As Wages Increase, Do People Work More or Less? A Wage Frame Effect

ONLINE APPENDIX

A1. Additional Experimental Details, Additional Analyses Results, and Additional Studies

A1.1. Study Overview

In all studies, sample sizes were determined in advance. Additional details of each study can be found here. Study materials and data files can be accessed on OSF at https://osf.io/mn3ax/.

Table A1. Model-free evidence on the wage frame effect across all studies (total *N* = 2,876). Precise model-based estimates are reported later in each study.

		DV: **Wage Frame Effect** (***WF***)		Pay-Change Frame ($\Delta WS_{pay\text{-}change}$)		Load-Change Frame ($\Delta WS_{load\text{-}change}$)		
		Mean	SE	Mean	SE	Mean	SE	N
Study 1: Pumping Balloons (unit: balloons per session)								
PC vs. LC	**Inc.**	**+2.19** **	0.72	5.59	0.49	3.41	0.53	*64*
PC vs. LC	**Dec.**	**-4.48** ***	1.11	1.66	0.84	6.14	0.73	*68*
Study 2A: Placing Food Orders Online (unit: orders per session)								
PC vs. LC	**Inc.**	**+3.26**	*1.5*	-0.18	0.73	-3.44	1.36	*114*
PC vs. LC-2	**Inc.**	**+1.50**	1.19	-0.18	0.73	-1.69	0.92	*124*
Study 2B: Placing Food Orders Online (unit: orders per session)								
PC vs. LC	**Inc.**	**+1.74**	*1.04*	0.09	0.65	-1.65	0.83	*219*
PC vs. LC-2	**Inc.**	**+1.09**	1.01	0.09	0.65	-1	0.77	*223*
Study 2 Follow-Up: Placing Food Orders Online (unit: orders per session)								
	Inc.	**+7.72** **	2.64	1.69	1.56	-6.03	2.19	*207*

*Notes: *** p < .001, ** p < .01, * p < .05*

PC = the pay-change frame, LC = the load-change frame
Inc. = increase, Dec. = decrease

Table A1 (cont'd)

		DV: Wage Frame Effect (*WF*)		Pay-Change Frame ($\Delta WS_{pay\text{-}change}$)		Load-Change Frame ($\Delta WS_{load\text{-}change}$)		
		Mean	SE	Mean	SE	Mean	SE	N
Additional Study 1: Working at MTurk (unit: hours per week)								
OVERALL	**Inc.**	**+6.66*****	*0.73*	8.97	0.59	2.31	0.43	989
10 hr	**Inc.**	**+6.31*****	0.74	9.78	0.56	3.47	0.48	*670*
20 hr	**Inc.**	**+6.18*****	1.74	7.6	1.3	1.43	1.06	*212*
30 hr	**Inc.**	**+9.85****	3.05	7.41	2.44	-2.44	1.87	*59*
40 hr	**Inc.**	**+10.96**	6.77	6.44	6.14	-4.52	2.28	*48*
Additional Study 1 Follow-Up: Working at MTurk (unit: hours per week)								
	Inc.	**+5.4**	*1.52*	8.62	1.12	3.23	1.03	*376*
	Dec.	**-3.25**	1.54	-3.95	0.79	-0.7	1.28	*372*
Additional Study 2: Driving with Uber (unit: hours per week)								
PC vs. LC	**Trans inc.**	**+14.06*****	3.74	11.67	2.95	-2.39	2.32	*179*
Default vs. LC	**Trans inc.**	**+4.94**	3.35	4.17	2.46	-2.39	2.32	*170*
PC vs. LC	**Perm inc.**	**+13.25****	4.54	12.05	3.68	-1.2	2.64	*162*
Default vs. LC	**Perm inc.**	**+6.56**	3.39	3.74	1.96	-1.2	2.64	*155*

*Notes: *** p < .001, ** p < .01, * p < .05*

Trans inc. = transitory increase, Perm inc. = permanent increase

A1.2. Study 1

1. Conditions: A 2 (direction of wage change: wage increase vs. wage decrease) × 2 (wage frame: load-change vs. pay-change) between-subjects factorial design

2. Sample size: 132

3. Data exclusion: No outlier exclusions

4. Measures:

a. Behavioral measure: The number of balloons the participant completed in each session

b. Behavioral measure: The amount of time the participant spent completing each balloon

c. Questionnaire question: Gender

d. Questionnaire question: Age

5. Adjustment:

Across conditions, performance increased by 18.8 percentage points from Session 1 (M = 22.70) to Session 2 (M = 26.95), likely representing a practice effect (e.g., improved hand-foot coordination). For a more precise estimate of the wage frame effect, we adjusted each individual worker's Session 1 work performance by +18.8 percentage points to ensure that our wage manipulation was the only difference between Session 1 and Session 2. By adjusting the Session 1 performance, we were able to both (a) control everything else at the beginning of each session and hence obtain a more precise model estimation and (b) examine model-free evidence on the raw work performance in Session 2 and test the sustainability of the wage frame effect.

6. Additional analyses

Table A2. Pooled analysis of the wage frame effect across the wage-increase and wage-decrease conditions

	Dependent Variable:
	Change in Balloons Completed Per Session
Pay-Change Frame (intercept)	−3.132
	(4.021)
Dummy: Load-Change Frame	−3.133***
	(0.687)
Dummy: Female	0.837
	(0.853)
Age	0.213
	(0.186)
Observations	132
Note:	*p<0.1; **p<0.05; ***p<0.01

We pooled the adjusted work supply changes at the individual-worker level across the wage-increase and wage-decrease conditions by multiplying the wage-decrease conditions by -1. We then ran a regression with a dummy variable for the load-change frame, controlling for age and gender. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect).

Table A3. Wage frame effect by condition, with and without baseline performance adjustment

	Dependent Variable:			
	Change in Balloons Completed		Change in Balloons Completed (raw)	
	Wage Increase	Wage Decrease	Wage Increase	Wage Decrease
Pay-Change Frame (intercept)	1.362***	−2.605***	5.594***	1.656**
	(0.509)	(0.828)	(0.508)	(0.806)
Dummy: Load-Change Frame	−2.054***	4.326***	−2.187***	4.483***
	(0.720)	(1.138)	(0.718)	(1.108)
Observations	64	68	64	68
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the wage frame effect in the wage-increase and wage-decrease conditions. In columns one and two, we use the adjusted measure, which accounts for the 18.8 percentage point increase in performance (i.e., a practice effect) between Sessions 1 and 2 across all conditions. In columns three and four, we use the raw completion counts. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the work supply change. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect).

Table A4. Work performance in Session 1 by condition

	Dependent Variable:	
	Balloons Completed in Session 1	
	Wage Increase	Wage Decrease
Pay-Change Frame (intercept)	22.562***	22.719***
	(0.874)	(0.869)
Dummy: Load-Change Frame	−0.719	0.837
	(1.236)	(1.194)
Observations	64	68
Note:	*p<0.1; **p<0.05; ***p<0.01	

We examine work performance by condition in Session 1, that is, before the manipulation. Column one presents the number of balloons completed in Session 1 in the wage-increase conditions, and column two presents the same variable for the wage-decrease conditions. The first row ("Pay-Change Frame," or the intercept) presents the average Session 1 work performance in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. As expected, there is not a significant difference by wage frame.

Table A5. Work performance in Session 2 by condition

	Dependent Variable:	
	Balloons Completed in Session 2	
	Wage Increase	Wage Decrease
Pay-Change Frame (intercept)	28.156***	24.375***
	(1.076)	(1.166)
Dummy: Load-Change Frame	−2.906*	5.319***
	(1.522)	(1.602)
Observations	64	68
Note:	*p<0.1; **p<0.05; ***p<0.01	

We examine work performance by condition in Session 2, that is, after the manipulation. Column one presents the number of balloons completed in Session 2 in the wage-increase conditions, and column two presents the same variable in the wage-decrease conditions. The first row ("Pay-Change Frame," or the intercept) presents the average Session 2 work performance in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. As expected, there is a significant difference by wage frame.

