The Price of Unpredictability: Cost Savings for Businesses Under HB23-1118

By Sophie Mariam
February 2023

Summary

Predictable work schedules not only produce better economic and health outcomes for working families, but also translate to a stronger workforce and improved business performance. A strong body of economic research shows that scheduling stability results in a more satisfied, productive employees, which benefits employers by reducing turnover. Recent Harvard Shift Project data confirms that predictable scheduling laws result in improved employee retention for food service and retail workers, which is projected to yield millions in annual cost savings for Colorado businesses' bottom lines.

Key Findings

- A 2022 study demonstrates that greater schedule instability is a strong predictor of high turnover for workers, and this is especially true for workers in sectors like retail and food service included in House Bill 23-1118 (Colorado Fair Workweek). Colorado workers in these industries report multiple types of instability measured by the study, including last minute scheduling, canceled shifts, and "clopenings" (working back-to-back closing and opening). These forms of instability lead to high rates of dissatisfaction, poor health outcomes, and economic hardship, which translates to higher churn amoungst employees exposed to unpredictability.
  - The researchers draw on new Harvard Shift Project data from hourly workers in retail and food service to demonstrate that turnover rates are 50% higher for workers with exposure to over three types of scheduling instability, relative to those with no instability.
  - Turnover for employees with less than a week of advance notice of their schedules was almost 35% (9 percentage points) greater than those with 2 weeks advance notice.
  - Workers who experienced shift cancellations experienced a 38% higher turnover rate.
- High turnover is costly for Colorado businesses' bottom lines; an analysis of 22 case studies from relevant research on the costs of turnover found that it costs businesses about one-fifth (20%) of a worker's annual salary to replace that worker.
- CFI's analysis used Quarterly Workforce Indicator data on employment, wages, and quarterly turnover to estimate the policy impact in the the industries covered by the Fair Work Week bill proposed in the 2023 legislative session. Across all covered industries, fair scheduling would save Colorado businesses nearly $130 million in turnover costs annually.
  - The proposed bill would produce nearly $85 million in savings for Colorado's retail industry, over $30 million for food services establishments, and over $12 million for food manufacturing establishments.
  - These cost savings do not account for the improvements to worker productivity and organizational performance resulting from better worker retention, or the economic spillovers of putting more dollars into the hands of working people, which will boost shared economic growth across the state. Once understanding these impacts, relative to the costs of adjusting to the new regulatory framework proposed in the bill, CFI estimates a positive impact on net revenue for impacted Colorado businesses.

Existing Evidence: The Economic Benefits of Predictable Scheduling

The "great resignation" continues to harm Colorado's economic prosperity; businesses are left short staffed and incurring high turnover costs, while workers are forced to quit in search of jobs that provide the respect and stability they need to plan for their families. A large body of economic evidence shows that predictable scheduling laws not only reduce turnover costs for employers, but will produce wide ranging economic benefits by creating the conditions for a more satisfied, productive, and healthy workforce.

When workers are asked to come in at the last minute or are cut from a shift unexpectedly, not only does it put them at a disadvantage when arranging for their childcare or other basic needs, but evidence suggests that workers also feel disrespected. A recent Pew Research Center Survey of workers who left their job in 2021 found that the majority of workers (57%) who quit cited feeling disrespected at work as one reason for quitting. A lack of control over scheduling was also a common grievance; 45% of workers wanted more flexibility to choose when they worked.

As working parents struggle to balance caring for their loved ones and putting in the hours they need to pay the bills during a time of historic inflation, Fair Work Week would go a long way towards answering these grievances by respecting worker's right to know their schedules in advance. A Harvard Shift Project study found that Seattle's fair scheduling ordinance led to workers reporting increased satisfaction with their work schedule and their job, and better overall happiness and sleep, all of which have been proven to improve employee retention. Colorado workers are likely to reap the same benefits if a similar policy was implemented here. A 2023 Colorado study by the same researchers compares the health and wellbeing of Colorado workers with predictable schedules to those experiencing scheduling instability; the results showed that those with predictable schedules reported better sleep quality, were happier, and suffered from less psychological stress and hunger hardship.

