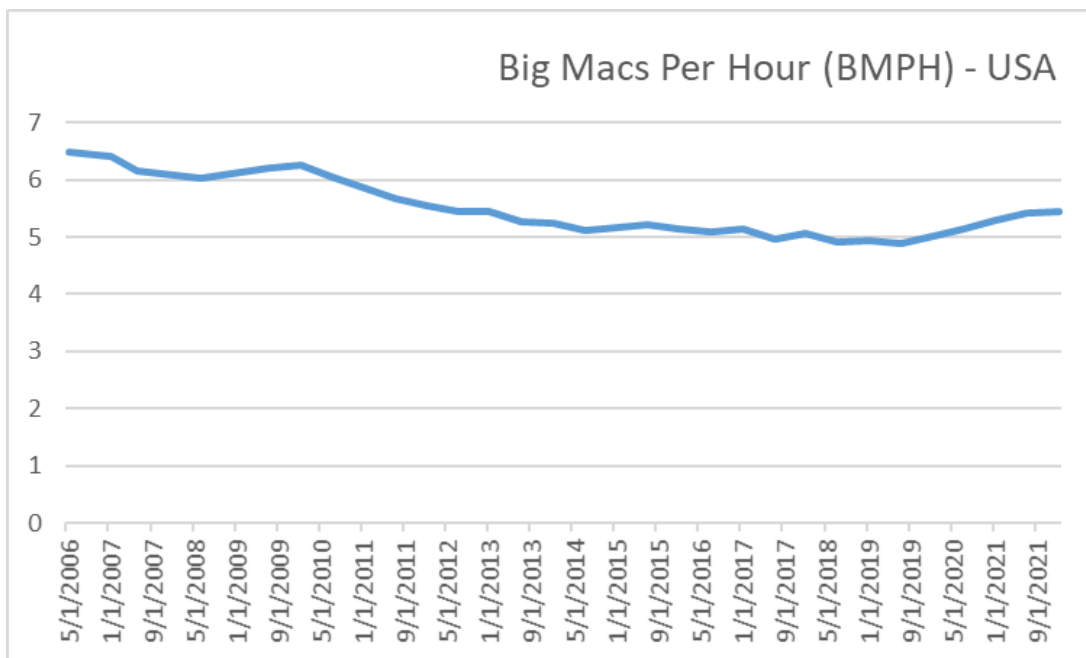
© The Pew Charitable Trusts

<sup>12</sup> <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2017/01/05/could-good-affordable-housing-solve-farmworker-shortage>

## Focus on Tangible Improvements in Workers' Living Standards

Real improvements in living standards for workers require understanding the relationship between wages and other prices in a time of inflation. With wages and prices increasing, even large increases to the nominal wage may not reflect changes to the real wage, or what a dollar can buy. Suppliers might use a basket index (e.g., the Consumer Price Index) or simply watch their median hourly pay relative to the price of a popular menu item to create a consistent measure of real wages.

The Economist magazine famously has the Big Mac Index, or the price of a Big Mac in different countries. Princeton economist Orley Ashenfelter developed the idea to collect data on the global average hourly wage rate of a McDonald's worker in a country and compare it to the price of a common McDonald's menu item, the Big Mac. His insight was that in the absence of better data, a simple and decent way to assess prosperity globally is to ask how many Big Macs a McDonald's worker can buy with an hour's wages in different countries. His "Big Macs Per Hour of Work" ratio (BMPH) is calculated by dividing the price of a Big Mac by the average hourly wage rate, and was discussed in [in his 2012 presidential address to the American Economics Association](#). Adopting a BMPH or cost-index while addressing wages would ensure that wage increases are reflected in real increases in income.<sup>13</sup>



<sup>13</sup> Source: Average Hourly Earnings (FRED) and Economist Big Mac Index

## **Tactic: Link Job Quality to Meaningful Goals**

The extent to which employees find the work they do personally meaningful is linked to engagement – devoting full attention and energy to the work.

Food industry missions often involve goals of quality, safety, and security. The same qualities desired and obsessed over in the company's product(s) can be emphasized as being just as important in managing workers: e.g., if consistency in product is a goal, consistency in how workers are treated should be a goal. If goals are quality, safety, and security, then make explicit links between job and food safety, quality, and security.

The links are also real: higher job quality reduces turnover, which improves product quality.

### *The Effects of High Turnover: Quality Production and Food Safety*

⇒ Trained employees with low turnover are less likely to cause a food safety problem that results in expensive and damaging food recalls. Bring training in-house, use it as a development opportunity, and keep turnover low to improve quality and safety.

## **Research highlights**

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“For the company, training employees means investing in their skills and increasing their capability of producing safe food. Operational costs are minimized due to lack of mistakes and accountability. Quality and consistency are improved which can lead to more sales. Engaging people in their jobs can drive efficiencies and improve overall moral. Development of individuals is one main factor in retaining talent (O’Donoghue, 2015). Less turnover means a greater returns for the company. Turnover plays a large part for most companies when calculating return on investment (ROI). The ROI for training can be positive if developed and implemented correctly (Perlik, 2004).”<sup>14</sup>

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A company should not wait until a crisis occurs to invest in training and prevention. Also, companies should consider training a few internal plant employees in practices such as HACCP, rather than hiring a consultant. Those

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<sup>14</sup> Shinbaum, Samantha, Philip G. Crandall, and Corliss A. O’Bryan. 2016. “Evaluating Your Obligations for Employee Training According to the Food Safety Modernization Act.” Food Control 60 (February): 12–17. <https://doi.org/10.1016/j.foodcont.2015.07.014>.