Table A6. Work performance per 3-minute interval in Session 2 by condition

	Dependent Variable:	
	Number of Balloons Completed Per 3 Minute Interval	
	Wage Increase	Wage Decrease
Pay-Change Frame (intercept)	5.631***	4.875***
	(0.222)	(0.252)
Dummy: Load-Change Frame	−0.581*	1.064**
	(0.302)	(0.322)
Observations	320	340
Note:		*p<0.1; **p<0.05; ***p<0.01

We examine the effect of wage frame on work speed in Session 2. Column one shows the average number of balloons completed within each 3-minute interval in Session 2 in the wage-increase conditions, and column two presents the same variable in the wage-decrease conditions. The first row ("Pay-Change Frame," or the intercept) presents the average work supply in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. Standard errors are clustered at the subject level.

Table A7. Work performance in the last 3-minute interval of Session 2 by condition

	Dependent Variable:	
	Balloons Completed in the Last 3-Minute Interval	
	Wage Increase	Wage Decrease
Pay-Change Frame (intercept)	6.125***	4.875***
	(0.274)	(0.288)
Dummy: Load-Change Frame	−1.187***	1.181***
	(0.388)	(0.396)
Observations	64	68
Note:		*p<0.1; **p<0.05; ***p<0.01

We examine the effect of wage frame on the number of balloons completed in the last 3-minute interval of Session 2 to assess whether the impact of wage frame was transient or persistent. Column one shows the average number of balloons completed in the last 3-minute interval in Session 2 in the wage-increase conditions, and column two presents the same variable in the wage-decrease conditions. The first row ("Pay-Change Frame," or the intercept) presents the average work supply in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions.

A1.3. Study 2

A1.3. Study 2A

1. Conditions: A 2 (wage frame: pay-change vs. load-change vs. load-change-2) between-subjects design with targets that were higher than the achievable range. Averaged across conditions, there was a decrease in performance from Session 1 to Session 2 (6.8 percentage points, perhaps due to fatigue), so we adjusted performance in Session 1 to account for the baseline performance change.

2. Sample size: 191 saw the attention check

3. Data exclusion: No outlier exclusions. Data points from duplicate IPs, duplicate MTurk IDs, incompletes, and participants who failed the attention check were removed before analyses.

4. Measures:

a. Behavioral measure: The total number of orders the worker submitted in each session

b. Behavioral measure: The amount of time the worker spent on each order

c. Questionnaire question: Attention check. Was it clear to you that the system would add some points to your work account for every order it received? In other words, every order counted.

d. Questionnaire question: Attention check. Did the system impose an order number requirement on you in either work session?

e. Questionnaire question: Gender

f. Questionnaire question: Age

5. Adjustment:

Across conditions, performance decreased by 6.8 percentage points from Session 1 (M = 25.28) to Session 2 (M = 23.57). For a more precise estimate of the wage frame effect, we adjusted each individual worker's Session 1 work performance by -6.8 percentage points to ensure that our wage manipulation was the only difference between Session 1 and Session 2. By adjusting the Session 1 performance, we were able to both (a) control everything else at the beginning of each session and hence obtain a more precise model estimation and (b) examine model-free evidence on the raw work performance in Session 2 and test the sustainability of the wage frame effect.

6. Additional Analyses:

Table A8. The likelihood of being included in the final sample, by condition

	Included in Final Sample
Pay-Change Frame (intercept)	1.386***
	(0.290)
Dummy: Load-Change Frame	-0.488
	(0.386)
Dummy: Load-Change Frame 2	0.288
	(0.429)
Observations	227
Note:	*p<0.1; **p<0.05; ***p<0.01

We used logistic regression to examine whether attrition varied among our key conditions, and we found no significant difference in the likelihood of qualifying for the final sample. The first row ("Pay-Change Frame," or the intercept) presents the likelihood of being included in the final sample in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the likelihoods in the pay-change-frame and load-change-frame conditions. The third row ("Dummy: Load-Change Frame 2") presents the difference between the likelihoods in the pay-change-frame and second load-change-frame conditions. All results reported in the text are based on the final sample.

Table A9. The wage frame effect, applying different exclusion criteria

	Dependent Variable:			
	Change in Orders Completed			
	Load-Change Frame		Load-Change Frame 2	
	Passed AC	Saw AC	Passed AC	Saw AC
Pay-Change Frame (intercept)	1.557	1.083	1.557*	1.083
	(1.026)	(0.997)	(0.874)	(0.824)
Dummy: Load-Change Frame	-3.286**	-2.014		
	(1.490)	(1.433)		
Dummy: Load-Change Frame 2			-1.559	-1.292
			(1.216)	(1.165)
Observations	114	126	124	130
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on the estimated wage frame effect. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the work supply change. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the primary test of the wage frame effect). The third row ("Dummy: Load-Change Frame 2") presents the difference between the effects of the pay-change and second load-change frames (i.e., the secondary test of the wage frame effect). In columns one and three, we include only the participants who passed the attention check (AC); these are the results we present in the main paper. In columns two and four, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC).

In the primary test (columns one and two), the wage frame effect is significant with the exclusion and directionally consistent but not significant when we include all participants. In the secondary test (columns three and four), the wage frame effect is only directional regardless of the exclusion. Note that we present the primary and secondary tests as separate regressions. As a result, the estimate of the standard error of the intercept term varies between estimates. For the effect of the pay-change frame, please see the estimate in the main text.

Table A10. Performance in Session 1 by condition, applying different exclusion criteria

	Dependent Variable:			
	Orders Completed in Session 1			
	Load-Change Frame		Load-Change Frame 2	
	Passed AC	Saw AC	Passed AC	Saw AC
Pay-Change Frame (intercept)	25.683***	24.938***	25.683***	24.938***
	(1.429)	(1.366)	(1.397)	(1.339)
Dummy: Load-Change Frame	-0.369	0.406		
	(2.077)	(1.963)		
Dummy: Load-Change Frame 2			-0.808	-0.262
			(1.944)	(1.894)
Observations	114	126	124	130
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on performance in Session 1 by condition. The first row ("Pay-Change Frame," or the intercept) presents the performance of workers in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. The third row ("Dummy: Load-Change Frame 2") presents the difference between the pay-change-frame and second load-change-frame conditions. In columns one and three, we include only the participants who passed the attention check (AC) and whose recorded number of orders matches the data on the timing of order completion; these are the results we present in the main paper. In columns two and four, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC). The wage frame consistently has no effect on performance in Session 1.

Table A11. Performance in Session 2 by condition, applying different exclusion criteria

	Dependent Variable:			
	Orders Completed in Session 2			
	Load-Change Frame		Load-Change Frame 2	
	Passed AC	Saw AC	Passed AC	Saw AC
Pay-Change Frame (intercept)	25.500***	24.631***	25.500***	24.631***
	(1.645)	(1.595)	(1.749)	(1.669)
Dummy: Load-Change Frame	-3.630	-1.631		
	(2.390)	(2.292)		
Dummy: Load-Change Frame 2			-2.312	-1.538
			(2.434)	(2.361)
Observations	114	126	124	130
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on performance in Session 2 by condition. The first row ("Pay-Change Frame," or the intercept) presents the performance of workers in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. The third row ("Dummy: Load-Change Frame 2") presents the difference between the pay-change-frame and second load-change-frame conditions. In columns one and three, we include only the participants who passed the attention check (AC) and whose recorded number of orders matches the data on the timing of order completion; these are the results we present in the main paper. In columns two and four, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC). The wage frame consistently has no significant effect on performance in Session 2, though all estimates are directionally consistent with our hypothesis.

Table A12. Robustness Check: The raw wage frame effect, applying different exclusion criteria

	Dependent Variable:			
	Change in Orders Completed (raw)			
	Load-Change Frame		Load-Change Frame 2	
	Passed AC	Saw AC	Passed AC	Saw AC
Pay-Change Frame (intercept)	-0.183	-0.308	-0.183	-0.308
	(1.034)	(1.004)	(0.854)	(0.809)
Dummy: Load-Change Frame	-3.261**	-2.037		
	(1.503)	(1.442)		
Dummy: Load-Change Frame 2			-1.504	-1.277
			(1.189)	(1.144)
Observations	114	126	124	130
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on the raw (i.e., unadjusted) wage frame effect by condition. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the work supply change. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect). The third row ("Dummy: Load-Change Frame 2") presents the difference between the effects of the pay-change and second load-change frames. In columns one and three, we include only the participants who passed the attention check (AC); these are the results we present in the model-free analysis of the wage frame effect (Table A1). In columns two and four, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC).

