Sticky Wages on the Layoff Margin

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What We Do

Design and field an innovative survey of unemployment insurance (UI) recipients. **Ask about**:

1. Willingness to accept hypothetical pay cuts to save their lost jobs.
2. Whether they had discussions with their former employers about pay cuts as an alternative to layoffs.
3. If not, why not?
4. Why they refuse hypothetical pay cuts (many do).
5. Wage on lost job, reservation wage, wage on new job, demographics, industry,…

Why We Do It

1. Sticky wages play a key role in many Keynesian theories of fluctuations, unemployment, and stabilization policy.
   - Much evidence of wage stickiness. Does it matter for allocations? Barro (1977) critique.
2. Leading theories of separations, frictional unemployment, wages and job ladders imply that no layoff occurs if there exists a current wage such that each party wants to continue the match. Our data let us evaluate this implication directly, one layoff at a time.
3. To assess received theories of wage stickiness and build a richer empirical foundation for theorizing about wage stickiness & layoffs.

What We Find, 1

1. Most UI recipients express a willingness to accept wage cuts of 5-10% to save their lost jobs.
2. One third would accept a 25% cut.
3. Yet worker-employer discussions about cuts in pay, benefits or hours in lieu of layoffs are exceedingly rare.
4. When asked why employers don't raise the possibility of job-preserving pay cuts:
   - Four-in-ten UI recipients don't know.
   - 16% say cuts would harm morale or lead best workers to quit.
   - 36% don't think wage cuts would save their jobs.
   - For lost union jobs (15% of sample), 45% say contractual restrictions prevent wage cuts.

What We Find, 2

5. Among UI recipients on permanent layoffs who refuse our hypothetical wage cuts:
   - Half point to better outside options as the reason.
   - 38% regard the proposed pay cut as insulting.
   - 21% prefer unemployment to working at the lower wage.
6. For one-quarter of the layoffs, we find job-saving pay cuts that are small enough to be acceptable to the worker ***and*** large enough (in the worker's estimation) to save the job.
   - These cases violate the condition for efficient separations implied by theories founded on strictly bilateral employment relationships and symmetric information.

Survey Overview

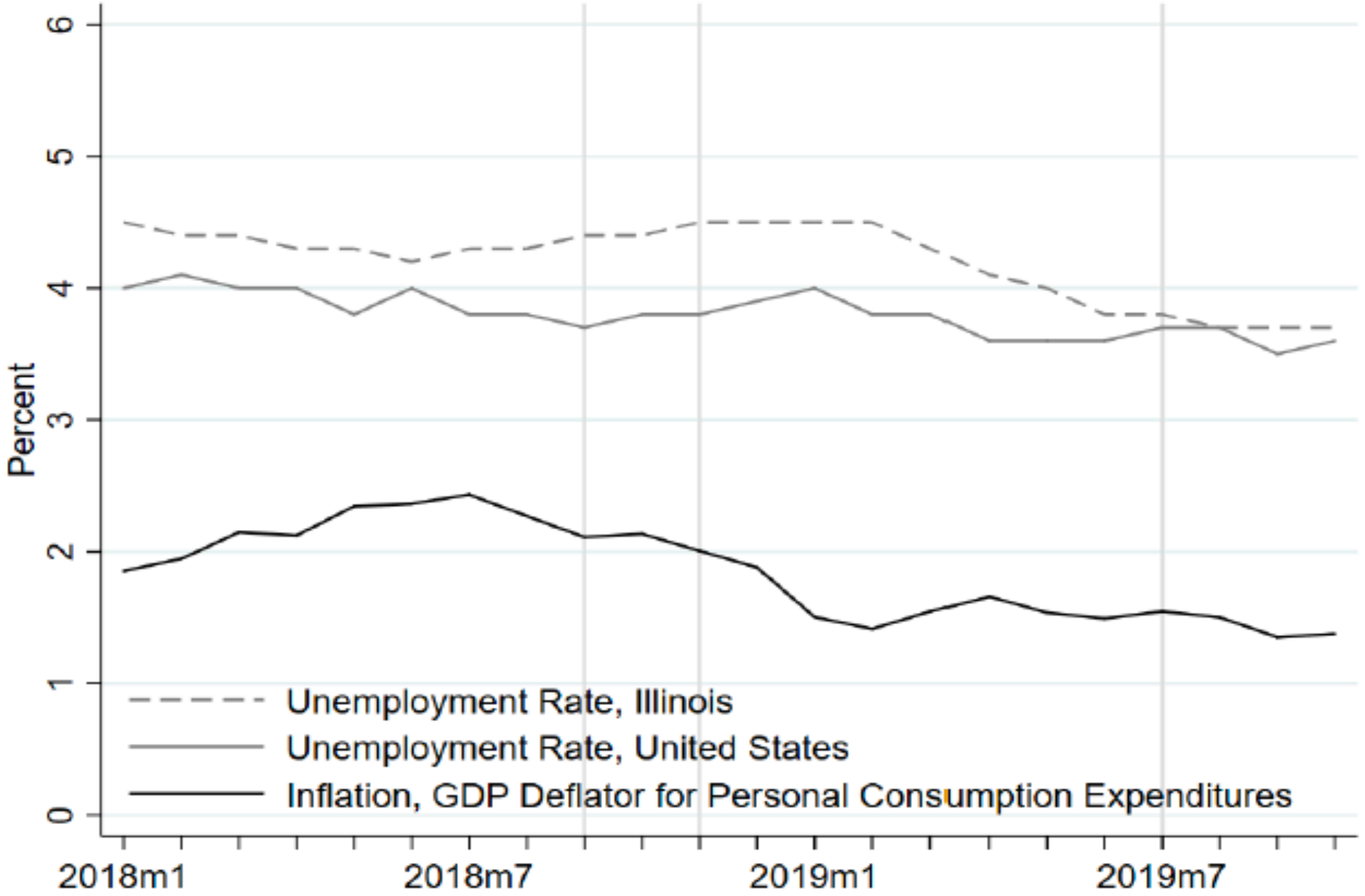
Sample Frame: Persons who began collecting UI benefits in Illinois from 10 September to 24 November 2018.