Roughly 48% of workers with a child younger than 18 in the household those surveyed say child care issues were a reason they quit a job (Pew). "Just in time" scheduling policies have harmful consequences for parent's access to sustainable childcare arrangements, and policies like Fair Work Week take a major step towards addressing this issue as well. A 2020 study demonstrated that parents' exposed to last-minute scheduling change are more likely to take on a patchwork of care arrangements, forcing them to rely on more numerous forms of care, and are more likely to have siblings provide care or be left without access to care. The researchers also show that working families dealing with unpredictable shift schedules had a higher incidence of young children being left alone without adult supervision.

Predictable schedules help working parents better care for their own families by giving them more options for care, rather than being forced to either create a patchwork of unreliable care or to leave their jobs to provide care themselves. One study shows that unpredictable scheduling leads to lower center-based child care enrollment for the kids of lower-wage workers. Because volatile child care is a major reason for mothers' job exits, especially when mothers have low earnings, by giving mothers the tools to get their children into more stable arrangements, businesses will also reap the benefits of a more reliable, experienced workforce through helping working parents stay in their jobs for the long haul.

More satisfied, committed, and productive workers translates to improved organizational performance and lower retention. Lower turnover translates to better organizational performance and higher worker productivity for Colorado businesses. Not only does avoiding a perpetual "great resignation" where workers are constantly churning between low-quality, unpredictable jobs help lower business costs, it helps move our whole economy towards a new equilibrium where both workers and business can thrive.

Methodology

Quarterly Workforce Indicator data (QWI) from the U.S Census Bureau provides state and local level data on employment, earnings, and employment change (turnover) across all industries, including the North American Industry System (NAICS) code of a worker's occupation. By limiting the data set to only the specific NAICS codes for industries covered under the proposed Fair Workweek Bill, we estimate the impact of project policy impact of a statewide fair scheduling ordinance for Colorado's business community, measured in the cost savings from improved employee retention.

Quarterly Workforce Indicator from the BLS and NAICS Codes

- Employment: Employee counts were measured at the beginning of each quarter of 2021, and we used these to find the annual average employment in each industry
  - We used the Census Bureau's LED data extraction tool to isolate data for workers in the sectors covered by the fair work week bill- under NAICS codes 44-45 (retail trade), 772 (food and beverage), and 3111-3119 and 3121 in the food and beverage manufacturing subsector.
- Wages - Average monthly earnings of employees who worked on the first day of the reference quarter were used to calculate average annual wages for all employees in each sector.
- Sector-specific turnover rates: We measure turnover rates using a measure of separations in a given quarter divided by average employment, which we isolated for each NAICS subsector in Colorado.

In order to calculate the per employee costs of turnover to a business, we leverage the findings of a prior meta-analyses of turnover costs to estimate the impact of losing an employee on an employer's bottom line. This cost varied little across worker's income levels; the researchers found that while jobs paying less than $50,000 annually show a typical cost of turnover of 19.7% percent of salary, workers earning $30,000 or less still cost their employers over 16% of their salary to replace. Using QWI data to estimate the range of salary thresholds most common for service workers covered under the proposed Fair Workweek Bill, we estimate the total turnover costs per employee at 19.7% of their annual salary.

Finally, we calculate how much the proposed policy will reduce the current sector-specific turnover rates we drew from QWI data. To project the policy impact, we turn to a 2022 analysis of new panel data from 1,827 hourly workers in retail and food service, collected as a part of the Harvard Shift Project.

The Shift Project study investigated how 5 types of scheduling instability impact worker retention in industries analogous to those covered by Colorado Fair Work Week; they compared turnover amongst workers who experienced on-call scheduling, cancelled shifts, "clopening" shifts, and timing changes to workers who did not experience these types of unpredictability, and also compared turnover rates based on the amount of advanced notice workers were given of their schedules .

The data showed that relative to workers who report no instability, the turnover rate is 50% (12 percentage points) higher for respondents with exposure to three to five types of instability. We assume the policy will reduce scheduling instability substantially for workers in sectors with the highest rates of precarious scheduling practices; thus, workers currently experiencing 3-5 types of instability would experience all these forms of instability at much lower rates (or at least be compensated when they do). For example, a food service worker experiencing on-call scheduling, cancellations, timing changes, and only receiving their schedule the week before would either no longer experience these forms of precarious scheduling, or they would be fairly compensated for this work. Therefore, we estimate a 50% reduction in the turnover rate from the "pre-Fair work week" rates drawn from the QWI data.