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trained should be floor or line supervisors, rather than workers that may have a higher turnover, or plant management who will have very limited opportunity to apply or teach the training principles. However, the trained supervisors should be responsible for providing their own training to plant management. If a food processor has multiple sites, all should receive the same training opportunity at the same time. In this way, clear best practices are developed company wide.<sup>15</sup>

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A 2004 report for the FDA found that deficient employee training is the top cause of food safety problems.<sup>16</sup> Top solutions include bringing training in-house, bilingual training, and in-house or third-party audits.

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**Look for Synergies Between Strategies Proposed** - solutions that package multiple potential wins should be crafted -- to reduce attrition, attract, and retain employees and enhance quality, and efficiency at the same time. Therefore, the idea of offering certificates and training to enhance quality and efficiency can be combined with the notion of job enrichment to reduce attrition and provide workers a line of sight to career advancement.

### *Case Study: Costly Quality Defects Linked to Attrition*

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In the consumer electronics industry, researchers found that despite extensive quality-control efforts and testing, a 1% increase in attrition in a given week is associated with a .75% increase in product failures for mobile devices that came off the line that week. Devices failed 10% more in the highest turnover weeks compared to the lowest turnover weeks. Product failure was linked to hundreds of millions of dollars in additional cost.<sup>17</sup>

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<sup>15</sup> Kumar, Sameer, and Erin M. Budin. 2006. "Prevention and Management of Product Recalls in the Processed Food Industry: A Case Study Based on an Exporter's Perspective." *Technovation* 26 (5): 739–50. <https://doi.org/10.1016/j.technovation.2005.05.006>.

<sup>16</sup> <https://www.fda.gov/food/current-good-manufacturing-practices-cgmps-food-and-dietary-supplements/good-manufacturing-practices-21st-century-food-processing-2004-study-section-4-common-food-safety>

<sup>17</sup> Moon, Ken, Prashant Loyalka, Patrick Bergemann, and Joshua Cohen. 2022. "The Hidden Cost of Worker Turnover: Attributing Product Reliability to the Turnover of Factory Workers." *Management Science*.

## Key Labor Risks: Sources and Solutions

### Staffing Shortages

The staffing shortage issues has been exacerbated by the Covid crisis of the last 2 years. This has resulted in organizations across industries getting creative to hire and retain employees at all levels. More specifically, for the fast food industry, the situation seems bleak and is predicted to get worse, at last in the short run. As Mary Meisenzahl notes in the Business Insider (10.8.2021), “For new truck drivers in Portland, Oregon, a \$30,000 signing bonus. For new recruits in the army, a \$50,000 bonus. Route closures for public buses from Texas to North Dakota. An end to automatic daily housekeeping at most Hilton and Marriott hotels. Offers by Amazon and Walmart to cover college tuition for their employees.”

### Skill Shortages

As Korn Ferry, an HR consultancy, notes “the United States faces one of the most alarming talent crunches of any country” in its 20-country study. Baby boomer retirement and low fertility rates are major contributors, but failure to plan for the long-term is also a major factor. So, how do organizations try to fix this shortage? Get creative and be bold! Here are some suggested techniques – 1. Bonuses, 2. Hybrid work, where relevant, 3. Tuition reimbursement, and 4. Promoting education, 5. Try to find women and minorities who live in “out-of-the-way-places (Groysberg, Harvard Business School)”, etc.

### Disengagement and Discontent

This is a huge issue and a major contributor to the so-called “great resignation.” Employees at all levels and across functions need to feel valued and have a sense of belonging and feel like they contribute to the organization’s success. Organizations need to get creative and consciously and consistently communicate to their ‘partners’ that they matter. When specifics are offered (what did the individual do), the returns are much higher, than general ‘good job’ comments.

### Critical jobs in the food industry

Production jobs and transportation jobs are the largest source of vulnerability in the food industry, according to a recent study.<sup>18</sup> Production jobs are more highly exposed upstream to food manufacturing and a larger portion of the wage bill.

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<sup>18</sup> Wahdat, Ahmad Zia and Lusk, Jayson, The Achilles Heel of the U.S. Food Industries: Exposure to Labor and Upstream Industries in the Supply Chain (November 5, 2021). Available at SSRN: <https://ssrn.com/abstract=3957604> or <http://dx.doi.org/10.2139/ssrn.3957604>



**Table 7:** Food Industries' Exposure to Occupations

Occupations	All Food Industries in All States			
	Occupation Links	Exposed Links	Occupation Earnings (\$)	Exposed Earnings (\$)
Production	443	419	56,052,925,675	56,017,504,293
Transportation and Material Moving	439	118	19,455,304,893	9,232,437,512
Total	882	537	75,508,230,567	65,249,941,805

*Global and Regional Risk Analysis*

A Purdue University project examines the exposure of the food industry at a state-by-state level to supply chain disruptions and labor disruptions.

