

Online Appendixes

A Tables Appendix

Table A.1: Negative Binomial Regressions of Tables Completed

$I(\text{Volunteering})$	-0.25 (0.19)	-0.22 (0.20)
$I(w = \$0.50)$	0.30 (0.19)	0.23 (0.19)
$I(\text{Volunteering}) * I(w = \$0.50)$	-0.69** (0.27)	-0.63** (0.27)
Constant	3.70*** (0.13)	3.36*** (0.34)
Controls	no	yes
N	120	120

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are in parentheses. Regression results are from a negative binomial regression of $Tables_i$ on $\beta_0 + \beta_1 I(\text{Volunteering})_i + \beta_2 I(w = \$0.50)_i + \beta_3 I(\text{Volunteering})_i * I(w = \$0.50)_i + [Controls_i]$. The dependent variable, Tables, is the number of tables completed in the up to 60-minute real effort task for participant i . All regressions are at the participant level. $I(\text{Volunteering})_i$ is an indicator for participant i earning money for the charity (as opposed to for themselves), $I(w = \$0.50)_i$ is an indicator for participant i having a wage equal to \$0.50 (as opposed to \$0.25). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.2: Regressions of Time in Minutes Spent Solving Tables

	Median Regressions		OLS Regressions	
$I(\text{Volunteering})$	-1.61 (3.93)	-3.53 (3.37)	-3.63 (3.25)	-3.68 (3.12)
$I(w = \$0.50)$	7.64* (3.93)	7.78** (3.43)	5.17+ (3.25)	4.02 (3.18)
$I(\text{Volunteering}) * I(w = \$0.50)$	-13.77** (5.56)	-12.96*** (4.73)	-11.03** (4.60)	-10.33** (4.38)
Constant	19.33*** (2.78)	20.82*** (5.93)	22.28*** (2.30)	21.92*** (5.49)
Controls	no	yes	no	yes
N	120	120	120	120

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Regression results from $Time_i = \beta_0 + \beta_1 I(\text{Volunteering})_i + \beta_2 I(w = \$0.50)_i + \beta_3 I(\text{Volunteering})_i * I(w = \$0.50)_i + [\text{Controls}]_i + \epsilon_i$. The dependent variable, Time, is the number of minutes used to complete tables in the up to 60-minute real effort task for participant i . All regressions are at the participant level. $I(\text{Volunteering})_i$ is an indicator for participant i earning money for the charity (as opposed to for themselves). $I(w = \$0.50)_i$ is an indicator for participant i having a wage equal to \$0.50 (as opposed to \$0.25). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.3: Regressions of Acquired Earnings

	Median Regressions		OLS Regressions	
$I(\text{Volunteering})$	-0.50 (1.93)	-2.00 (2.15)	-2.22 (2.99)	-1.38 (3.09)
$I(w = \$0.50)$	16.50*** (1.93)	15.56*** (2.19)	17.07*** (2.99)	16.09*** (3.15)
$I(\text{Volunteering}) * I(w = \$0.50)$	-15.00*** (2.72)	-12.69*** (3.01)	-14.37*** (4.22)	-14.04*** (4.33)
Constant	8.50*** (1.36)	7.19* (3.78)	10.12*** (2.11)	10.45* (5.44)
Controls	no	yes	no	yes
N	120	120	120	120

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Regression results from $Acquired_i = \beta_0 + \beta_1 I(\text{Volunteering})_i + \beta_2 I(w = \$0.50)_i + \beta_3 I(\text{Volunteering})_i * I(w = \$0.50)_i + [\text{Controls}]_i + \epsilon_i$. The dependent variable, Acquired, is the acquired earnings (offered wage times tables completed) in the up to 60-minute real effort task for participant i . All regressions are at the participant level. $I(\text{Volunteering})_i$ is an indicator for participant i earning money for the charity (as opposed to for themselves). $I(w = \$0.50)_i$ is an indicator for participant i having a wage equal to \$0.50 (as opposed to \$0.25). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.4: Working: Negative Binomial Regressions of Tables Completed

$I(w = \$0.25)$	0.19 (0.24)	0.26 (0.26)
$I(w = \$0.50)$	0.48** (0.24)	0.46* (0.26)
Constant	3.52*** (0.17)	3.13*** (0.56)
Controls	no	yes
N	90	90