Entry Survey: Fielded to frame members one day after first UI benefit payment: $10 gift card; 9% completion rate; 2,777 completed surveys; median completion time = 8 minutes.

Two Follow-Up Surveys: Fielded 2, 4, 8, 12 and 16 weeks (randomized) after previous survey completion: Gift card of $5 or $10; completion rates of 51% to 85%; 2,707 additional completed surveys; 5,484 total observations; median=3 mins.

Economic context: Low, stable inflation and tight labor markets in a large state with a diversified economy.

Figure 2. Survey Sample Period and SA Unemployment and Inflation

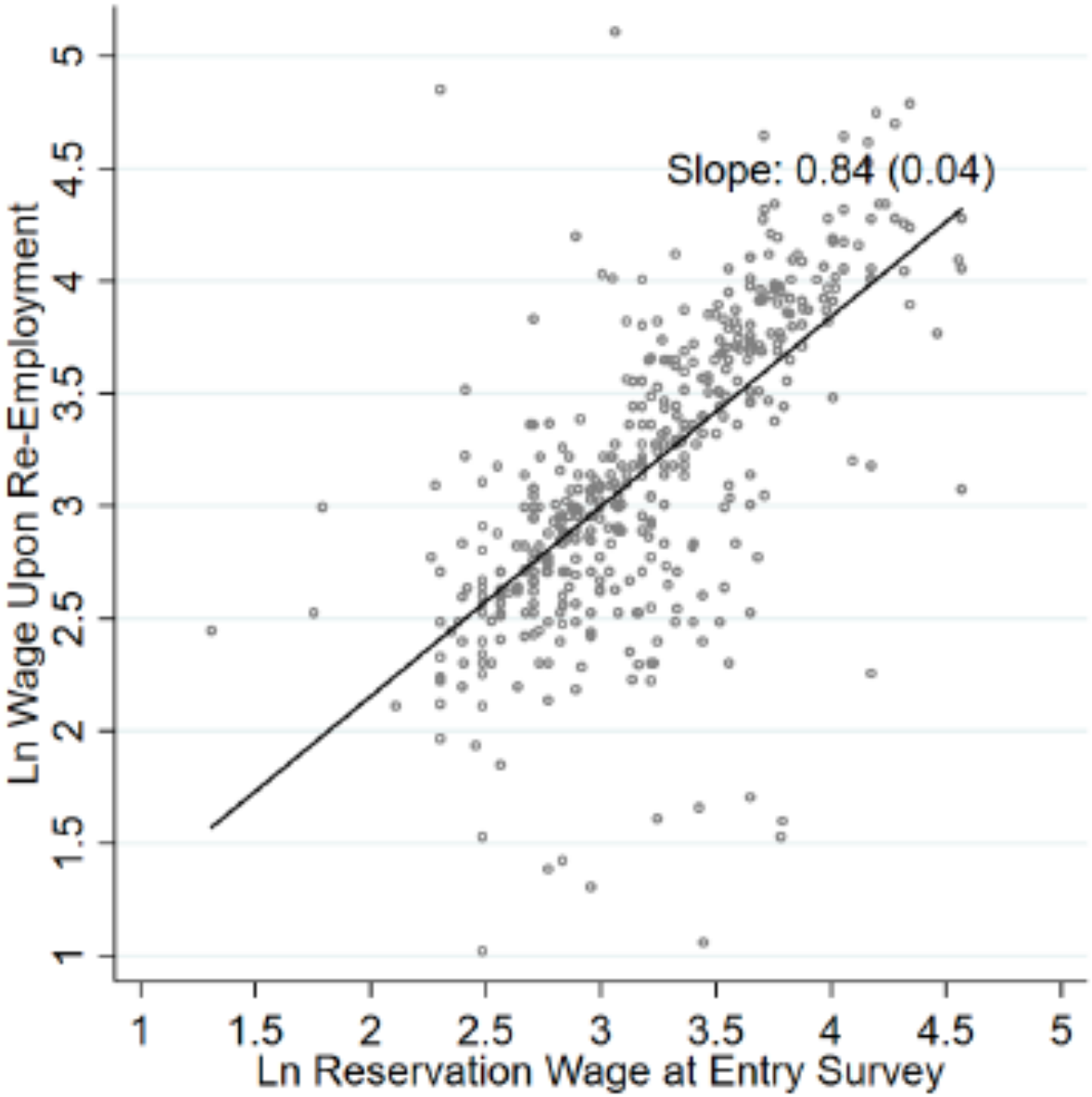


Sample Composition

- Demographic mix: Our sample is similar to that of newly unemployed persons in the U.S. CPS (job losers, unemployment duration < 5 weeks).
- Industry mix: Lost Manufacturing jobs are more common in our sample than in the CPS, while lost jobs in Leisure & Hospitality are less common.
- Weighting: Re-weighting our data to match the CPS distribution of newly unemployed job losers across cells defined by the cross-product of two age groups, two education groups and sex matters little for our results. Today's talk reports unweighted results.

Figure 3. The Distribution of Wage Changes for Re-Employed Job Losers

How Wages on the New Job Relate to the Reservation Wage Expressed on the Entry Survey (Shortly after Job Loss)



Deflating the re-employment and reservation wage measures by the wage on the lost job and re-rerunning the regression yields a slope coefficient of 0.78 with a standard error of 0.07.

Notes: 26% of respondents were paid on an hourly basis on the lost job. For the rest, we compute an hourly wage using earnings and usual weekly hours on the lost job. 91% of job losers worked at least 35 hours on the lost job. This chart considers persons who were re-employed by the second Follow-Up Survey.

Internal Validity & Predictive Content

- Reservation wages predict re-employment wages.
- Reservation wage ratios are 15 log points lower for those who accept hypothetical wage cuts, as compared to refusers.