In the primary test (columns one and two), the raw wage frame effect is significant with the exclusion and directionally consistent but not significant when we include all participants. In the secondary test (columns three and four), the raw wage frame effect is only directional regardless of the exclusion. Note that we present the primary and secondary tests as separate regressions. As a result, the estimate of the standard error of the intercept term varies between estimates. For the effect of the pay-change frame, please see the estimate in Table A1.

Table A13. Work speed in Session 2 by condition

	Dependent Variable:			
	Load-Change Frame		Load-Change Frame 2	
	Speed	Last Minute Speed	Speed	Last Minute Speed
Pay-Change Frame (intercept)	5.100***	5.250***	5.100***	5.250***
	(0.335)	(0.354)	(0.334)	(0.354)
Dummy: Load-Change Frame	-0.726	-1.065**		
	(0.475)	(0.516)		
Dummy: Load-Change Frame 2			-0.462	-0.562
			(0.484)	(0.528)
Observations	570	114	620	124
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the average number of orders completed per minute in Session 2 by condition. The first row ("Pay-Change Frame," or the intercept) presents the average work supply speed in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change and load-change frames. The third row ("Dummy: Load-Change Frame 2") presents the difference between the pay-change and second load-change frames. Columns one and three present the average number of orders per minute, while columns two and four present the average number of orders in the last minute of the work session.

In the primary test (columns one and two; the pay-change frame vs. the load-change frame), the load-change frame has a directionally negative effect on speed overall and has a significant negative effect on speed in the last minute. In the secondary test (columns three and four; the pay-change frame vs. the second load-change frame), the second load-change frame has directionally negative but non-significant effects on speed overall and in the last minute, consistent with our prediction.

A1.4. Study 2B

1. Conditions: A 2 (wage frame: pay-change vs. load-change vs. load-change-2) between-subjects design with targets that were within the achievable range and could serve as a reasonable performance target. Averaged across conditions, there was a decrease in performance from Session 1 to Session 2 (2.6 percentage points, perhaps due to fatigue), so we adjusted performance in Session 1 to account for the baseline performance change.

2. Sample size: 333 saw the attention check

3. Data exclusion: No outlier exclusions. Data points from duplicate IPs, duplicate MTurk IDs, incompletes, and participants who failed the attention check were removed before analyses.

4. Measures:

a. Behavioral measure: The total number of orders the worker submitted in each session

b. Behavioral measure: The amount of time the worker spent on each order

c. Questionnaire question: Attention check. Was it clear to you that the system would add some points to your work account for every order it received? In other words, every order counted.

d. Questionnaire question: Attention check. Did the system impose an order number requirement on you in either work session?

e. Questionnaire question: Gender

f. Questionnaire question: Age

5. Adjustment:

Across conditions, performance decreased by 2.6 percentage points from Session 1 (M = 28.22) to Session 2 (M = 27.50). For a more precise estimate of the wage frame effect, we adjusted each individual worker's Session 1 work performance by -2.6 percentage points to ensure that our wage manipulation was the only difference between Session 1 and Session 2. By adjusting the Session 1 performance, we were able to both (a) control everything else at the beginning of each session and hence obtain a more precise model estimation and (b) examine model-free evidence on the raw work performance in Session 2 and test the sustainability of the wage frame effect.

6. Additional Analyses:

Table A14. The likelihood of being included in the final sample, by condition

	Included in Final Sample
Pay-Change Frame (intercept)	1.474***
	(0.203)
Dummy: Load-Change Frame	0.008
	(0.321)
Dummy: Load-Change Frame 2	0.340
	(0.345)
Observations	376
Note:	*p<0.1; **p<0.05; ***p<0.01

We used logistic regression to examine whether attrition varied among our key conditions, and we found no significant difference in the likelihood of qualifying for the final sample. The first row ("Pay-Change Frame," or the intercept) presents the likelihood of being included in the final sample in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the likelihoods in the pay-change-frame and load-change-frame conditions. The third row ("Dummy: Load-Change Frame 2") presents the difference between the likelihoods in the pay-change-frame and second load-change-frame conditions. All results reported in the text are based on the final sample.

Table A15. The wage frame effect, applying different exclusion criteria

	Dependent variable:			
	Change in Orders Completed			
	Load-Change Frame		Load-Change Frame 2	
	Passed AC	Saw AC	Passed AC	Saw AC
Pay-Change Frame (intercept)	0.808	0.801	0.808	0.801
	(0.658)	(0.619)	(0.649)	(0.614)
Dummy: Load-Change Frame	-1.750*	-1.632*		
	(1.038)	(0.972)		
Dummy: Load-Change Frame 2			-1.057	-1.145
			(1.010)	(0.964)
Observations	219	237	223	237
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on the estimated wage frame effect. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the work supply change. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the primary test of the wage frame effect). The third row ("Dummy: Load-Change Frame 2") presents the difference between the effects of the pay-change and second load-change frames (i.e., the secondary test of the wage frame effect). In columns one and three, we include only the participants who passed the attention check (AC); these are the results we present in the main paper. In columns two and four, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC).

In the primary test (columns one and two), the wage frame effect is marginally significant with and without the exclusion. In the secondary test (columns three and four), the wage frame effect is only directional regardless of the exclusion. Note that we present the primary and secondary tests as separate regressions. As a result, the estimate of the standard error of the intercept term varies between estimates. For the effect of the pay-change frame, please see the estimate in the main text.

Table A16. Performance in Session 1 by condition, applying different exclusion criteria

	Dependent Variable:			
	Orders Completed in Session 1			
	Load-Change Frame		Load-Change Frame 2	
	Passed AC	Saw AC	Passed AC	Saw AC
Pay-Change Frame (intercept)	27.947***	27.794***	27.947***	27.794***
	(0.899)	(0.863)	(0.920)	(0.883)
Dummy: Load-Change Frame	-0.435	-0.180		
	(1.418)	(1.356)		
Dummy: Load-Change Frame 2			1.336	1.393
			(1.433)	(1.387)
Observations	219	237	223	237
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on performance in Session 1 by condition. The first row ("Pay-Change Frame," or the intercept) presents the performance of workers in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. The third row ("Dummy: Load-Change Frame 2") presents the difference between the pay-change-frame and second load-change-frame conditions. In columns one and three, we include only the participants who passed the attention check (AC). In columns two and four, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC). The wage frame consistently has no effect on performance in Session 1.

Table A17. Performance in Session 2 by condition, applying different exclusion criteria

	Dependent Variable:			
	Orders Completed in Sesssion 2			
	Load-Change Frame		Load-Change Frame 2	
	Passed AC	Saw AC	Passed AC	Saw AC
Pay-Change Frame (intercept)	28.038***	27.922***	28.038***	27.922***
	(1.011)	(0.971)	(1.080)	(1.035)
Dummy: Load-Change Frame	-2.175	-1.807		
	(1.596)	(1.525)		
Dummy: Load-Change Frame 2			0.244	0.213
			(1.681)	(1.627)
Observations	219	237	223	237
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on raw performance in Session 2 by condition. The first row ("Pay-Change Frame," or the intercept) presents the performance of workers in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. The third row ("Dummy: Load-Change Frame 2") presents the difference between the pay-change-frame and second load-change-frame conditions. In columns one and three, we include only the participants who passed the attention check (AC). In columns two and four, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC). The wage frame consistently has no significant effect on performance in Session 2, though the load-change frame estimates are directionally consistent with our hypothesis.

Table A18. Robustness Check: The raw wage frame effect, applying different exclusion criteria

	Dependent Variable:			
	Change in Orders Completed (raw)			
	Load-Change Frame		Load-Change Frame 2	
	Passed AC	Saw AC	Passed AC	Saw AC
Pay-Change Frame (intercept)	0.092	0.128	0.092	0.128
	(0.662)	(0.622)	(0.651)	(0.615)
Dummy: Load-Change Frame	-1.739*	-1.628*		
	(1.044)	(0.978)		
Dummy: Load-Change Frame 2			-1.092	-1.180
			(1.013)	(0.966)
Observations	219	237	223	237
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on the raw (i.e., unadjusted) wage frame effect by condition. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the work supply change. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the primary test of the wage frame effect). The third row ("Dummy: Load-Change Frame 2") presents the difference between the effects of the pay-change and second load-change frames (i.e., the secondary test of the wage frame effect). In columns one and three, we include only the participants who passed the attention check (AC); these are the results we present in the model-free analysis of the wage frame effect (Table A1). In columns two and four, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC).