*"... we find evidence that the animal processing industry's output is relatively vulnerable to production labor which is consistent with the observed disruptions to the meat packing sector during COVID19, which were largely caused by labor issues."*

**Food Industries' Vulnerable Input Purchases via Exposure to Upstream Industries & Labor Occupations**

State





**Table 2:** Food Industries' Simpson Diversity Index Score Statistics

<b>Food Industries</b>	Mean	Median	SD	Min	Max
Animal Food Manufacturing	0.89	0.89	0.02	0.85	0.92
Animal Slaughtering & Processing	0.66	0.65	0.02	0.64	0.71
Bakeries & Tortilla Manufacturing	0.93	0.93	0.00	0.91	0.93
Dairy Product Manufacturing	0.82	0.82	0.03	0.75	0.92
Fruit/Veg. Preserving & Specialty Food Manufacturing	0.93	0.93	0.01	0.91	0.94
Grain & Oilseed Milling	0.74	0.74	0.06	0.60	0.87
Other Food Manufacturing	0.93	0.93	0.01	0.88	0.94
Seafood Product Preparation & Packaging	0.79	0.79	0.00	0.79	0.79
Sugar & Confectionery Product Manufacturing	0.94	0.94	0.00	0.94	0.94
Total	0.85	0.90	0.10	0.60	0.94

Notes: Authors' calculations using EMSI data from 2019. Simpson's Diversity Index ranges between 0 and 1. In the context of upstream purchases, 1 represents infinite diversity of purchases and 0, no diversity. Upstream purchases refer to intermediate inputs bought from upstream industries by a given food industry.

The Purdue report highlights that animal slaughtering has the lowest possible alternative sources of upstream purchases. A greater diversity of suppliers for the food industry might reduce some upstream risks.

View the interactive website here:

<https://ag.purdue.edu/cfdas/resource-library/food-industries-vulnerable-input-purchases-via-exposure-to-upstream-industries-and-labor-occupations/>

## Best Practices for Inclusive Hiring

Next, in order to cast a wide net and attract the maximum potential best-fit candidates, organizations need to write inclusive job descriptions. This means we need to be (i) careful to avoid words like competitive and sensitive that suggest a gender bias. Next, (ii) it is critical to ensure that the organization's website is accessible to all. For example, individuals with low-grade technology (i.e., older computers) might not be able to stream pop ups or videos.

Another critical piece of inclusive hiring is to (iii) provide bias awareness training to hiring teams, to ensure that they do not conduct themselves in inappropriate fashion during the selection process. This includes training in such things as questions to avoid (e.g., what is your age, what race are you, etc.). Such training should be mandatory for all those who will be involved in the selection process. While it would be desirable to have this training conducted face-to-face, there are many online packages available.

Next, it is important to ensure that hiring teams are diverse and representative of the local population. Further, candidates are re-assured when they see diversity among company representatives.

Also, it is critical to regularly audit your recruitment and selections systems to ensure that they are serving the intended purpose – hiring the best candidates without regard to their sex, race, etc. Further, such audits also allow organizations to measure the ROI of these systems, and ROI focus helps keep systems on track and allows changes in real time.

Finally, for jobs where interviews are to be conducted, everyone who participates in the process should be trained to ask the right questions. In addition, they should know what makes a poor answer, a good answer, and an outstanding answer. Questions like “Tell me something about yourself” are meant to make the applicant comfortable – answers to questions like these are not useful for making hiring decisions, since the answers could vary from a simple one liner, e.g., “There's not much to say” to a 5-10 minute monologue about the individual. Structured questions, based on job analysis, are designed to test for specific knowledge/skills/abilities/other characteristics that are required to successfully perform a job. Below we provide some sample questions and relevant judgment criterion for a few critical job dimensions.

- Sample Question-1 (Problem Solving)

*Sample Question:* Give me an example of how you reached a practical business decision using an organized review of the facts and weighing all available options.

*Judgment Criteria:* Look for people who develop alternative solutions, resolve problems in the early stages, and work well in group problem-solving situations.

- Sample Question – 2 (Customer Service)

*Sample Question:* Tell me about the most difficult client (internal or external) you have ever dealt with. Describe the relationship and how you handled it. What would that client say about you now? Would you handle things differently if faced with a similar situation in the future? Why? How?

*Judgment Criteria:* Look for cooperation and teamwork: people who can manage difficult or emotional situations, who meet commitments, who respond promptly to customer needs, and who solicit feedback to improve service.

- Sample Question – 3 (Attention to Detail)

*Sample Question:* Think of a project during which you had to gather information from others. How did you determine who you would ask for the information? What process did you use to collect the information? What were the results?

*Judgment Criteria:* Look for people who follow instructions, who take responsibility for their actions, and who commit to doing the best job possible.

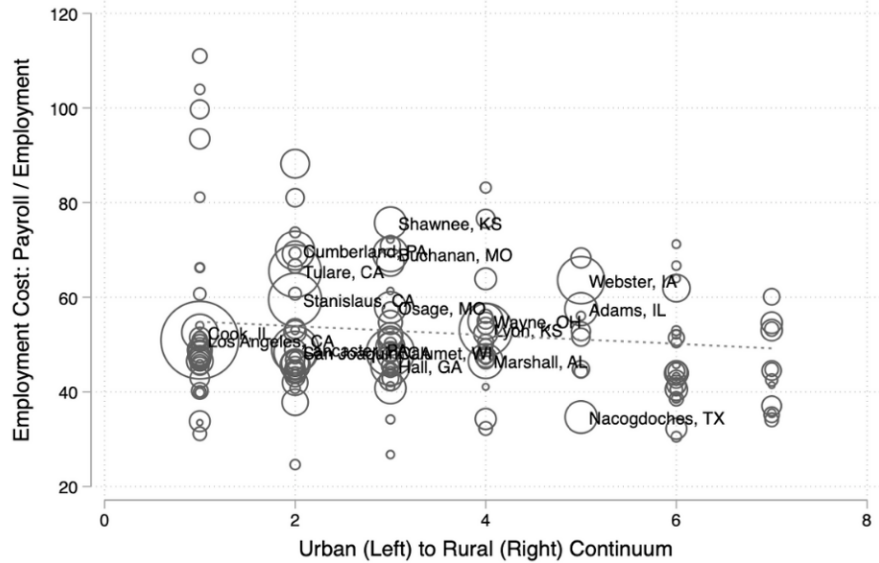
- Sample Question – 4 (Initiative)

*Sample Question:* What type of environment do you work best in, and why? What motivates you?