- Re-employment wage ratios are 9 log points lower for those who accept hypothetical wage cuts, as compared to refusers.
- Those who accept larger wage cuts have lower reservation wage ratios and lower re-employment wage ratios than those who accept smaller cuts.
- Worker-level rents on the lost job are strong predictors of the willingness to accept job-saving wage cuts.

Willingness to Accept Wage Cuts, 1

Permanent layoffs (80% of sample)**:** "*Would you have been willing to stay on your last job for another 12 months at a pay cut of X percent?*"

Temporary layoffs: "*Suppose your employer offered a temporary pay cut of X percent as an alternative to the temporary layoff. Would you have been willing to accept the temporary pay cut to avoid the layoff?*

Randomize over X = 5, 10, 15, 20, 25.

Willingness to Accept Wage Cuts, 2

Percent Who Would Accept Proposed Pay Cut to Save the Lost Job (or to Avoid a Temporary Layoff)

Size of proposed paycut	5%	10%	15%	20%	25%
Permanent layoffs	60.6	52.3	43.7	38.4	32.4
	(2.4)	(2.5)	(2.5)	(2.4)	(2.3)
Observation Count →	404	413	410	419	423
Temporary layoffs	54.5	42.9	35.8	34.3	37.4
	(5.0)	(5.0)	(4.9)	(4.7)	(4.9)
Observation Count →	101	98	95	102	99

How Does Willingness to Accept Job-Saving Pay Cuts Vary with Worker and Job Characteristics? (Table 4 Summary)

- Persons with high residual wages on the lost job are much more likely to accept job-saving pay cuts. Details:
  - A Mincerian log wage regression (using lost-job wage) has an R-squared of 0.32 with a residual standard deviation = 0.51.
  - Regress $\mathcal{I}$(Accept Wage Cut) on worker & job characteristics, controls for size of wage cut, and wage residual.
  - Results say a two standard deviation increase in the log wage residual raises willingness to accept a pay cut by 12 ppts, conditional on controls.
- Few discernable differences across demographic groups, except Blacks are 11-12 ppts more likely to accept job-saving pay cuts.
  - This result aligns with evidence that Blacks have less financial wealth and, as a result, exhibit greater sensitivity of consumption expenditures to income shocks (e.g. Ganong et al., 2020).