In the primary test (columns one and two), the raw wage frame effect is marginally significant with and without the exclusion. In the secondary test (columns three and four), the raw wage frame effect is only directional regardless of the exclusion. Note that we present the primary and secondary tests as separate regressions. As a result, the estimate of the standard error of the intercept term varies between estimates. For the effect of the pay-change frame, please see the estimate in Table A1.

Table A19. Work speed in Session 2 by condition

	Dependent Variable:			
	Load-Change Frame		Load-Change Frame 2	
	Speed	Last Minute Speed	Speed	Last Minute Speed
Pay-Change Frame (intercept)	5.608***	5.580***	5.608***	5.580***
	(0.201)	(0.238)	(0.201)	(0.247)
Dummy: Load-Change Frame	-0.435	-0.682*		
	(0.319)	(0.375)		
Dummy: Load-Change Frame 2			0.049	0.083
			(0.345)	(0.385)
Observations	1095	219	1115	223
Note:				*p<0.1; **p<0.05; ***p<0.01

We examine the average number of orders completed per minute in Session 2 by condition. The first row ("Pay-Change Frame," or the intercept) presents the average work supply speed in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change frame conditions. The third row ("Dummy: Load-Change Frame 2") presents the difference between the pay-change-frame and second load-change frame conditions. Columns one and three present the average number of orders per minute in Session 2, while columns two and four present the average number of orders in the last minute of Session 2.

In the primary test (columns one and two; the pay-change frame vs. the load-change frame), the load-change frame has a directionally negative effect on overall speed and a marginally significant negative effect on speed in the last minute. In the secondary test (columns three and four; the pay-change frame vs. the second load-change frame), the second load-change frame has directionally positive but non-significant effects on speed overall and in the last minute.

A1.5. Study 2 Follow-Up

0. Pre-registration: AsPredicted #40614: https://aspredicted.org/blind.php?x=dn5n92

1. Conditions: A 2 (wage frame: load-change vs. pay-change) + 1 (no change) between-subjects design. The no-change control provided a baseline measurement of the natural change in performance (i.e., without the influence of a wage change) between Sessions 1 and 2. We found a small decrease in performance (7 percentage points, perhaps due to fatigue), so we adjusted each worker's Session 1 performance in the wage-change conditions to account for the baseline performance change.

2. Sample size: 375 saw the attention check

3. Data exclusion: No outlier exclusions. Data points from duplicate IPs, duplicate MTurk IDs, and incompletes were removed before data analyses.

4. Measures:

a. Behavioral measure: The total number of orders the worker submitted in each session

b. Behavioral measure: The amount of time the worker spent on each order

c. Questionnaire question: Attention check. Was the point scheme, that is, the number of points per order, increased or decreased in the new session?

d. Questionnaire question: Attention check. Was it clear to you that the system would add some points to your work account for every order it received? In other words, every order counted.

e. Additional Question: Was it clear to you that, within one session, the system would give you a fixed number of points for every order it received? In other words, one point scheme throughout one session.

f. Additional Question: Did the system impose an order number requirement on you in either work session?

g. Questionnaire question: Gender

h. Questionnaire question: Age

5. Adjustment

In the no-change control condition, performance decreased by 7 percentage points from Session 1 (M = 69.10) to Session 2 (M = 65.97). For a more precise estimate of the wage frame

effect, we adjusted each individual worker's Session 1 work performance by -7 percentage points to ensure that our wage manipulation was the only difference between Session 1 and Session 2. By adjusting the Session 1 performance, we were able to both (a) control everything else at the beginning of each session and hence obtain a more precise model estimation and (b) examine model-free evidence on the raw work performance in Session 2 and test the sustainability of the wage frame effect.

6. Additional analyses

Table A20. The likelihood of being included in the final sample, by condition

	Included in Final Sample
Pay-Change Frame (intercept)	0.841***
	(0.034)
Dummy: Load-Change Frame	−0.065
	(0.049)
Observations	257
Note:	*p<0.1; **p<0.05; ***p<0.01

We used logistic regression to examine whether attrition varied among our key conditions, and we found no significant difference in the likelihood of qualifying for the final sample. The first row ("Pay-Change Frame," or the intercept) presents the likelihood of being included in the final sample in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the likelihoods in the pay-change-frame and load-change-frame conditions. All results reported in the text are based on the final sample.

Table A21. The wage frame effect, applying different exclusion criteria

	Dependent Variable:		
	Change in Orders Completed		
	Passed AC and Data Match	Passed AC	Saw AC
Pay-Change Frame (intercept)	5.892***	5.806***	4.526***
	(1.778)	(1.772)	(1.588)
Dummy: Load-Change Frame	−7.305***	−6.726***	−6.973***
	(2.603)	(2.587)	(2.278)
Observations	208	211	257
Note:			*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on the estimated wage frame effect. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the work supply change. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect). In column one, we include only the participants who passed the attention check (AC) and whose recorded number of orders matches the data on the timing of order completion; these are the results we present in the main paper. In column two, we add the participants who passed the AC but whose orders and timing data did not match. In column three, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC). The wage frame effect is significant with all three sets of exclusion criteria.

Table A22. Performance in Session 1 by condition, applying different exclusion criteria

	Dependent Variable:		
	Pre-wage-change Orders Completed		
	Passed AC and Data Match	Passed AC	Saw AC
Pay-Change Frame (intercept)	60.000***	59.625***	58.083***
	(2.680)	(2.731)	(2.498)
Dummy: Load-Change Frame	6.000	5.042	5.501
	(3.925)	(3.986)	(3.582)
Observations	208	211	257
Note:			*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on performance in Session 1 by condition. The first row ("Pay-Change Frame," or the intercept) presents the performance of workers in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. In column one, we include only the participants who passed the attention check (AC) and whose recorded number of orders matches the data on the timing of order completion; these are the results we present in the main paper. In column two, we add the participants who passed the AC but whose orders and timing data did not match. In column three, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC). The wage frame consistently has no significant effect on performance in Session 1, though the load-change frame appears to elicit a directionally better performance than the pay-change frame.

Table A23. Performance in Session 2 by condition, applying different exclusion criteria

	Dependent Variable:		
	Post-wage-change Orders Completed		
	Passed AC and Data Match	Passed AC	Saw AC
Pay-Change Frame (intercept)	61.694***	61.259***	58.545***
	(2.915)	(2.918)	(2.693)
Dummy: Load-Change Frame	−1.725	−2.037	−1.857
	(4.269)	(4.261)	(3.862)
Observations	208	211	257
Note:			*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on performance in Session 2 by condition. The first row ("Pay-Change Frame," or the intercept) presents the performance of workers in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. In column one, we include only the participants who passed the attention check (AC) and whose recorded number of orders matches the data on the timing of order completion; these are the results we present in the main paper. In column two, we add the participants who passed the AC but whose orders and timing data did not match. In column three, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC). The wage frame consistently has no significant effect on performance in Session 2, though all estimates are directionally consistent with our hypothesis.

Table A24. Robustness Check: The raw wage frame effect, applying different exclusion criteria

	Dependent Variable:		
	Change in Raw Orders Completed		
	Passed AC and Data Match	Passed AC	Saw AC
Pay-Change Frame (intercept)	1.694	1.634	0.462
	(1.806)	(1.805)	(1.614)
Dummy: Load-Change Frame	−7.725***	−7.078***	−7.358***
	(2.644)	(2.635)	(2.314)
Observations	208	211	257
Note:			*p<0.1; **p<0.05; ***p<0.01

We examine the effect of our exclusion criteria on the raw (i.e., unadjusted) wage frame effect by condition. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the work supply change. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect). In column one, we include only the participants who passed the attention check (AC) and whose recorded number of orders matches the data on the timing of order completion; these are the results we present in the model-free analysis of the wage frame effect (Table A1). In column two, we add the participants who passed the AC but whose orders and timing data did not match. In column three, we include all participants who saw the AC and completed both work sessions (i.e., we add those who failed the AC). The wage frame effect is significant with all three sets of exclusion criteria.