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Regression results are from a negative binomial regression of $Tables_i$ on $\beta_0 + \beta_1 I(w = \$0.25)_i + \beta_2 I(w = \$0.50)_i + [Controls_i]$. The dependent variable, Tables, is the number of tables solved in the up to 60-minute real effort task for participant i . The regression is performed at the participant level. $I(w = \$0.25)_i$ and $I(w = \$0.50)_i$ are indicators for participant i having a wage equal to \$0.25 and \$0.50, respectively (with the excluded wage level being \$0.16). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.5: Working: Regressions of Time in Minutes Spent Solving Tables

	Median Regressions		OLS Regressions	
$I(w = \$0.25)$	4.82 (5.88)	5.61 (5.42)	2.01 (3.89)	5.15 (4.05)
$I(w = \$0.50)$	12.46** (5.88)	11.25** (5.25)	7.19* (3.89)	9.16** (3.93)
Constant	14.51*** (4.16)	18.90* (11.26)	20.27*** (2.75)	17.21** (8.43)
Controls	no	yes	no	yes
N	90	90	90	90

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Regression results from $Time_i = \beta_0 + \beta_1 I(w = \$0.25)_i + \beta_2 I(w = \$0.50)_i + [Controls_i] + \epsilon_i$. The dependent variable, Time, is the number of minutes used to complete tables in the up to 60-minute real effort task for participant i . All regressions are at the participant level. $I(w = \$0.25)_i$ and $I(w = \$0.50)_i$ are indicators for participant i having a wage equal to \$0.25 and \$0.50, respectively (with the excluded wage level being \$0.16). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.6: Working: Regressions of Acquired Earnings

	Median Regressions		OLS Regressions	
$I(w = \$0.25)$	3.38 (2.56)	5.33* (3.02)	4.74 (3.27)	5.10 (3.50)
$I(w = \$0.50)$	19.88*** (2.56)	19.92*** (2.92)	21.82*** (3.27)	20.79*** (3.39)
Constant	5.12*** (1.81)	1.41 (6.27)	5.38** (2.31)	6.01 (7.28)
Controls	no	yes	no	yes
N	90	90	90	90

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Regression results from $Acquired_i = \beta_0 + \beta_1 I(w = \$0.25)_i + \beta_2 I(w = \$0.50)_i + [Controls_i] + \epsilon_i$. The dependent variable, Acquired, is the acquired earnings (offered wage times tables completed) in the up to 60-minute real effort task for participant i . All regressions are at the participant level. $I(w = \$0.25)_i$ and $I(w = \$0.50)_i$ are indicators for participant i having a wage equal to \$0.25 and \$0.50, respectively (with the excluded wage level being \$0.16). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.7: Volunteering: Negative Binomial Regressions of Tables Completed

$I(w = \$0.50)$	-0.40** (0.20)	-0.38** (0.19)
$I(w = \$0.80)$	-0.38* (0.20)	-0.54*** (0.20)
Constant	3.45*** (0.14)	3.18*** (0.36)
Controls	no	yes
N	90	90

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Regression results are from a negative binomial regression of $Tables_i$ on $\beta_0 + \beta_1 I(w = \$0.50)_i + \beta_2 I(w = \$0.80)_i + [Controls_i]$. The dependent variable, Tables, is the number of tables solved in the up to 60-minute real effort task for participant i . The regression is performed at the participant level. $I(w = \$0.50)_i$ and $I(w = \$0.80)_i$ are indicators for participant i having a wage equal to \$0.50 and \$0.80, respectively (with the excluded wage level being \$0.25). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.8: Volunteering: Regressions of Time in Minutes Spent Solving Tables

	Median Regressions		OLS Regressions	
$I(w = \$0.50)$	-6.13*	-2.53	-5.86**	-5.68**
	(3.26)	(2.95)	(2.85)	(2.60)
$I(w = \$0.80)$	-9.25***	-8.08***	-5.20*	-6.69**
	(3.26)	(3.04)	(2.85)	(2.69)
Constant	17.72***	18.31***	18.65***	19.88***
	(2.31)	(5.69)	(2.02)	(5.02)
Controls	no	yes	no	yes
N	90	90	90	90

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Regression results from $Time_i = \beta_0 + \beta_1 I(w = \$0.50)_i + \beta_2 I(w = \$0.80)_i + [Controls_i] + \epsilon_i$. The dependent variable, Time, is the number of minutes used to complete tables in the up to 60-minute real effort task for participant i . All regressions are at the participant level. $I(w = \$0.50)_i$ and $I(w = \$0.80)_i$ are indicators for participant i having a wage equal to \$0.50 and \$0.80, respectively (with the excluded wage level being \$0.25). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.9: Volunteering: Regressions of Acquired Earnings