Employer-Worker Discussions about Pay Cuts Instead of Layoffs Rarely Happen

Permanent layoffs: *"Before your employer let you go, was there any discussion about possible cuts to pay, benefits or hours to save your job?"*

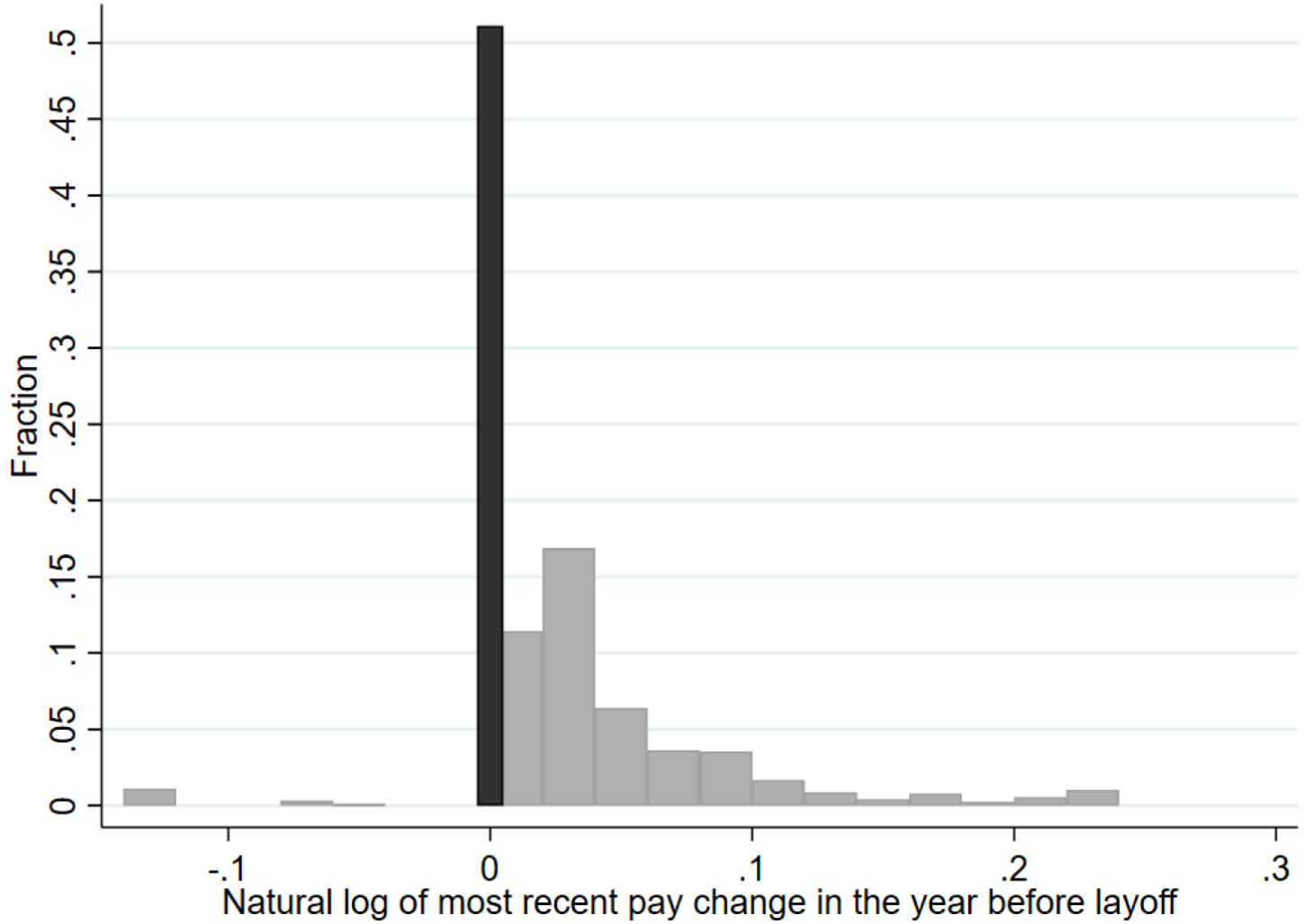
Temporary layoffs: *"Did you and your employer discuss a cut in pay, benefits or hours as an alternative to a temporary layoff?*

Percent of UI recipients who say yes

	Mean	S.E.	Count
Overall	2.8	0.3	2,567
Type of layoff (p-value: 0.03)			
Permanent	2.4	0.3	2,070
Temporary	4.2	0.9	497

Employers Rarely Try Pay Cuts First, Before Resorting to Layoffs

Histogram of log wag changes on the lost job in the prior year



What Job Losers Perceive about the Reasons for Wage Stickiness

"If you had to guess, why do you think your employer did not discuss any kind of cuts in pay, benefits or hours?"

For those on permanent layoff

- 38% believe proposed pay cut would not save lost job
- 9% say it would lead best workers to quit
- 9% say it would undermine morale
- 39% don't know why
- Minimum wage laws, employer pay scales, automation, cost-cutting, bankruptcy, and outsourcing each account for 2% or less.

For union job losers, 45% say it's not allowed under wage contract.

Why Many Job Losers Refuse Wage Cuts

Permanent Layoffs: *"What are the reasons why you would not accept a pay cut of X percent to avoid being laid off?"*

- Half can find another job that pays more.
- 38% say the pay cut would feel like an insult.
- 21% prefer not working to working at the lower pay level.

Temporary Layoffs: *"What are the reasons why you would not accept a temporary pay cut of X percent to avoid being temporarily laid off?"*

- Half can find a job that pays more, or they prefer not working.
- 24% say pay cut would feel like an insult.
- 42% fear the wage cut might become permanent.