Findings

Employee count: we use the variable "Emp" to measure the employment counts in the beginning of each quarter of 2021, averaging across all 4 to estimate total workers in each covered industry. The data is an estimate of the total number of jobs on the first day of the reference quarter, similar to point-in-time employment measures like the QCEW.

NAICS sector, by firm size						
	Retail		Food and Beverage Establishments		Food and Beverage Manufacturing	
2021 Quarter	250-499 Employees	500+ Employees	250-499 Employees	500+ Employees	250-499 Employees	500+ Employees
Q1	6545	186323	10237	67443	(limited data)	21965
Q2	7019	175990	10904	67981	(limited data)	21305
Q3	7010	173799	9687	70413	1176	21111
Q4	7227	175770	9422	70909	1227	21109
Average	6950.25	177970.5	10062.5	69186.5	1201.5	21372.5
Total employee count per industry		184920.75		79249		22574

Industry Wages: the variable "EarnBeg" measures average monthly earnings at the beginning of the quarter for all the employees who worked on the first day of the reference quarter.

Weekly Wages by NAICS sector and firm size						
	Retail		Food and Beverage Establishments		Food and Beverage Manufacturing	
2021 Quarter	250-499 Employees	500+ Employees	250-499 Employees	500+ Employees	250-499 Employees	500+ Employees
Q1	4,102	2,763	1,742	1,913	4,254	5,505
Q2	4,442	2,984	2,007	2,120	4,533	5,144
Q3	4,767	3,135	2,126	2,164	3,587	5,554
Q4	4,931	3,227	2,128	2,292	3,775	6,847
Average	4,561	3,027	2,001	2,122	4,037	5,763
Employment	6,950.25	177,970.5	10,062.5	69,186.5	1,201.5	21,372.5
Weighted Average Weekly Wage		3,085		2,107		5,671
Weighted Average Weekly Wage		37,019		25,282		68,048

Turnover rate: the variable "SepBegR" provides the Beginning-of-Quarter Separation Rate, or the separations as a percent of average employment in each NAICS sector or subsector.

Turnover rates by NAICS sector and firm size						
	Retail		**Food and Beverage Establishments**		**Food and Beverage Manufacturing**	
2021 Quarter	250-499 Employees	500+ Employees	250-499 Employees	500+ Employees	250-499 Employees	500+ Employees
Q1	13.1%	15.5%	22%	15.9%	9.65%	10.1%
Q2	18.1%	18.3%	39.6%	27%	16.4%	12.2%
Q3	18.2%	19.9%	30%	27.5%	17.2%	11.9%
Q4	16.7%	22.1%	25.6%	22.9%	16.4%	13.3%
	16.5%	19%	29.3%	23.3%	14.9%	12%
Employment	6,950.25	177,970.5	10,062.5	69,186.5	1,201.5	21,372.5
Weighted Average Turnover	0.1885885633		0.2408366494		0.1215928363	

Cost Analysis: Total Cost Savings Per Sector

Industry	Total number of employees	Turnover rate pre FWW	Turnover count (employees * turnover rate)	Projected turnover rate post-FWW	Projected turnover count (reduced rate * employees)	Average Annual Wage	Turnover cost: 19.7% of annual wage	Improvement in retention (number of additional workers retained)	Cost Savings
Retail	**184921**	18.86%	34873.99	13%	23,249.32	$37018.53	7292.65	11,625	**84,774,588**
Food Services	**79249**	24.08%	19086.06	16%	12724.04242	$25281.87	4980.53	6362	**31,686,231**
Manufacturing	**22574**	12.16%	2744.84	8.1%	1829.891124	$68048.26	13405.51	915	**12,265,309**
Total									**128,726,128**

Conclusion

The proposed bill would produce nearly 85 million in savings for Colorado's retail industry, over 30 million food services establishments, and over 12 million for food manufacturing establishments. In total, fair scheduling policies produce nearly 130 million in turnover cost savings annually.