Table A25. Performance in the control (no-change) condition, used to adjust performance in the wage-frame conditions

	Dependent Variable:	
	Session 1	Session 2
No-change	69.873***	64.984***
	(3.554)	(3.837)
Observations	63	63
Note:	*p<0.1; **p<0.05; ***p<0.01	

We examine performance in the control (no-change) condition to generate a baseline measurement of the natural change in performance (i.e., in the absence of a wage change) between Sessions 1 and 2. Workers in the control condition completed fewer orders, by 4.5 percentage points, in Session 2 than in Session 1.

Table A26. Work speed in Session 2 by condition

	Dependent Variable:	
	Speed	Last Minute Speed
Pay-Change Frame (intercept)	12.339***	11.342***
	(0.555)	(0.670)
Dummy: Load-Change Frame	−0.345	0.018
	(0.858)	(0.980)
Observations	1040	208
Note:	*p<0.1; **p<0.05; ***p<0.01	

We examine the average number of orders completed per minute in the pay-change-frame and load-change-frame conditions in Session 2. The first row ("Pay-Change Frame," or the intercept) presents the average work supply speed in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the pay-change-frame and load-change-frame conditions. Column one presents the average number of orders per minute, while column two presents the average number of orders in the last minute of the work session. The load-change frame has directionally negative but non-significant effects on speed overall. It has essentially no effect in the last minute and, if anything, goes in the opposite of the hypothesized direction.

A1.6. Additional Study 1

This study uses the fact that Amazon's Mechanical Turk (MTurk) is a labor market to investigate real workers' work supply preferences. Since MTurk workers can freely decide how much work to supply at any point, this labor market not only offers diversity in initial work supply preferences but also grants workers the flexibility to adjust their work supply any time as a response to a wage change—precisely the conditions necessary for the effect under study.

Every worker was asked how they would respond to a hypothetical wage increase. In the questionnaire, we first asked the workers how many hours in a week they usually worked (four levels: 10hr, 20hr, 30hr, and 40hr) and recorded this as their pre-wage-change work supply. Then, we told the workers to imagine that MTurk was doubling their pay rate (which was approximately $5 per hour at the time of the study) and asked them to indicate how many hours in a week they would be willing to work under the new rate. This new pay rate was customized based on each worker's idiosyncratic pre-wage-change work supply level, reported earlier in the survey. For example, if a worker indicated that she usually worked about 30 hours per week, she would read the new pay rate as either *"From now on, you can work the same 30 hours and earn $300"* in the pay-change-frame condition or *"From now on, you can work 15 hours and earn the same $150"* in the load-change-frame condition. At the end of the questionnaire, we collected demographic information such as household income.

The results suggest that the wage frame effect occurs in hypothetical scenario studies as well as in the incentivized behavior studies reported in the main text.

0. Pre-registration: AsPredicted #30183: https://aspredicted.org/blind.php?x=jh5bt9

1. Conditions: A 3 (nature of work: full-time job as work vs. part-time job as work vs. part-time job for fun, measured) x 2 (wage frame: load-change vs. pay-change, manipulated) between-subjects design

2. Sample size: 989
Note: (a) The pre-registered sample size was specific to recruitment. Pre-registered exclusions occurred after recruitment. (b) Some analyses reported in the text and below were specific to a subset of the conditions, yielding a different N in those analyses.

3. Data exclusion: No outlier exclusions. Data points from duplicate IPs, duplicate MTurk IDs, and incompletes were removed before data analyses.

4. Measures:

a. Questionnaire question: Which one describes you, as an Mturk worker, the most?

- You see your work at MTurk as a full-time job.

- You work at MTurk part-time. Working here is not exactly fun to you. If it were not for the money, you would rather watch sports games and TV episodes or play video games.
- You work at MTurk part-time. You find it fun working here. Even if you were not paid, you would still come and work

b. Questionnaire question: In a normal week, how many hours do you usually work here? Choose the closest number.

- 10 hours a week
- 20 hours a week
- 30 hours a week
- 40 hours a week

c. Questionnaire question: We know that <answer in a>. We also know you usually work about <answer in b>, and let's say you make about <answer in b times $5>. Now imagine there is a sudden change in MTurk's pay scheme. Assume everything else in this world and in your life remains unchanged. <manipulaton>. How many hours in a week would you be willing to work under the new pay scheme? Enter a number between 0 and 168 hours (i.e., a week).

An example of the manipulation:

[Pay-Change Frame] *From now on, you can work the same 30 hours and earn $300.*

[Load-Change Frame] *From now on, you can work 15 hours and earn the same $150.*

d. Questionnaire question: Gender

e. Questionnaire question: Age

f. Questionnaire question: Household annual income (12 bins from <$10000 to 150000+)

g. Questionnaire question: Attention Check: What was the new pay scheme you were told?

- work the same, earn twice
- work half, earn the same

5. Results:

Table A27. The wage frame effect, with and without controls

	Dependent variable:	
	Change in Willingness-to-Work	
	(1)	(2)
Pay-Change Frame (intercept)	8.970***	17.500***
	(0.514)	(1.944)
Dummy: Load-Change Frame	−6.657***	−7.178***
	(0.732)	(0.722)
Dummy: 20 Hour Pre-Wage-Change Work Supply		−3.073***
		(0.919)
Dummy: 30 Hour Pre-Wage-Change Work Supply		−6.842***
		(1.614)
Dummy: 40 Hour Pre-Wage-Change Work Supply		−8.574***
		(1.916)
Dummy: Part-Time Job for Money		−4.565**
		(1.389)
Dummy: Part-Time Job for Fun		−4.043**
		(1.480)
Dummy: Female		−0.390
		(0.749)
Age		−0.045
		(0.031)
Household Income Fixed Effects:	N	Y
Observations	989	989
Note:	*p<0.05; **p<0.01; ***p<0.001	

We examine the wage frame effect with and without controls. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the change in willingness-to-work at the individual-worker level. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect). In model (1), we examine the difference in the change in willingness-to-work between the load-change-frame and pay-change-frame conditions (i.e., the wage frame effect). In model (2), we estimate the wage frame effect while controlling for covariates: the pre-wage-change work supply (10 hours, 20 hours, 30 hours, or 40 hours), the nature of work (full-time, part-time for money, or part-time for fun), gender (female or male), age, and our measure of household income. The household income coefficients are suppressed for presentation purposes. The wage frame effect was negative and significant in both specifications.

Table A28. The wage frame effect, applying different exclusion criteria

	Dependent variable:			
	Change in Willingness-to-Work			
	Recall Correct (1)	Recall Correct (2)	No Matching (3)	No Matching (4)
Pay-Change Frame (intercept)	9.019***	17.323***	12.154***	21.406***
	(0.506)	(2.027)	(0.607)	(2.238)
Dummy: Load-Change Frame	−6.853***	−7.440***	−8.370***	−8.596***
	(0.766)	(0.757)	(0.828)	(0.823)
Dummy: 20 Hour Pre-Wage-Change Work Supply		−3.042**		−2.223*
		(0.949)		(1.070)
Dummy: 30 Hour Pre-Wage-Change Work Supply		−6.382***		−6.895***
		(1.758)		(1.833)
Dummy: 40 Hour Pre-Wage-Change Work Supply		−7.839***		−9.066***
		(2.043)		(2.397)
Dummy: Part-Time Job for Money		−4.544**		−5.621***
		(1.464)		(1.643)
Dummy: Part-Time Job for Money		−4.544**		−4.627**
		(1.551)		(1.744)
Dummy: Female		0.093		−0.224
		(0.780)		(0.848)
Age		−0.040		−0.053
		(0.032)		(0.035)
Household Income Fixed Effects:	N	Y	N	Y
Observations	860	860	796	796

Note: *p<0.05; **p<0.01; ***p<0.001

We examine the wage frame effect with different exclusion criteria, and with and without controls. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the change in willingness-to-work at the individual-worker level. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect).