How Many Layoffs Are Potentially Avoidable with Pay Cuts?

Consider job losers who meet two conditions:

1. They would accept the proposed wage cut.
2. They believe the proposed wage cut would save their lost job.

28% of UI benefit recipients in our sample meet both conditions.

- This figure is subject to upward and downward biases, as described in the paper and Slides 35-37 below.
- After adjusting for these biases, we estimate that 24% of the job losers in our sample meet both conditions.

How Many Layoffs Are Potentially Avoidable with Pay Cuts? 2

An obvious concern: Our current efforts to address this question rely on worker perceptions of whether the proposed wage cuts would lead the employer to forego layoffs.

- Employer views in this regard may differ from worker perceptions.
- A sizable divergence would alter our estimates and warrant careful study in its own right.
  - If there is a perceptions gap, what are its sources?
  - Could third-party mediation, better institutions, or policy interventions shrink the perceptions gap?
  - Would shrinking the gap reduce layoffs?

A Two-Prong Sample Design

- Future work: We hope to implement a two-prong sample design that elicits for the same set of layoff events:
  - The willingness of job losers to accept job-preserving pay cuts.
  - The willingness of employers to forego layoffs in return for pay cuts.
- The two-prong design would let us assess the bilateral condition for efficient layoffs in a more compelling way, probe why employers don't offer wage cuts in lieu of layoffs, explore how worker and employer views differ, etc.
- Feasibility: Every state operates an administrative system for unemployment benefits that is well suited to serve as a frame for this type of two-prong sample design.

Theories Founded on Bilateral Relationships, 1

Many leading theories of job separations, frictional unemployment, wages, and job ladders adopt two assumptions:

1. Employment relationships are strictly bilateral in the sense that the continuation value is uninfluenced by the inputs, preferences and compensation of anyone else who works for the employer.
2. The employer and worker are identically informed about the continuation value and the value of each party's outside options.

Influential theories that adopt these two assumptions include Mortensen and Pissarides (1994 RESTUD), Burdett and Mortensen (1998 IER), Ljungqvist and Sargent (1998 JPE), Hall (2005 AER) and Cahuc, Postel-Vinay and Robin (2006 Econometrica).

Theories Founded on Bilateral Relationships, 2

- Taken together, assumptions 1 and 2 imply that no layoff (or quit) occurs if there exists a current wage such that each party wants to continue the employment relationship.
- ***Moreover***, the existence and value of such a wage is independent of whether the employer has other workers and what it pays them.
- **Out data let us assess this implication directly, one layoff at a time.**
- About one-quarter of the layoffs in our sample violate this bilateral condition for privately efficient separations, as we just saw.
- The main weakness in our current implementation of this direct evaluation is its reliance on worker perceptions of whether a given pay cut is large enough for the employer to forego the layoff.

Theories Founded on Bilateral Relationships, 3

- Hall and Lazear (1984), Perry and Solon (1985) and Malcomson (1997) explain how private information about continuation values and outside options can lead to sticky wages on the layoff margin and to violations of the bilateral condition for privately efficient separations.
- These theories are appealing, because they rest on plausible assumptions (private information, relationship-specific investments).
- But these theories are hard to square with our evidence.
- Why don't employers (and workers) probe the possibility of job-saving wage cuts in lieu of layoffs, especially in reaction to observable shocks?
- We see almost no such efforts. There is an almost complete absence of employer-worker discussions about pay cuts in lieu of layoffs.

Theories Founded on Bilateral Relationships, 4

Pay re-negotiation costs don't resolve the issue.

- 35% of job losers would accept wage cuts of 20-25% to save their lost jobs.
- Not cheap talk: The same job losers see a mean wage drop of 20 log points at re-employment.
- In addition, their mean reservation wage is 15 log points below the lost-job wage. So they have information that, if revealed to their employer, might save their job.
- When at least one party sees that much room for job-preserving wage cuts, it's not plausible that pay re-negotiation costs are big enough to inhibit discussions.
- Bertheau et al. (2022) survey of Danish employers: When asked how large a pay cut could have prevented layoffs, 61% of employers "Do not know."

On Fairness Norms and Morale Effects

Some job losers point to fairness norms and morale effects to explain why employers don't offer pay cuts, and to explain why they refuse pay cuts. But the frequency of concerns about fairness and morale is typically (much) greater in employer surveys. Why this discrepancy?

Our discussion of the Firestone tire defect study by Krueger and Mas (2004) suggests a reconciliation and insight into how and why bilateral efficiency can fail.

- If product defects (or sabotage) are sufficiently costly, a plan for job-saving wage cuts that is acceptable to most employees and that is otherwise profitable can be derailed by fears of how a few aggrieved employees might respond/retaliate.
- If those few can be identified in advance and terminated, the best available action may be to fire them and cut wages for others.
- If they cannot be identified in advance, or if it is infeasible to selectively fire them, broad layoffs can be the best feasible action.
- That remains true even when layoffs violate bilateral efficiency for most employer-worker pairs.