	Median Regressions		OLS Regressions	
$I(w = \$0.50)$	1.50	3.08	2.71	3.15
	(2.13)	(2.46)	(2.49)	(2.44)
$I(w = \$0.80)$	3.20	5.28**	9.35***	7.72***
	(2.13)	(2.54)	(2.49)	(2.52)
Constant	8.00***	4.92	7.91***	5.61
	(1.51)	(4.75)	(1.76)	(4.71)
Controls	no	yes	no	yes
N	90	90	90	90

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses. Regression results from $Acquired_i = \beta_0 + \beta_1 I(w = \$0.50)_i + \beta_2 I(w = \$0.80)_i + [Controls_i] + \epsilon_i$. The dependent variable, Acquired, is the acquired earnings (offered wage times tables completed) in the up to 60-minute real effort task for participant i . All regressions are at the participant level. $I(w = \$0.50)_i$ and $I(w = \$0.80)_i$ are indicators for participant i having a wage equal to \$0.50 and \$0.80, respectively (with the excluded wage level being \$0.25). Controls include a productivity measure defined as the number of tables completed in the 4-minute practice round and indicators for whether or not some participant is a male, a United States citizen, a freshman, a sophomore, a junior, has stated volunteer hours above the median of the experimental sample, and feels favorably about the American Red Cross.

Table A.10: Fraction of Participants with Following Characteristics Across Treatments

	Work, \$0.16	Work, \$0.25	Work, \$0.50	Vol., \$0.25	Vol., \$0.50	Vol., \$0.80
Male	0.40	0.30	0.40	0.33	0.30	0.47
US citizen	0.97	0.80	0.97	0.93	0.90	0.77
Freshmen	0.40	0.30	0.43	0.17	0.17	0.30
Sophomores	0.20	0.37	0.23	0.40	0.40	0.40
Juniors	0.27	0.10	0.23	0.13	0.27	0.13
Seniors	0.13	0.23	0.10	0.30	0.17	0.13
Vol. hours above median	0.63	0.53	0.43	0.47	0.40	0.57
Feel favorably about ARC	0.70	0.63	0.63	0.83	0.77	0.77
Feel neutral about ARC	0.30	0.37	0.33	0.17	0.17	0.23
Feel unfavorably about ARC	0.00	0.00	0.03	0.00	0.07	0.00
<i>N</i>	30	30	30	30	30	30

All of the above values indicate the fraction of participants with a given characteristic. The first three columns labeled “Work” are for the indicated offered wage, with participants earning money for themselves. The last three columns, labeled “Vol.,” are for the indicated offered wage, with participants earning money for the American Red Cross (ARC). These characteristics indicate the fraction of participants who are male, are United States citizens, are freshmen, are sophomores, are juniors, are seniors, have stated volunteer hours above the median of the experimental sample, and have stated that they feel favorably, neutral or unfavorably about the ARC. When comparing these fractions across the pooled working and volunteering treatments, the fractions are only significantly different (t-test with $p < 0.05$) for freshmen, and feeling favorably or neutral about the ARC. Participants may state in the follow-up survey that they feel more favorably about ARC in the volunteering treatment because they just spent time volunteering for the ARC in the study. A total of 180 participants from the Stanford University undergraduate population participated in the experiment at the Stanford Economics Research Laboratory, from March 2013 to October 2013.

Table A.11: Online Study: Number of Tables Solved

	Median		OLS		Tobit	
Self Ad Condition						
$I(w = \$0.04)$	-5.00**	-5.35**	-5.00	-5.67	-3.09	-4.16
	(2.22)	(2.60)	(3.55)	(3.53)	(4.24)	(4.18)
Constant	14.00***	11.52***	21.32***	23.60***	16.84***	18.54***
	(1.59)	(3.76)	(2.54)	(5.12)	(3.08)	(6.11)
Controls	no	yes	no	yes	no	yes
N	200	200	200	200	200	200
Charity Ad Condition						
$I(w = \$0.04)$	-1.00	-0.09	2.19	1.64	2.06	1.32
	(3.51)	(3.54)	(4.32)	(4.22)	(5.02)	(4.86)
Constant	14.00***	7.81	23.15***	14.70**	19.68***	9.38
	(2.48)	(4.90)	(3.05)	(5.83)	(3.56)	(6.75)
Controls	no	yes	no	yes	no	yes
N	200	200	200	200	200	200