In models (1) and (2), we exclude the 13% of participants who failed the attention checks. This type of confusion was less prevalent in the pay-change-frame condition (3%) than in the load-change-frame condition (23%). In model (1), we estimate the effect without controls; in model (2), we add the covariates: the pre-wage-change work supply (10 hours, 20 hours, 30 hours, or 40 hours), the nature of work (full-time, part-time for money, or part-time for fun), gender

(female or male), age, and our measure of household income. The household income coefficients are suppressed for presentation purposes. The wage frame effect is significant in both models.

In models (3) and (4), we perform the same analyses but exclude participants who matched the hour number in the new wage information (e.g., if the load-change frame said, "*From now on, you can work 15 hours and earn the same $150,"* then we excluded participants who responded, "15 hours"). Across conditions, 20% of participants provided matched responses, and the percentage was higher in the pay-change-frame condition (26%) than in the load-change-frame condition (13%). The wage frame effect remains significant with and without covariates when we exclude matched responses.

Table A29. Model-free evidence on the wage frame effect, by the pre-wage-change work supply level

	Dependent variable:				
	Change in Willingness-to-Work				
	Pay-Change	Pay-Change (N)	Load-Change	Load-Change (N)	Difference
10 Hour Pre-Wage-Change Work Supply	9.779***	330	3.468***	340	−6.311***
	(0.565)		(0.480)		(0.741)
20 Hour Pre-Wage-Change Work Supply	7.602***	118	1.426	94	−6.176***
	(1.303)		(1.063)		(1.741)
30 Hour Pre-Wage-Change Work Supply	7.407**	27	−2.437	32	−9.845**
	(2.435)		(1.874)		(3.027)
40 Hour Pre-Wage-Change Work Supply	6.440	25	−4.522	23	−10.962
	(6.140)		(2.288)		(6.772)
Note:					*p<0.05; **p<0.01; ***p<0.001

We examine the wage frame effect within each pre-wage-change work supply level. Columns one and three present the effect of the pay-change and load-change frames, respectively, on the change in willingness-to-work at the individual-worker level. Columns two and four present the sample size in each condition. Column five presents the wage frame effect, that is, the difference between the effects of the pay-change frame (column one) and the load-change frame (column three). At all levels of pre-wage-change work supply, the wage frame effect is in the predicted direction; the effect is significant at the 10-hour, 20-hour, and 30-hour work supply levels.

A1.7. Additional Study 1 Follow-Up

This study is a conceptual replication of Additional Study 1 (section A1.6.) and adopted similar procedures except that we (a) measured the pre-wage-change work supply on a continuous scale, (b) included wage-decrease conditions as well as wage-increase conditions, and (c) presented MTurk workers with verbal rather than numerical information about the new pay rate (e.g., "twice" and "half"), thus offering no opportunities for workers to provide a matched response. As usual, we asked these workers how many hours they would be willing to work after a wage increase or decrease. We replicated the wage frame effect in this study, so we conclude that the number-matching strategy is not a viable explanation for the wage frame effect.

0. Pre-registration: AsPredicted #30674 (https://aspredicted.org/FYA_JGY)

1. Sample size: 748
Note: (a) The pre-registered sample size was specific to recruitment. Pre-registered exclusions occurred after recruitment. (b) Some analyses reported in the text and below were specific to a subset of the conditions, yielding a different total N in those analyses.

2. Conditions: A 2 (wage frame: pay-change vs. load-change) x 2 (wage change: increase "twice" vs. decrease "half") between-subjects design with **continuous** individual differences in the pre-wage-change work supply

3. Exclusions: No outlier exclusions. Data points from duplicate IPs, duplicate MTurk IDs, and incompletes were removed before data analyses.

4. Measures:

a. Questionnaire question: Individual difference. Gender

b. Questionnaire question: Individual difference. Age

c. Questionnaire question: Individual difference. Which one describes you, as an Mturk worker, the most?

- You see your work at MTurk as a full-time job.
- You work at MTurk part-time. Working here is not exactly fun to you. If it were not for the money, you would rather watch sports games and TV episodes or play video games.
- You work at MTurk part-time. You find it fun working here. Even if you were not paid, you would still come and work

d. Questionnaire question: In a normal week, how many hours do you usually work here? Text entry 0–168.

e. Questionnaire question: In a normal week, how much do you usually make here? Enter the amount in US Dollars.

f. Questionnaire question: Now imagine there is a sudden change in MTurk's pay scheme. Assume everything else in this world and in your life remains unchanged.

> **[Pay-Change Frame, Wage Increase]** From now on, if you work the same number of hours as before, you will earn twice as before.
>
> **[Load-Change Frame, Wage Increase]** From now on, if you work half as hard as before, you will earn the same amount of money as before.
>
> **[Pay-Change Frame, Wage Decrease]** From now on, if you work the same number of hours as before, you will earn half as before.
>
> **[Load-Change Frame, Wage Decrease]** From now on, if you work twice as hard as before, you will earn the same amount of money as before.

Now how many hours in a week would you be willing to work at MTurk under the new pay scheme? Text entry 0–168

g. Questionnaire question: Individual difference. Household annual income (12 bins from <$10000 to 150000+)

h. Questionnaire question: Attention check. Did the new scheme indicate a pay raise or a pay cut?

- Pay raise, or rate increase
- Pay cut, or rate decrease

I. Questionnaire question: Attention check: In the new scheme, which exact expression were you given?

- "work the same number of hours"
- "earn the same amount of money"

5. Results:

Table A30. The wage frame effect in the wage-increase and wage-decrease conditions

	Dependent variable:	
	Change in Willingness-to-Work	
	Wage Increase	Wage Decrease
Pay-Change Frame (intercept)	6.338*	1.101
	(3.389)	(3.937)
Dummy: Load-Change Frame	−6.425***	3.027*
	(1.444)	(1.582)
Dummy: Part-time Job for Money	4.127*	−6.655**
	(2.446)	(2.755)
Dummy: Part-time Job for Fun	4.927*	−3.557
	(2.612)	(3.009)
Age	0.032	−0.074
	(0.061)	(0.074)
Household Income Fixed effects	Y	Y
Observations	275	263
Note:	*p<0.1; **p<0.05; ***p<0.01	

We examine the wage frame effect in the wage-increase and wage-decrease conditions. The first row ("Pay-Change Frame," or the intercept) presents the effect of the pay-change frame on the change in willingness-to-work at the individual-worker level. The second row ("Dummy: Load-Change Frame") presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect). Model (1) examines the wage frame effect in the wage-increase conditions (when the rate was "twiced"), while model (2) examines the wage frame effect in the wage-decrease conditions (when the rate was "halved"). Both models include demographic controls. The wage frame effect was consistent with our prediction in both the wage-increase and wage-decrease conditions; the effect was significant in the wage-increase conditions and marginal in the wage-decrease conditions.

A1.8. Additional Study 2

In this study, we focused on extending to a different hypothetical paradigm and a theoretical extension that concerns the duration of the wage change. In a forward-looking labor supply model, the period for which a wage change applies is critical to the worker's work supply decision, especially in terms of *planning* the division of one's time between making money and enjoying leisure. In reality, the applicable duration of a wage change is commonly unspecified, and both transitory and permanent wage changes are common. In some cases, like in "surge pricing," a bump in the pay rate is guaranteed for only a short period of time, and afterward, it may or may not change back. In other cases, the pay rate is guaranteed to remain at or above a certain level once it has increased.

Our previous studies were unable to speak to the distinction between transitory and permanent wage changes. In Additional Study 2, we explicitly manipulated the applicable duration of the wage change to explore whether it moderates our wage frame effect. It is important to emphasize that we are necessarily studying short-term effects of wage changes; even when we describe the wage change as "permanent," the results do not necessarily generalize to the long term because the long-term work supply decision is influenced by changes in wealth over time.