Concluding Remarks, 1

To the best of our knowledge, we are the first to:

1. Document the disjunction between widespread worker-side openness to job-saving wage cuts and a pervasive unwillingness of employers to even broach the subject.
2. Directly evaluate the bilateral condition for efficient layoffs implied by influential theories of separations, frictional unemployment, wages, and job ladders.

One quarter of the layoffs in our sample violate this condition, pointing to a material departure from these theories.

Concluding Remarks, 2

Once we drop the focus on strictly bilateral employment relationships, many theories can potentially explain our findings – including the evidence that many layoffs violate the bilateral condition implied by some leading theories.

Our findings point to a need for theories of compensation policies and practices at the level of organizations (rather than matches) to fully understand why layoffs happen.

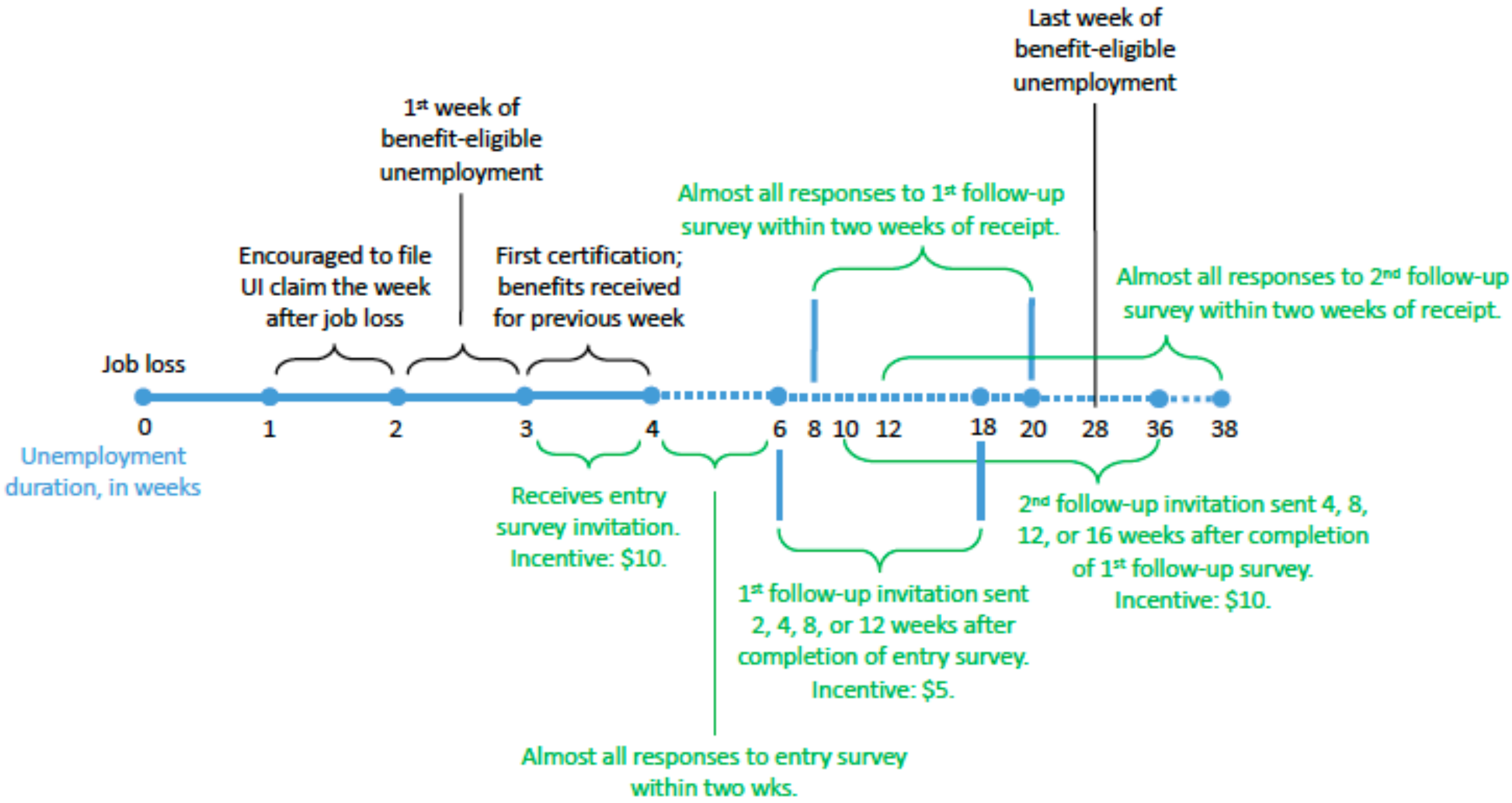
Concluding Remarks, 3

Our survey approach is useful for addressing several hypotheses that warrant (more) attention in future research:

1. Workers display more openness to job-saving wage cuts during recessions and other periods with slack labor markets.
2. High inflation relaxes the bite of wage stickiness on the layoff margin.
3. Collective bargaining raises the incidence of layoffs that violate the bilateral condition for privately efficient separations.
4. Performance-based pay and other flexible forms of compensation reduce the incidence of such layoffs.
5. Concerns about fairness norms and the morale effects of wage cuts are more common when sub-par worker performance is costlier to the employer, harder to detect before negative consequences manifest, and harder to source to specific individuals. (Recall Firestone case.)