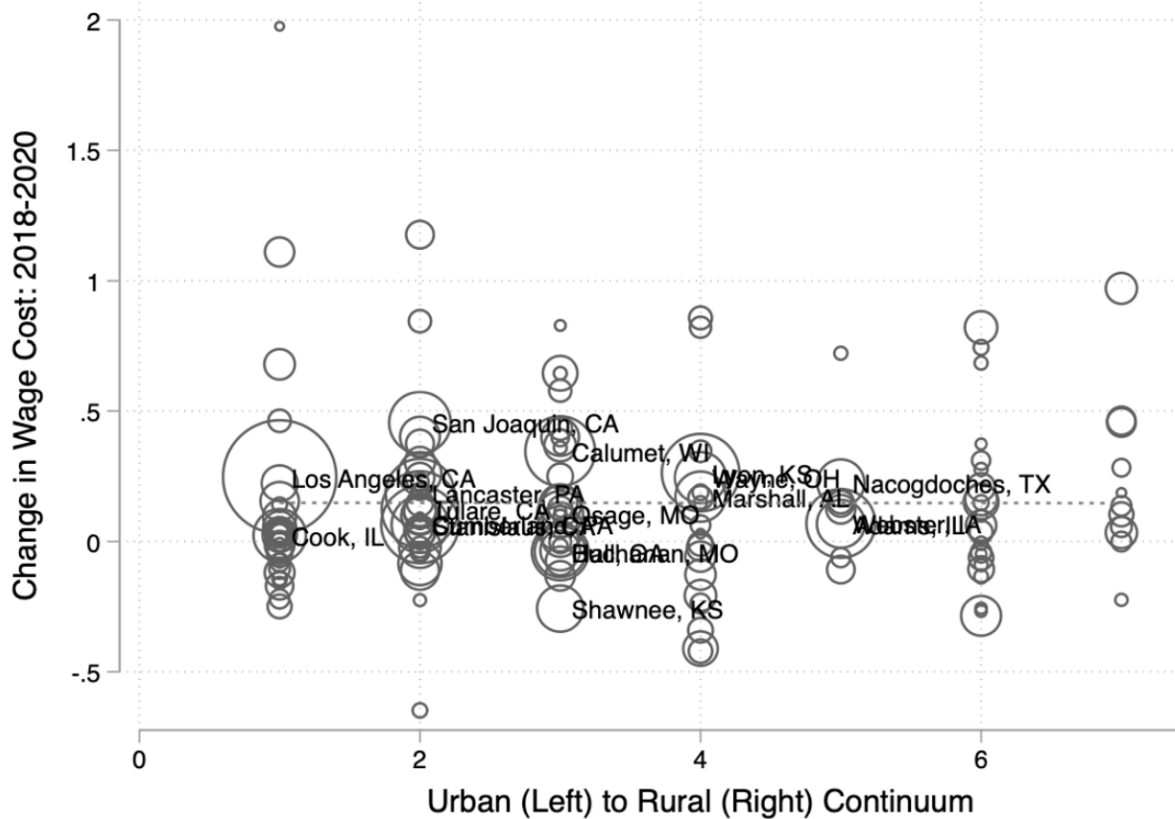
*Judgment Criteria:* Look for people who volunteer readily, who undertake self-development activities, who take independent action and calculated risks, who look for and take advantage of opportunities, and who ask for help when needed.

# Regional Analysis

Wage Costs  
Tend to be  
Higher in Urban  
Areas. Highest  
Wages in  
Industry are in  
Urban Areas