This study used three wage-change conditions, load-change, pay-change, and a default frame. In all wage-change conditions, participants read, "*You drive with Uber part-time. Driving with Uber is not exactly fun for you. If it were not for the money, you would rather stay home and play video games or watch television. Usually you drive about 30 hours a week and make about $600. Imagine that there is a sudden change in Uber's pay scheme. Assume everything else in this world and in your life remains unchanged."* Then, they received one of the wage frames:

> **[Load-Change Frame]** *From now on, you can drive 20 hours to earn the same $600.*
>
> **[Pay-Change Frame]** *From now on, you can drive the same 30 hours to earn $900.*
>
> **[Default Frame]** *From now on, your rate increases to $30 per hour.*

We created two parallel versions: transitory and permanent wage changes. Therefore, this study employed a 2 (applicable duration of the wage change: transitory *vs.* permanent) × 3 (wage frame: load-change *vs.* pay-change *vs.* default) between-subjects factorial design. After receiving the new pay rate information and before indicating their willingness-to-work under the new pay rate participants received additional information about the duration of the wage change. In particular, they read:

> **[Transitory Wage Increase]** *There may or may not be further changes in the weeks onward. But, for now, you focus on this coming week. How many hours in a week would you be willing to drive under the new pay scheme?*

> **[Permanent Wage Increase]** *There will be no further changes in the weeks onward. For now, you focus on this coming week. How many hours in a week would you be willing to drive under the new pay scheme?*

Additional Study 2 replicated the wage frame effect with both transitory and permanent wage changes and showed that workers seemed to be insensitive to the applicable duration of the wage increase, reflecting a form of scope insensitivity (Hsee and Rottenstreich 2004; Hsee and Zhang 2010).

0. Pre-registration: AsPredicted #17273 (http://aspredicted.org/blind.php?x=n2zw36)

1. Sample size: 603
Note: (a) The pre-registered sample size was specific to recruitment. Pre-registered exclusions occurred after recruitment. (b) Some analyses reported in the text and below were specific to a subset of the conditions, yielding a different total N in those analyses.

2. Conditions: A 2 (applicable duration of the wage change: transitory vs. permanent) x 3 (wage frame: load-change vs. pay-change vs. default) between-subjects factorial design

3. Exclusions: No outlier exclusions. Data points from duplicate IPs, failed attention checks, and incompletes were excluded.

4. Measures:

a. Questionnaire question: Gender

b. Questionnaire question: Age

[Transitory Increase]

Suppose you drive with Uber part-time. Driving with Uber is not exactly fun to you. If it were not for the money, you would rather stay home and watch sports games and TV episodes.

Usually you drive about 30 hours a week and make about $600.

Imagine there is a sudden change in Uber's pay scheme. Assume everything else in this world and in your life remains unchanged.

> **[Pay-Change Frame]** In the coming week, you can drive the same 30 hours to earn $900.
>
> **[Load-Change Frame]** In the coming week, you can drive 20 hours to earn the same $600.
>
> **[Default Frame]** In the coming week, your rate increases to $30 per hour.

There may or may not be further changes in the weeks onward. But, for now, you focus on this coming week.

How many hours in a week would you be willing to drive under the new pay scheme? (0–168)

[Permanent Increase]

Suppose you drive with Uber part-time. Driving with Uber is not exactly fun to you. If it were not for the money, you would rather stay home and watch sports games and TV episodes.

Usually you drive about 30 hours a week and make about $600.

Imagine there is a sudden change in Uber's pay scheme. Assume everything else in this world and in your life remains unchanged.

[Pay-Change Frame] From now on, you can drive the same 30 hours to earn $900.

[Load-Change Frame] From now on, you can drive 20 hours to earn the same $600.

[Default Frame] From now on, your rate increases to $30 per hour.

There will be no further changes in the weeks onward. But, for now, you focus on this coming week.

How many hours in a week would you be willing to drive under the new pay scheme? (0–168)

c. Questionnaire question: Attention Check: What was the exact new wage information you were given?

[Transitory Increase]

- In the coming week, you can drive 20 hours to earn the same $600.
- In the coming week, you can drive the same 30 hours to earn $900.
- In the coming week, your rate increases to $30 per hour.

[Permanent Increase]

- From now on, you can drive 20 hours to earn the same $600.
- From now on, you can drive the same 30 hours to earn $900.
- From now on, your rate increases to $30 per hour.

5. Results:

Table A31. The likelihood of being included in the final sample, by condition

	Dependent variable:
	Included in Final Sample
Pay-Change Frame (intercept)	1.644***
	(0.265)
Dummy: Load-Change Frame	0.382
	(0.406)
Dummy: Default Frame	−0.165
	(0.372)
Dummy: Permanent	−0.194
	(0.368)
Dummy: Load-Change Frame X Permanent	−0.271
	(0.548)
Dummy: Default Frame X Permanent	−0.239
	(0.505)
Observations	603
Note:	*p<0.1; **p<0.05; ***p<0.01

We used logistic regression to examine whether attrition varied across conditions, and we found no significant difference in the likelihood of qualifying for the final sample. The first row ("Pay-Change Frame," or the intercept) presents the likelihood of being included in the final sample in the pay-change-frame condition. The second row ("Dummy: Load-Change Frame") presents the difference between the likelihoods in the pay-change-frame and load-change-frame conditions. The third row ("Dummy: Default Frame") presents the difference between the likelihoods in the pay-change-frame and the default-frame conditions.

Table A32. The wage frame effect by the applicable duration of the wage change, with and without demographic controls

	Dependent variable:	
	Change in Willingness-to-Work	
	(1)	(2)
Pay-Change Frame (intercept)	11.670***	2.572
	(2.653)	(4.698)
Dummy: Load-Change Frame	−14.055***	−13.063***
	(3.721)	(3.714)
Dummy: Default Frame	−7.493*	−7.201*
	(3.858)	(3.834)
Dummy: Permanent	0.379	0.756
	(3.833)	(3.808)
Dummy: Load-Change Frame X Permanent	0.808	−0.619
	(5.399)	(5.384)
Dummy:Default Frame X Permanent	−0.813	−1.262
	(5.559)	(5.522)
Dummy: Male		5.822**
		(2.255)
Age		0.157
		(0.102)
Observations	494	494
Note:	*p<0.1; **p<0.05; ***p<0.01	

We examine the relationship between the wage frame effect and the applicable duration of the wage change, with and without demographic controls. Row one (“Pay-Change Frame,” or the intercept) presents the effect of the pay-change frame on the change in willingness-to-work, given a transient wage increase. Row two (“Dummy: Load-Change Frame”) presents the difference between the effects of the pay-change and load-change frames (i.e., the wage frame effect), given a transient wage increase. Row three (“Dummy: Default Frame”) presents the difference between the effects of the pay-change and default frames, given a transient wage increase. Row four (“Dummy: Permanent”) presents the difference between the effects of a permanent wage increase and a transitory wage increase, given the wage information in a pay-

change frame. Rows five and six present the interaction terms involving the permanent-wage-change condition in the load-change frame and default frame conditions, respectively. None of the interaction effects are significant, suggesting that our manipulation of the applicable duration of a wage change does not substantially affect the change in willingness-to-work in response to the wage change.

Model (1) does not include demographic controls, while model (2) does; the results are qualitatively the same. In model (2), the coefficient of the pay-change frame can be interpreted as the change in willingness-to-work among females of age 0 in the pay-change-frame condition. Under both specifications, the wage frame effect is consistent with our prior studies.

Table A33. Robustness check: The wage frame effect by the applicable duration of the wage change, with and without demographic controls, and including those who failed the attention check

	Dependent variable:	
	Change in Willingness-to-Work	
	(1)	(2)
Pay-Change Frame (intercept)	15.867***	5.540
	(3.003)	(4.754)
Dummy: Load-Change Frame	−16.944***	−16.105***
	(4.268)	(4.249)
Dummy: Default Frame	−15.372***	−15.488***
	(4.334)	(4.306)
Dummy: Permanent	−2.717	−2.397
	(4.300)	(4.273)
Dummy: Load-Change Frame X Permanent	4.815	3.479
	(6.111)	(6.087)
Dummy: Default Frame X Permanent	4.422	4.250
	(6.142)	(6.106)
Dummy: Male		6.428**
		(2.538)
Age		0.184**
		(0.093)
Observations	603	603
Note:		*p<0.1; **p<0.05; ***p<0.01

We repeat the analyses in Table A37 with all participants (i.e., we add those who failed the attention check). In model (1), the difference between the pay-change-frame and load-change-frame conditions (i.e., the typical wage frame effect) is qualitatively the same with and without

the exclusion. The difference between the pay-change-frame and default-frame conditions becomes significant when we include all participants; the difference was only marginally significant with the exclusion. The interaction effects involving the applicable duration of the wage change remain insignificant when we include all participants. The results do not meaningfully change when we add demographic controls in model (2).