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are in parentheses. Regression results from $Tables_i = \beta_0 + \beta_1 I(w = \$0.04)_i + [Controls_i] + \epsilon_i$. The dependent variable, Tables, is the number of tables completed, where up to 100 tables were allowed to be completed by participant i . All regressions are at the participant level. $I(w = \$0.04)_i$ is an indicator for participant i having a wage equal to \$0.04 (with the excluded wage level being \$0.02). Controls include a productivity measure defined as the time taken to complete the 10 tables in the practice round and indicators for whether or not some participant is a male, and feels favorably about the American Red Cross.

B Figures Appendix

Figure A.1: Working Environment: First Screen of Main Effort Task

00000000010000
000011000000100
111101111111101
000001010000000
000110100011101
101111101101010
011011011100111
111111111011111
111011110001110
111111111011101

How many zeros are there in the table?

You have correctly counted 0 Tables.
Your acquired earnings are thus \$0 dollars.

Depending on the card in your envelope, you
will receive
your acquired earnings of \$0 dollars,
or an amount of \$8 dollars.

STOP WORKING

Note that the numbers shown on the right hand side would increment appropriately as they proceed to solve the tables. For instance, say they have solved 3 Tables and had a wage rate of 25 cents. Then, the screen would indicate "You have correctly solved 3 Tables. Your acquired earnings are thus \$0.75 dollars . . ."

Figure A.2: Volunteering Environment: First Screen of Main Effort Task

00000000010000
000011000000100
111101111111101
000001010000000
000110100011101
101111101101010
011011011100111
111111111011111
111011110001110
111111111011101

How many zeros are there in the table?

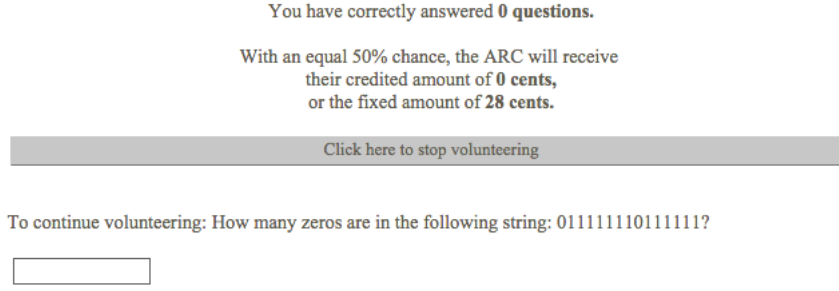
You have correctly counted 0 Tables.
Your acquired earnings are thus \$0 dollars.

Depending on the card in your envelope, the
ARC will receive
your acquired earnings of \$0 dollars,
or an amount of \$8 dollars.

STOP WORKING

Note that the numbers shown on the right hand side would increment appropriately as they proceed to solve the tables. For instance, say they have solved 3 Tables and had a wage rate of 25 cents. Then, the screen would indicate "You have correctly solved 3 Tables. Your acquired earnings are thus \$0.75 dollars . . ."

Figure A.3: Online Study: First Screen of Main Effort Task



Note that the numbers shown above would increment appropriately as they proceed to solve more questions. For instance, say they have solved 3 questions and had a wage rate of 2 cents. Then, the screen would indicate "You have correctly answered 3 questions the ARC will receive their credited amount of 6 cents . . ."

C Theory Appendix

In this theoretical appendix we provide details underpinning the theoretical framework from the main text. First, we discuss the derivation of the optimal labor supply curve in more detail. Then, we graphically illustrate some parametric cases for labor supply which were omitted from our main text discussion. Finally, we discuss an extension of the theoretical framework with a non-zero intercept for the effort cost function, implying an additional extensive margin choice in labor supply.