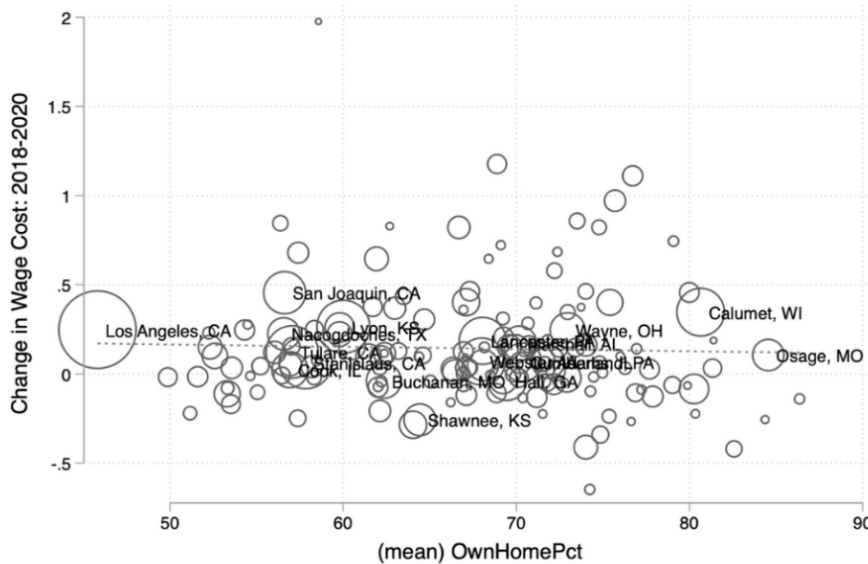
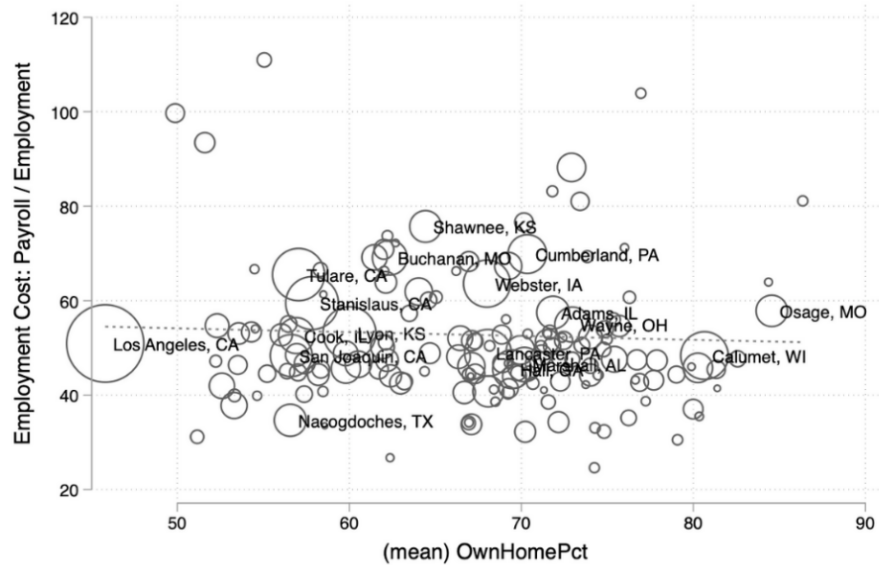
Slight indication that Rural Wage Growth Outpaced Urban Since 2018



# Regional Analysis

Rising housing costs could accompany wage inflation. To assess this explanation, we look at the percent of people that own a home in each county.

No Association Between Wage Costs & % Owning Homes

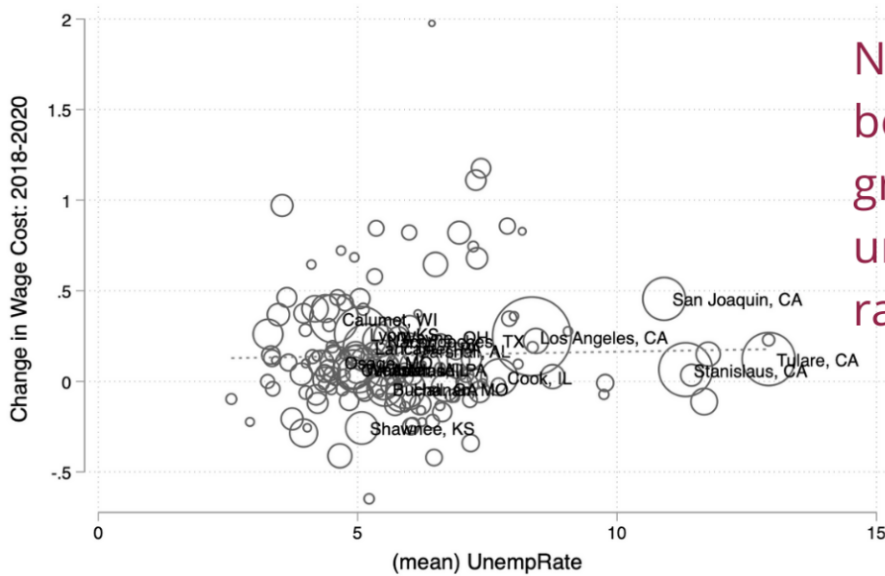
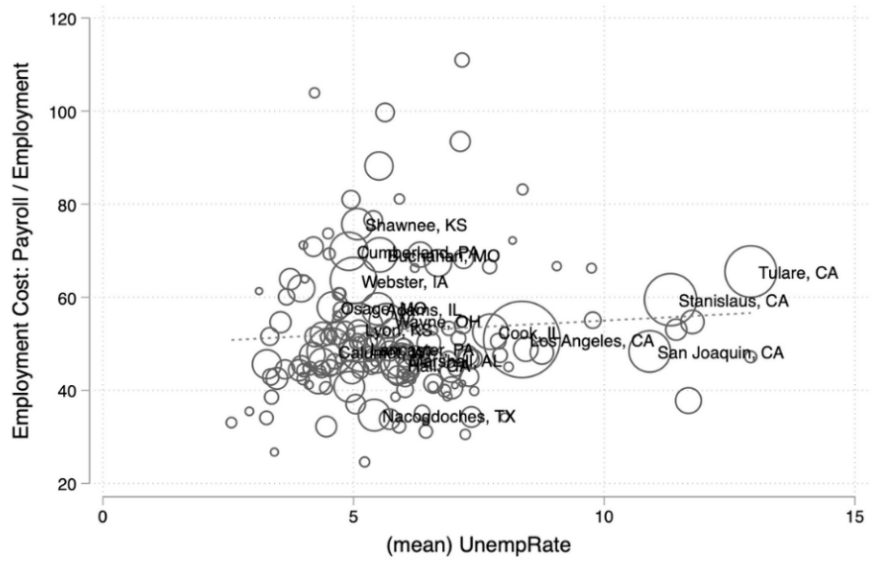


No Association Between Wage Growth & % Owning Homes

# Regional Analysis

Regional variation in unemployment rates might suggest which labor markets are "hotter" ... but few regional patterns emerge.