Table A34. Robustness check: The wage frame effect by the applicable duration of the wage change, excluding matched responses

	Dependent variable:
	Change In Willingness-to-Work
	No Matching
Pay-Change Frame (intercept)	5.682
	(6.278)
Dummy: Load-Change Frame	−17.009***
	(5.139)
Dummy: Default Frame	−14.503***
	(4.863)
Dummy: Permanent	−1.510
	(5.254)
Dummy: Load-Change Frame X Permanent	4.255
	(7.496)
Dummy: Default Frame X Permanent	0.897
	(6.887)
Dummy: Male	6.244**
	(2.906)
Age	0.273**
	(0.136)
Observations	372
Note:	*p<0.1; **p<0.05; ***p<0.01

We repeat the analyses in Table A37 without demographic controls and while excluding the 25% of participants (122 out of 494) who submitted a number of hours that exactly matched the hour number in the new wage information (i.e., a matched response). For example, in the load-change-frame condition, participants were informed that they could drive "*20 hours to earn the same $600*," and we excluded participants who responded, "*20 hours*."

The difference between the pay-change-frame and load-change-frame conditions (i.e., the typical wage frame effect) is qualitatively the same with and without the exclusion. The difference between the pay-change-frame and default-frame conditions becomes significant when we exclude matched responses; the difference was only marginally significant without the exclusion. The interaction effects involving the applicable duration of the wage change remain insignificant when we include all participants.

A2. Stats Check
p-checker Input and Results (http://shinyapps.org/apps/p-checker/)

A2.1. Input: the hypothesis test stats for the wage frame effect in each study (DV = willingness-to-work or adjusted work performance)

Study 1	t(62) = 2.85	p = .006
Study 1	t(66) = 3.80	p < .001
Study 2A	t(112) = 2.21	p = .029
Study 2A	t(122) = 1.28	p = 0.2
Study 2B	t(217) = 1.69	p = .093
Study 2B	t(221) = 1.05	p = .30
Study 2 Follow-Up	t(205) = 2.81	p = .005
Additional Study 1	t(987) = 9.01	p < .001
Additional Study 1 Follow-Up	t(258) = 4.448	p < .001
Additional Study 1 Follow-Up	t(246) = 1.914	p = .057
Additional Study 2	t(488) = 3.78	p < .001

A2.2. Results:

1. R-Index analysis:

Success rate = 0.6364
Median observed power = 0.7939
Inflation rate = -0.1576
R-Index = 0.9515

2. Test of insufficient variance (TIVA):

Variance = 4.7157
Chi2(10) = 47.157; p = 1.000
Variances < 1 suggest bias. The chi^2 tests the H_0 that variance >= 1; a significant result indicates that the empirical variance is significantly smaller than 1.

3. Statistical inference on p-curve:

Studies contain evidential value:
Z = -5,719; p < .001
A significant p value indicates that the p-curve is right-skewed, which indicates evidential value.

Studies' evidential value, if any, is inadequate
Z = 3,936; p = 1.000

A significant p value indicates that the p-curve is flatter than one would expect if studies were powered at 33%, which indicates that the results have no evidential value.

Studies lack evidential value and were intensely *p*-hacked :
Z = 5.719; p = 1.000
A significant p value indicates that the p-curve is left-skewed, which indicates p-hacking/ selective reporting.

4. Meta-analysis:

Random effects model (k = 10; tau^2 estimator: REML)
tau^2 (estimated amount of total heterogeneity): 0.0158 (SE = 0.0154)
tau (square root of estimated tau^2 value): 0.1257
I^2 (total heterogeneity / total variability): 48.52%
H^2 (total variability / sampling variability): 1.94

Test for Heterogeneity
Q(df = 10) = 21.2485, p-val < .0194
Model results: estimate = 0.3980, SE = 0.0575, z = 6.92, p =< .0001, CI = [0.2853, .5108]

Egger's test
The slope of Egger's test is b1 = -.47, t(9) = -0.397; p = .700
A significant slope with p < .10 is an indicator of small-study effects.

PET: Bias-corrected effect size estimate
The intercept of the PET meta-regression is b0 = 0.47, t(9) = 3.225; p = .010
A significant PET intercept with p < .10 indicates a bias corrected effect != 0. The estimated true effect size is 0.47, 95% CI [0.142; 0.808].

PEESE: Bias-corrected effect size estimate
The intercept of the PEESE meta-regression is b0 = 0.41, t(9) = 4.827; p < .001. The estimated true effect size is 0.41, 95% CI [0.217; 0.6].

PET-PEESE conditional estimator
As the PET intercept does significantly differ from zero (p < .10), it is recommended to use the PEESE estimator. The estimated true effect size from the conditional estimator is 0.41, 95% CI [0.217; 0.6].

A3. Assessments of Possible Explanations

We assessed and clarified a list of four alternative accounts. Among all, we found evidence suggesting that (a) the motivational version of the number-matching or anchoring account might play a supporting role; however, this factor seems to have a bigger impact on the initial work supply (i.e., before the wage change) than on the change in work supply after the wage change (see Shen and Hsee 2014 for a discussion about sensitivity to change). We also found consistent evidence against (b) miscomprehension, (c) linguistic suggestions, and (d) the perceptual version of the number-matching or anchoring account.

(a) Numerical cues in the wage information: a goal that boosts motivation

Description: Workers adopted the number that was suggested by the wage information as their personal performance goal.

Evidence: a) In the balloon study (Study 1), we presented the wage information with numbers that were too low to serve as performance goals; the average participant completed about 30 balloons per session, while the wage information mentioned either 5 or 10 balloons. b) In Studies 2A and 2B, the wage information contained numbers that were either too high to be a feasible performance goal (Study 2A) or within an achievable range and could serve as a reasonable performance target (Study 2B). The wage frame effect was somewhat stronger with the larger numbers, suggesting that the numeric information might serve as a performance goal. The overall performance, however, was *lower* with the larger numbers, suggesting that a majority of workers did not adopt the number in the wage information as their performance goal.

That said, we also observed the wage frame effect in situations in which the new wage information did not include any numbers (Study 2 Follow-Up, Additional Study 1 Follow-Up). Thus, although numerical cues may augment the wage frame effect by boosting motivation, we conclude that this mechanism is not necessary for the wage frame effect to occur.

(b) Miscomprehension of the wage information

Description: Workers were confused about whether they would be paid for all the work they supplied and whether the pay scheme was linear (i.e., no minimum or maximum requirement, no stop rules, and no performance goals). For example, they might consider the wage increase to be a bonus that only applied to the number of hours mentioned in the prompt.

Evidence: First, a rather small proportion of workers (14.5%) misunderstood one or both of the aforementioned points, and in most studies, the wage frame effect sustained with and without these confused workers. Second, this kind of misunderstanding is of particular concern for studies with verbal manipulations (e.g., “half” vs. “double”) but applies less to Studies 1, 2A, and 2B, all of which found a significant wage frame effect. Finally, Study 2A in particular helps

to rule out the bonus interpretation as the sole driver of the effect because the numbers in the wage information were higher than feasible performance. If the wage frame effect was driven by participants believing that pay dropped after they hit the performance mentioned in the prompt, we should not observe the wage frame effect in this study but we do. The wage frame effect in Study 2A cannot be explained by the misinterpretation that the wage change only applied to the units of work mentioned in the prompt.

(c) Linguistic suggestions in the wage information

Description: Workers interpreted linguistic cues, if any, in the wage information as suggestions for their work supply decision.

Evidence: We used plain and simple language in all studies to minimize implications. We avoided phrases such as "only needs to work X hours," as workers might interpret "only" as an official suggestion to minimize effort. We observed the wage frame effect regardless of subtle linguistic differences in the wage frames. In the general discussion, we discuss the possibility that such phrases may be used to accentuate wage frame effects in the field.

(d) Numerical cues in the wage information: matched responses

Description: Workers saw the number in the wage information and provided the same number for their willingness-to-work. While the account in (b) involves motivation, this account indicates a perceptual mechanism.

Evidence: a) In the scenario studies, we conducted additional analyses that excluded the number-matched responses, and we found that the wage frame effect sustained. b) We also observed the wage frame effect in situations in which the new wage information did not include any numbers (Study 2 Follow-Up and Additional Study 1 Follow-Up).

A4. References

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