C.1 Labor Supply Derivation

The derivation of segmented labor supply as reported in the main text is straightforward. For a loss averse agent, optimization of effort e can be thought of as a two-step process. First, consider the optimal level of labor supply for the case $we \leq f$ and separately for the case $we \geq f$. Then, choose the global optimal level from among these two possibilities. As noted in the text, if $we \leq f$, choice of effort solves

$$\max_{e \leq \frac{f}{w}} \left\{ \frac{1}{2}\alpha we + \frac{1}{2}\alpha f - \frac{\gamma}{2}e^2 + 4 \left[\frac{1}{2} \left(\frac{1}{2}(\alpha we - \alpha we) + \frac{1}{2}\lambda(\alpha we - \alpha f) \right) + \frac{1}{2} \left(\frac{1}{2}(\alpha f - \alpha we) + \frac{1}{2}(\alpha f - \alpha f) \right) \right] \right\}.$$

In this case, the reference lottery and equilibrium outcome lottery both involve we with probability $\frac{1}{2}$ and $f \geq we$ with probability $\frac{1}{2}$. The four terms in the gain-loss component on the second line of agent payoffs include:

- Receiving we while expecting we for 0 net gain or loss $\alpha we - \alpha we = 0$
- Receiving we while expecting $f \geq we$ for a net loss of $\lambda(\alpha we - \alpha f) \leq 0$
- Receiving f while expecting we for a net gain of $\alpha f - \alpha we \geq 0$
- Receiving f while expecting f for 0 net gain or loss $\alpha f - \alpha f = 0$

If $we \leq f$, labor supply is simply the maximizer of a smooth, globally concave function subject to a single inequality constraint, and the first order conditions for that problem immediately yield the optimal choice $\min(\frac{f}{w}, e_2)$, where $e_2 = \frac{\alpha w(\lambda - \frac{1}{2})}{\gamma}$. If the agent chooses effort e satisfying $we \geq f$, their optimal choice will be to solve the problem

$$\max_{e \geq \frac{f}{w}} \left\{ \begin{array}{l} \frac{1}{2}\alpha we + \frac{1}{2}\alpha f - \frac{\gamma}{2}e^2 + \\ 4 \left[\frac{1}{2} \left(\frac{1}{2}(\alpha we - \alpha we) + \frac{1}{2}(\alpha we - \alpha f) \right) + \frac{1}{2} \left(\frac{1}{2}\lambda(\alpha f - \alpha we) + \frac{1}{2}(\alpha f - \alpha f) \right) \right] \end{array} \right\}.$$

In this case, the reference lottery and equilibrium outcome lottery both involve we with probability $\frac{1}{2}$ and $f \leq we$ with probability $\frac{1}{2}$. The four terms in the gain-loss component on the second line of agent payoffs include:

- Receiving we while expecting we for 0 net gain or loss $\alpha we - \alpha we = 0$
- Receiving we while expecting $f \leq we$ for a net gain of $\alpha we - \alpha f \geq 0$
- Receiving f while expecting we for a net loss of $\lambda(\alpha f - \alpha we) \leq 0$
- Receiving f while expecting f for 0 net gain or loss $\alpha f - \alpha f = 0$.

Since the agent's optimization conditional upon $we \geq f$ also involves a smooth, globally concave objective subject to a single inequality constraint, it is easy to show that labor supply in this case is given by $\max(e_1, \frac{f}{w})$, where $e_1 = \frac{\alpha w(\frac{3}{2} - \lambda)}{\gamma}$. Note that $e_1 \leq e_2$ always holds for $\lambda \geq 1$, which implies that either both labor supply cases are at the corner $\frac{f}{w}$, or exactly one of them is. If both are at a corner, then $e^{ref} = \frac{f}{w}$ trivially. If exactly one case is at a corner, the interior solution case dominates the other case because the corner is itself always achievable. Therefore e^{ref} would equal e_1 or e_2 , whichever is unconstrained. The three resulting possibilities for labor supply are exactly the expressions listed in the main text. This concludes the discussion of the derivation of optimal labor supply.

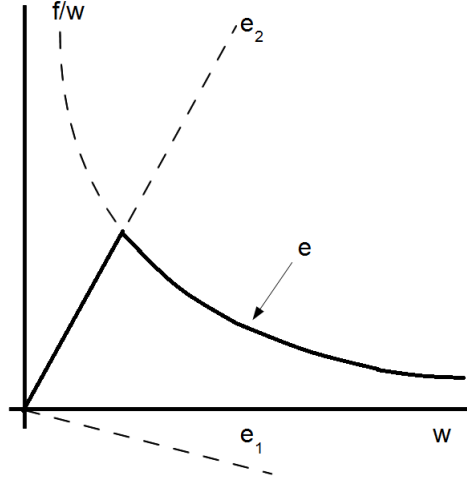
C.2 Two-Segment Case with High Loss Aversion, $\lambda \geq \frac{3}{2}$

The main text also refers to a deferred explanation of labor supply for cases other than those shown in Figure 1, which is $1 < \lambda < \frac{3}{2}$. Therefore, we now consider the case $\lambda \geq \frac{3}{2}$. As a function of w , the resulting segmented labor supply function only has two segments. In this case, the line e_1 is actually downward-sloping in the wage, so that the inequality conditions determining labor supply in the main text only result in one increasing region of labor supply, when e_2 is interior, and another downward-sloping level of labor supply, for which e^{ref} is equal to $\frac{f}{w}$. This possibility is graphically illustrated in Figure C.4, and we note that the final omitted possibility, $\lambda = 1$ trivially recovers the neoclassical labor supply function.