A weak positive association between wage costs and unemployment rates



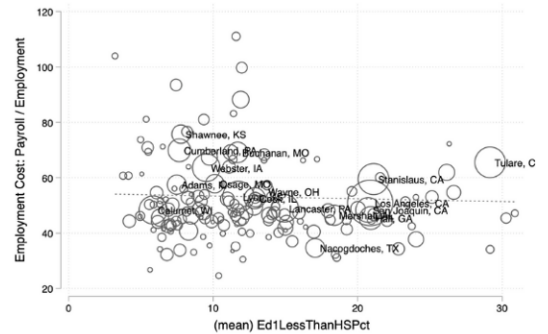
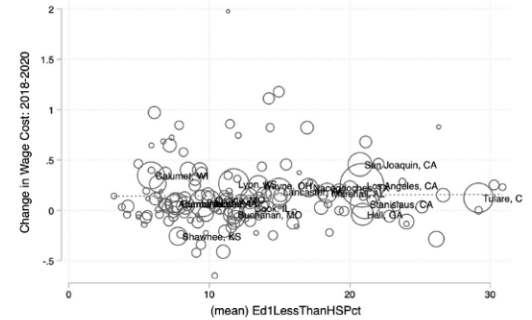
No association between wage growth and unemployment rates

# Regional Analysis

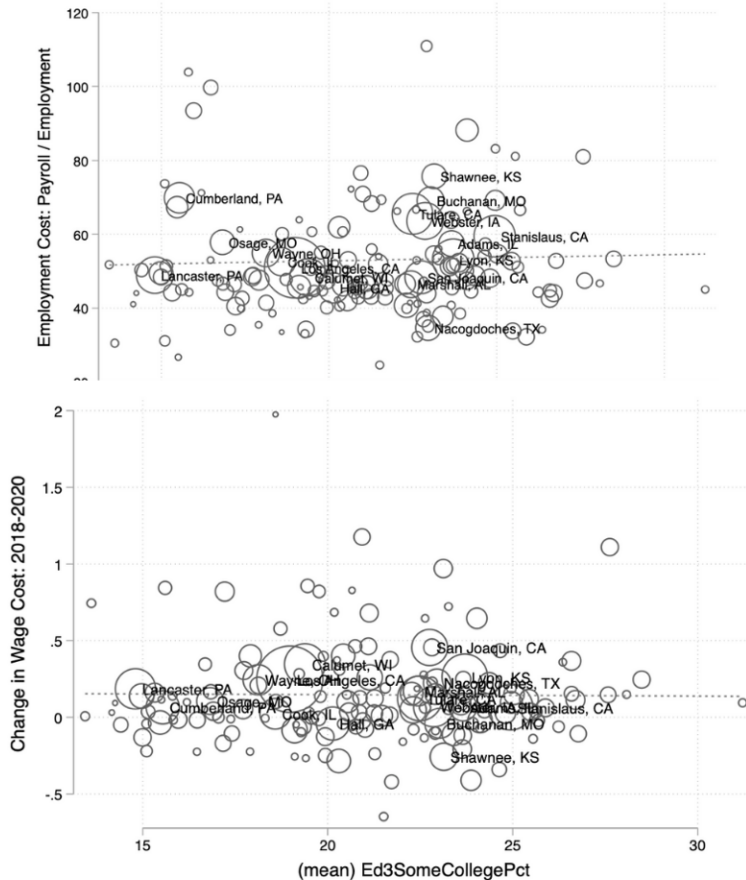
The percent of workers with various degrees of education (high school, some college college) could be linked with wage change or wage levels.