Extra Slides

Figure 1. Survey Timing and Sample Design



Statistics	(1) Unweighted	(2) Weighted	(3) CPS (US)
Previous employment data			
Previous industry (percent)			
Leisure and hospitality	6.3	6.6	12.5
Finance, insurance, real estate	9.4	7.9	4.4
Construction	5.3	7.4	14.1
Education and health care services	16.7	12.6	17.5
Information and other services	9.3	8.4	5.9
Manufacturing	20.1	25.7	8.6
Mining	0.3	0.4	0.6
Prof., technical, business services	12.1	8.9	13.5
Retail and wholesale trade	9.2	9.9	11.2
Transp., warehousing, utilites	6.1	7.2	5.8
Government or military	1.0	1.0	2.4
Agriculture, forestry, fishing	1.5	1.7	3.7
Data missing	2.6	2.4	0.0
Demographic data (percent of total)			
Female	52.4	42.5	43.1
Age in years			
18-24	6.2	7.9	18.1
25-34	26.3	29.0	24.1
35-44	22.8	24.5	19.1
45-54	22.6	20.1	17.4
55-64	19.2	15.8	14.3
65 or older	3.0	2.6	6.9
Race/Ethnicity			
White, non-Hispanic	63.3	61.1	51.3
White, Hispanic	5.2	5.7	21.0
Black	16.6	18.0	20.1
Asian	3.4	2.4	2.9
Other	4.7	5.4	4.6
Data missing	6.9	7.3	0.0
Education			
High school grad.	13.7	21.0	35.4
Technical training/some college	28.2	40.9	21.4
Associate/bachelor's degree	41.0	29.1	19.3
Grad. degree or higher	16.2	7.7	7.1
Avg. unemployment duration (weeks)	5.3	5.1	2.5
No. of observations	2,567	2,567	3,820

Table 1. The Entry Survey Analysis Sample Compared to Job Losers with Ongoing Unemployment Spell Durations of Five Weeks or Less in the Current Population Survey

Column (2) reweights to the CPS using cells defined as the cross-product of two age groups (less than 45 years or not), two education groups (four-year college degree or not), and sex. This re-weighting matters little for our results, and I focus on unweighted data in the analysis below.

Summary: The demographic mix of our sample is broadly similar to the contemporaneous mix of the newly unemployed in the U.S. CPS. (Lost) jobs in Manufacturing are more prevalent in our sample, while jobs in Leisure & Hospitality and less common in our sample.

Table 2: Reservation and re-employment wage ratios, UI recipients on permanent layoff

	(1) Log reservation wage ratio			(2) Log re-employment wage ratio		
	(1.1) Obs.	(1.2) Mean	(1.3) p-values	(2.1) Obs.	(2.2) Mean	(2.3) p-values
Panel A. Workers who accept pay cuts						
Accept 5% wage cut	235	-0.09	<0.001	57	-0.077	0.30
Accept 10-15% wage cut	390	-0.10	<0.001	84	-0.106	0.09
Accept 20-25% wage cut	291	-0.15	<0.001	59	-0.20	0.007
Accept wage cut of any size	916	-0.11	<0.001	200	-0.12	0.002
Panel B. Workers who reject pay cuts						
Reject 5% wage cut	150	0.048	0.046	41	-0.11	0.14
Reject 10-15% wage cut	416	0.051	<0.001	93	0.046	0.35
Reject 20-25% wage cut	530	0.025	0.046	127	-0.054	0.21
Reject wage cut of any size	1,096	0.038	<0.001	261	-0.027	0.37
Panel C. Hypothesis tests						
Same wage ratio for those who accept and reject pay cuts	2,012		<0.001	461		0.046
Same wage ratio for those . . . by size of pay cut	2,012		<0.001	461		0.073
Same wage ratio across pay cut categories: Accepts	916		0.05	200		0.47
Same wage ratio across pay cut categories: Rejects	1,096		0.37	261		0.15
Panel D. Full-sample summary statistics						
Mean	2,012	-0.031		461	-0.069	
Standard deviation	2,012	0.297		461	0.520	

Dependent variable = 1 if respondent accepts pay cut, 0 otherwise.