C.3 An Extension with Extensive Margin Selection

The main text refers to a generalization of the baseline framework to consider a cost function with a non-zero intercept. The baseline cost function for effort, given by $\frac{\gamma}{2}e^2$, results in optimal effort values which are always positive. Therefore, labor supply in the baseline case varies only along the intensive margin,

Figure C.4: Optimal Labor Supply with High Loss Aversion



This figure plots the configuration of optimal segmented labor supply $e^{ref}(w, f, \gamma, \alpha, \lambda)$ as the wage w varies, in the case that $\lambda \geq \frac{3}{2}$. The case that $\lambda > \frac{3}{2}$ results in a configuration qualitatively identical to that shown, and at the boundary $\lambda = \frac{3}{2}$, e_1 is equal to 0, with identical results for optimal labor supply e^{ref} . The shaded, dotted lines are the interior labor supply optimizers e_1 and e_2 , together with the corner reference point solution $\frac{f}{w}$. The bold overlaid, segmented line labeled e in the figure is the labor supply curve e^{ref} itself.

omitting any role for a participation choice or extensive margin variation. In this subsection we allow for an extensive margin of labor supply, considering agents with an outside option to participation with value normalized to 0 and facing some positive participation cost $\gamma_{part} > 0$. Therefore, efforts costs are given by the function

$$g(e) = \begin{cases} 0, & e = 0 \\ \gamma_{part} + \frac{\gamma}{2}e^2, & e > 0 \end{cases}.$$

The presence of the fixed cost γ_{part} and a normalized outside option of zero leads naturally to a thresholding rule for participation. Overall labor supply policy for an agent will be positive if payoffs net of the participation cost under optimal positive effort levels are greater than the outside option. Otherwise, agents will choose non-participation or zero effort.

We proceed as follows. First, note that conditional upon participation or $e > 0$, an agent's optimal labor supply is trivially equal to the function e^{ref} as reported in the main text. By substituting the effort conditional upon participation into agent's preferences, we find that their payoffs under participation U^{part} gross of fixed participation costs γ_{part} are given by

$$U^{part}(w, f, \gamma, \alpha, \lambda) = \begin{cases} \alpha f(\lambda - \frac{1}{2}) + \frac{\alpha^2 w^2 (\frac{3}{2} - \lambda)^2}{2\gamma}, & e_1 > \frac{f}{w} \\ \alpha f - \frac{\gamma f^2}{2w^2}, & e_1 \leq \frac{f}{w} \leq e_2 \\ \alpha f(\frac{3}{2} - \lambda) + \frac{\alpha^2 w^2 (\lambda - \frac{1}{2})^2}{2\gamma}, & e_2 < \frac{f}{w} \end{cases},$$

where as usual $e_1 = \frac{\alpha w(\frac{3}{2}-\lambda)}{\gamma}$ and $e_2 = \frac{\alpha w(\lambda-\frac{1}{2})}{\gamma}$. With this in place, the overall labor supply can be trivially written as

$$e^{part}(w, f, \gamma, \alpha, \lambda) = \begin{cases} 0, & U^{part} \leq \gamma_{part} \\ e_1, & e_1 > \frac{f}{w}, U^{part} > \gamma_{part} \\ \frac{f}{w}, & e_1 \leq \frac{f}{w} \leq e_2, U^{part} > \gamma_{part} \\ e_2, & e_2 < \frac{f}{w}, U^{part} > \gamma_{part} \end{cases} .$$

Some simple predictions for participation are immediately apparent given the results above. Inspection of the gross utility from participation U^{part} immediately reveals that it is a continuous function made up of segments which are each strictly increasing in both the offered wage w and the value placed on earnings α . Therefore U^{part} is strictly increasing in both w and α . As either parameter increases, the likelihood of participation, i.e. $e^{part} > 0$, increases.