Weak associations between education levels and either wage cost or wage growth

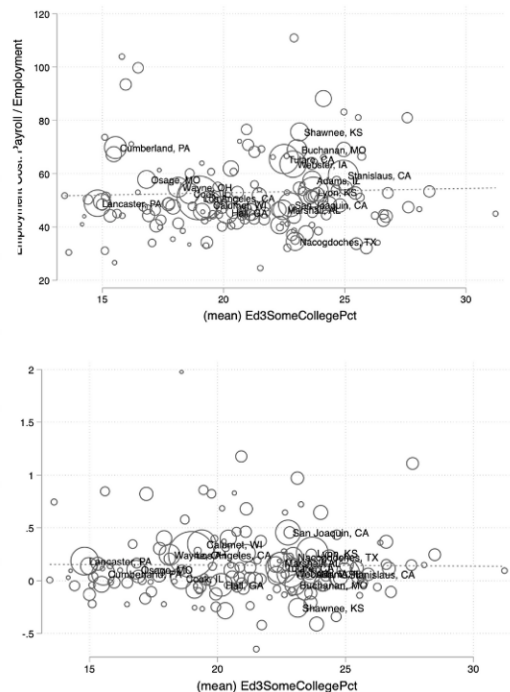
## Less than High School



## College (weakly positive)



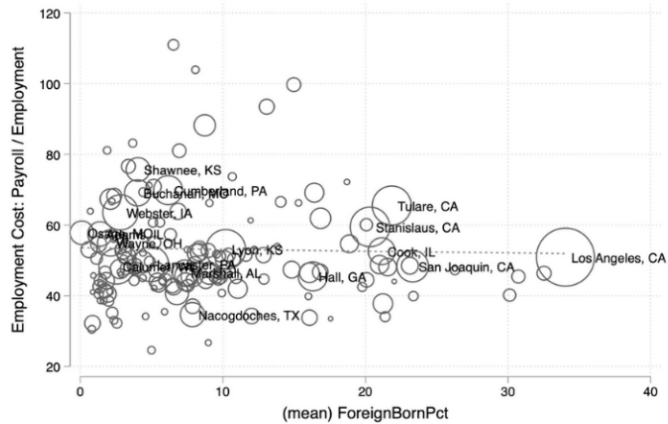
## Some college



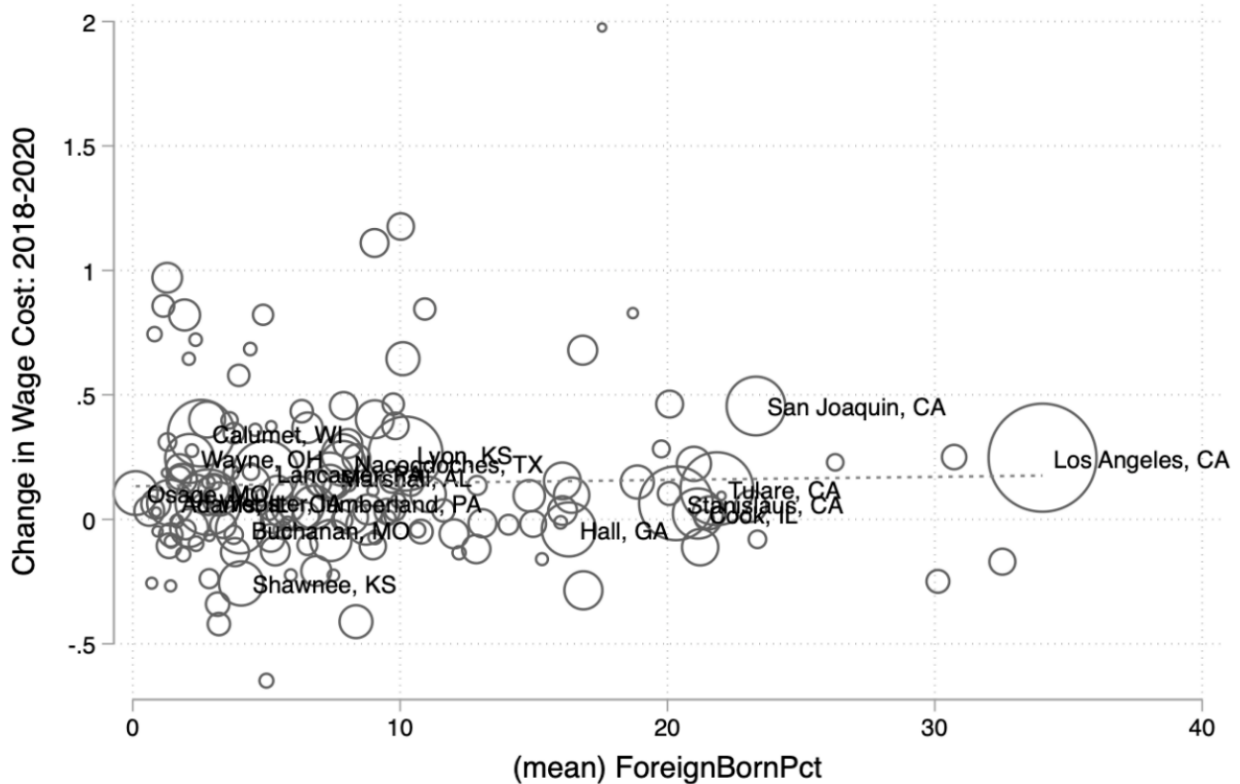


# Regional Analysis

No association between % Foreign Born and Wage Cost



Slight positive association between % Foreign Born and Wage Growth\*



\*Correlation is not causation: Foreign-born may be more likely than U.S. born to move to areas where wages grow rapidly.