Type of Layoff →	(1) Permanent	(2) Temporary	(3) Permanent	(4) Temporary
Proposed pay cut				
10%	-0.09**	-0.14*	-0.09**	-0.16**
	(0.04)	(0.07)	(0.04)	(0.07)
15%	-0.18***	-0.18**	-0.17***	-0.21***
	(0.04)	(0.07)	(0.04)	(0.07)
20%	-0.24***	-0.19***	-0.23***	-0.21***
	(0.04)	(0.07)	(0.03)	(0.07)
25%	-0.28***	-0.19**	-0.28***	-0.19***
	(0.04)	(0.07)	(0.03)	(0.07)
Individual characteristics				
Female	0.01	0.04	0.01	0.02
	(0.02)	(0.05)	(0.02)	(0.05)
Black	0.12***	0.11*	0.12***	0.12*
	(0.03)	(0.06)	(0.03)	(0.07)
Experience	0.01*	-0.01	0.01*	-0.01
	(0.00)	(0.01)	(0.00)	(0.01)
Experience^2	-0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Tenure on the lost job				
6mos to 2yrs	-0.08**	-0.06	-0.08**	-0.08
	(0.03)	(0.06)	(0.03)	(0.06)
2yrs to 5yrs	-0.08**	-0.06	-0.08**	-0.05
	(0.04)	(0.08)	(0.04)	(0.09)
More than 5yrs	-0.05	-0.21***	-0.05	-0.17**
	(0.04)	(0.07)	(0.04)	(0.07)
Other variables				
Paid hourly (Yes=1)	-0.08***	-0.03	-0.08***	-0.03
	(0.03)	(0.05)	(0.03)	(0.05)
Weeks unemployed	-0.00	0.00	-0.00	0.00
	(0.00)	(0.01)	(0.00)	(0.01)
Rent variables				
Industry wage premium			-0.10	0.77
			(0.39)	(1.15)
Union job (Yes=1)			-0.02	-0.17***
			(0.05)	(0.06)
Wage residual			0.12***	-0.00
			(0.02)	(0.05)
Mean of dependent variable	0.46	0.38	0.46	0.38
Standard deviation of dep. var.	0.50	0.48	0.50	0.48
R2	0.07	0.12	0.08	0.15
Observations	1,909	418	1,909	418

Table 4. How the Willingness to Accept Pay Cuts Varies with Observables

Key Finding: Residuals from a Mincerian log wage regression predict willingness to accept pay cuts to save lost jobs.

The Mincerian log wage regression has an R-squared of 0.32 with a residual standard deviation = 0.51.

So, a two standard deviation increase in the log wage residual raises the estimated willingness to accept a given size pay cut by 2(0.51)(.12)(100) = 12 percentage points, conditional on controls.

First Caution: Downward Bias

- Some respondents who do not meet both conditions might do so if presented with a higher or lower wage cut. In this respect, the 28 percent figure is biased down. We can get a sense for the size of this bias by inspecting how the share of job losers that meet both conditions varies with the size of the proposed wage cut.
- For permanent layoffs, the share ranges from 35 percent at a 5 percent pay cut to 22 percent at a 25 percent cut.
- For temporary layoffs, it ranges from 41 percent to 24 percent.
- These results suggest that 35+ percent of layoffs could be avoided by suitable pay cuts. Even this figure is biased down, because it does not reflect wage cuts that are tailored to the specific circumstances of each layoff.

Second Caution: Upward Bias

- Recall from Table 6 that nearly four-in-ten job losers ``Don't know'' why their employer did not discuss wage cuts in lieu of layoff.
- If they knew, they might say the proposed wage cut would not save their lost job. In this respect, the 28 percent figure is biased up.
- To assess the potential size of this bias, suppose the share of proposed wage cuts that ``would not have prevented my layoff'' is the same for those who ``Don't know'' and those who do, and that ``Don't know'' status is uncorrelated with whether the proposed wage cut would lead the employer to forego the layoff. Then the implied share of layoffs that would be avoided by the proposed wage cut is 17 percent.
- A more conservative approach treats all ``Don't knows'' as ``would not prevent the layoff.'' That assumption yields a figure of 10 percent for the share of layoffs that violate bilateral efficiency.

Hybrid Approach to Biases

- We also implement a hybrid approach that integrates the adjustments for upward and downward bias.
- Specifically, we assign some or all ``Don't knows'' to ``would not prevent layoff'' and look across the wage cut categories. As before, a wage cut of 5 percent yields the highest share for layoffs that could be avoided by suitable pay cuts.
- That share is 24 percent when the ``Don't knows'' are uncorrelated with the acceptability of pay cuts to employers and 13 percent when we treat all ``Don't knows'' as ``would not prevent the layoff.''

Complementary Employer-Side Evidence

- Bertheau et al. (2022) survey Danish firms with 5+ employees in June 2021 and link their survey data to administrative records.
- "What reduction in the total salary cost (base pay and bonuses) could have prevented layoffs?"
  - 18% of firms with layoffs say 0-20 percent
  - Another 13% say 21-40 percent, 5% say 41-60%, 3% say >60%
  - 61% "Do not know" what size pay cut would prevent layoffs.
  - **So, among those that profess to know, 46% of firms with layoffs say pay cuts of 0-20 percent would prevent the layoff.**