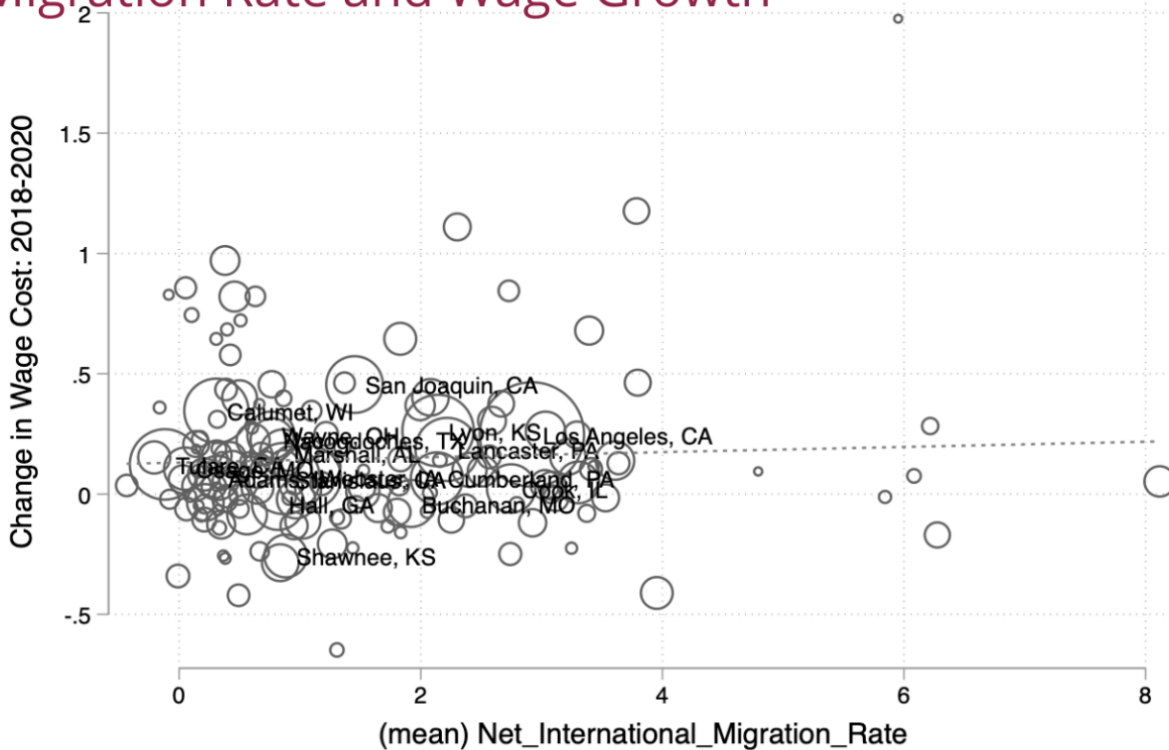


# Regional Analysis

Slight negative association between Wage Costs and International Migration Rate



Slight positive association between International Migration Rate and Wage Growth\*



\*Correlation is not causation: Migrants may be more likely to move to areas where wages grow rapidly.

## Conclusion: Some Employment Models Will Not Last

For forty years, many businesses saw labor as a lower source of risk compared to rapid changes in financial markets, technological disruption, globalization, and supply chains. The domestic U.S. labor market had been quiescent compared to historical – and present – turbulence.

The last several years have shaken up stable trends in labor and employee relations and human resource management, especially in lower wage occupations. Even before the COVID-19 pandemic, unemployment levels in 2019 were the lowest since 1968, strike levels were at a forty year high despite declining union membership, and the unemployed persons per job opening was the lowest on record.

Subtle shifts in the balance of power between employees and employers can have large implications for business operations. Less attached, lower wage, and part-time workers are quitting at record levels, risking stable production, quality, safety, and security of key supply chains. As the Chicago Federal Reserve President, Charlie Evans, said recently:

*"I think there are a lot of business models, especially for small businesses, that are going to be challenged for the future. They're going to be asked to pay higher wages, and you know if inflation is going up, it's the real wage that's going to equate demand and supply."*

Strengthening HR practices to attract and retain workers is now a top concern across sectors of the economy. Investments in job quality that reduce turnover and raise productivity – offering workers development opportunities, training supervisors on core managerial skills, and offering stable hours and better pay – can provide financial returns in the near term. A more stable workforce can offer greater assurances of quality, as well as worker and food safety, and by mitigating labor as a source of risk, greater job security can assure greater food security.

Changing recruitment and selection tactics to reach a broader potential workforce and promoting from within can address long-run concerns about worker shortages. Adopting research-based HR practices to become an employer of choice will be increasingly important to success in the future.

This report outlined opportunities to enhance labor resiliency in the food supply chain. While many companies face similar challenges, we believe that the major challenge – and the possible solution – in each industry, firm, and establishment are likely to be quite different. Best practice sharing is a great idea, with one caveat – best practices are contextual and only work when the problems and the philosophy of the organizations match.

We hope the ideas here spark conversation and invite you to reach out and share any feedback.

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Dr. Varma's research interests include performance appraisal, expatriate issues, and HRM issues in India. He has published over 100 articles in leading journals such as the *Academy of Management Journal*, *Human Resource Management (USA)*, *Human Resource Management Review*, *International Journal of Human Resource Management*, *Journal of Applied Psychology*, *Journal of International Management*, *Journal of Knowledge Management*, *Journal of World Business*, *Personnel Psychology*, and *Tourism Management Perspectives*, etc. He has also co-edited 6 books, including such titles as *Performance Management Systems: A Global Perspective*, London: Routledge; *Performance Management: An Experiential Approach* (2020), Sage, *Spirituality in Management: Insights from India* (2020), London: Palgrave MacMillan. *Indian Business: Understanding a Rapidly Emerging Economy* (2019), London: Routledge.

Dr. Varma has presented over 125 papers at refereed conferences, such as the *Academy of Management*, the *Academy of International Business*, the *American Psychological Association*, the *European Academy of Management*, the *Indian Academy of Management*, and the *Society for Industrial and Organizational Psychology*. He has guest-lectured in countries around the world including Cuba, China, Germany, Guatemala, India, Mexico, Panama, Peru, Spain, Switzerland, and the United Kingdom. He has won multiple awards for teaching, research, and service, including the 2017 Alumnus Award for Academics from his alma mater, XLRI. He has consulted with global organizations on human resources and strategic topics. He is co-founder and past President of the Indian Academy of Management. In 2018, he spent 6 months in India on a Fulbright scholarship, studying performance management.

**Peter Norlander** is associate professor of management and the director of the Loyola Institute of Human Resources and Employment Relations. He teaches U.S. and global labor and employee relations courses and the people management course for MBA students. His research analyzes and measures employer power and the effects of technology on workplace practices. He is the author of numerous peer-reviewed publications and is the principal investigator on grants from the Economic Security Project and the Russell Sage Foundation that will analyze the text of employment documents to create new datasets of employer practices. He received a PhD in Management from UCLA.

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