FIGURE 1: EXIT AND SURVIVAL RATE — LATER IN THE SPELL

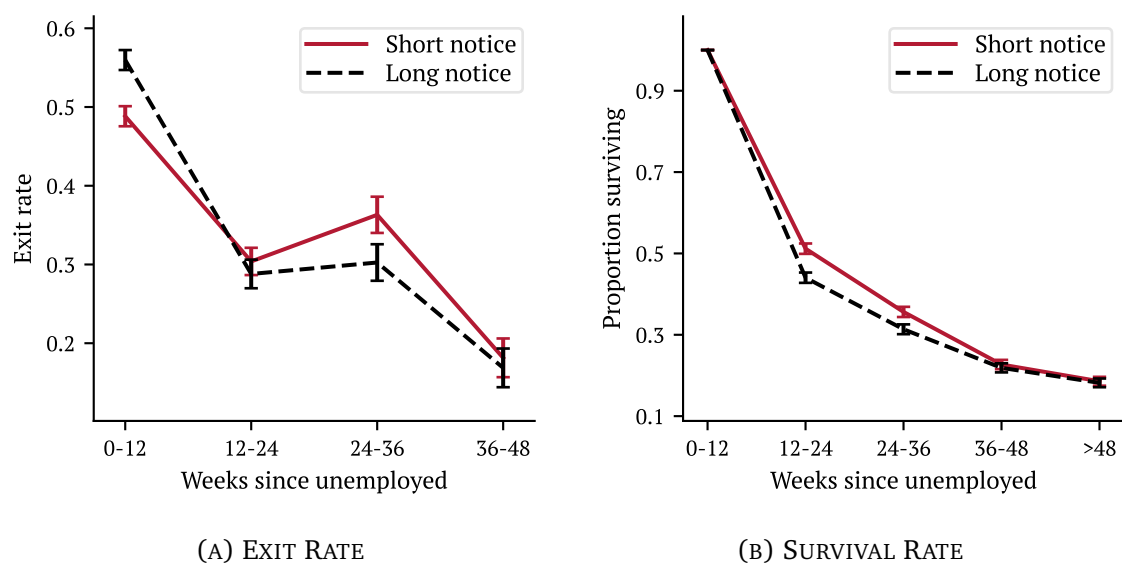(A) EXIT RATE

(B) SURVIVAL RATE

Note: Short notice refers to a notice of less than 2 months, and long notice refers to a notice of more than 2 months. Panel A presents the weighted proportion of individuals exiting unemployment in each interval amongst those who were still unemployed at the beginning of the interval. Panel B presents the weighted proportion of individuals who are unemployed at the beginning of each interval. Error bars represent 90% confidence intervals.

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TABLE 1: DESCRIPTIVES BY NOTICE LENGTH

	Unbalanced			Balanced		
	Short	Long	Diff.	Short	Long	Diff.
	(1)	(2)	(2)-(1)	(3)	(4)	(4)-(3)
Age	42.44	43.57	1.13***	43.02	43.05	0.03
	(0.24)	(0.22)	(0.33)	(0.24)	(0.22)	(0.33)
Female	0.45	0.46	0.02	0.46	0.46	-0.00
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Married	0.59	0.63	0.04**	0.61	0.61	0.00
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Black	0.10	0.09	-0.01	0.10	0.09	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
College Degree	0.41	0.39	-0.03*	0.40	0.40	-0.00
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Plant Closure	0.46	0.62	0.16***	0.54	0.55	0.01
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Union Membership	0.15	0.16	0.01	0.15	0.15	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
In Metro Area	0.84	0.82	-0.01	0.83	0.83	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Years of Tenure	7.12	9.18	2.06***	8.24	8.23	-0.00
	(0.15)	(0.16)	(0.22)	(0.16)	(0.15)	(0.22)
Log Earnings	6.54	6.56	0.03	6.54	6.55	0.01
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Observations	1959	2216		1959	2216	

Note: The sample consists of respondents from the Displaced Worker Supplement (DWS) for the years 1996-2020, who were between ages of 21 to 64, had worked full-time for at least six months at their previous job, received health insurance from their former employer, and did not expect to be recalled. Short notice refers to a notice period of 1-2 months, while long notice refers to a notice period exceeding two months. Columns (1) and (2) present raw averages for the sample, while columns (3) and (4) show weighted averages, where the weights correspond to the inverse of the estimated probabilities of receiving short or long notice.

TABLE 2: OBSERVED EXIT RATE – EARLY IN THE SPELL

	(1)	(2)	(3)	(4)
PANEL A. $\mathbb{I}\{$UNEMPLOYMENT DURATION $= 0$ WEEKS$\}$				
> 2 month notice	0.094***	0.080***	0.077***	0.077***
	(0.012)	(0.012)	(0.013)	(0.013)
PANEL B. $\mathbb{I}\{$UNEMPLOYMENT DURATION ≤ 12 WEEKS$\}$				
> 2 month notice	0.078***	0.074***	0.071***	0.071***
	(0.015)	(0.016)	(0.016)	(0.016)
Controls	No	Yes	No	Yes
Weights	No	No	Yes	Yes
Observations	4175	4175	4175	4175

Note: The table presents estimates from linear regression models, where the main independent variable is an indicator variable that takes a value of 1 if the individual received a notice of more than 2 months, and 0 if they received a notice of 1-2 months. The dependent variable is an indicator for reporting an unemployment duration of 0 weeks (Panel A) or less than 12 weeks (Panel B). The weights are generated using inverse probability weighting (IPW). Robust standard errors are reported in the parenthesis.

TABLE 3: ESTIMATION RESULTS

Parameter	Explanation	Estimate	SE
Panel A: Estimated Parameters			
$\psi_S(1)$	Structural hazard 0-12 weeks: Short notice	0.49	0.01
$\psi_L(1)$	Structural hazard 0-12 weeks: Long notice	0.56	0.01
α_1	Scale parameter for $\psi(d)$	2.06	0.18
α_2	Shape parameter for $\psi(d)$	2.53	0.29
Panel B: Duration Dependence			
$\bar{\psi}(1)$	Structural hazard: 0-12 weeks	0.53	0.01
$\psi(2)$	Structural hazard: 12-24 weeks	0.35	0.07
$\psi(3)$	Structural hazard: 24-36 weeks	0.61	0.10
$\psi(4)$	Structural hazard: 36-48 weeks	0.61	0.10

Hansen-Sargan Test

Test statistic: 0.00 Critical value, $df = 1, \chi^2_{0.05}$: 3.84

Note: The table presents estimates from the Mixed Hazard model. The first weighted moment is normalized to one, and structural duration dependence is specified by equation (**??**). Panel A shows the estimated parameters from the model, and panel B presents structural hazards implied by the estimated parameters. The standard errors for the structural hazards are calculated using the delta method.

TABLE 4: CALIBRATION PARAMETERS FOR THE SEARCH MODEL

| Parameter	Value
Length of each period	12 Weeks
Discount factor β	0.985
Relative risk aversion σ	1.75
Per period wages w	1
Annuity Payments	0.1
Unemployment benefits	0.5
Benefit exhaustion D_B	3
Search cost parameter ρ	1
Search cost parameter θ	50
First period arrival rate $\delta(1)$	1

Note: The table presents the parameters used for calibrating the search model in Section **??**.

FIGURE 2: BASELINE ESTIMATES


(A) STRUCTURAL HAZARD

(B) AVERAGE TYPE
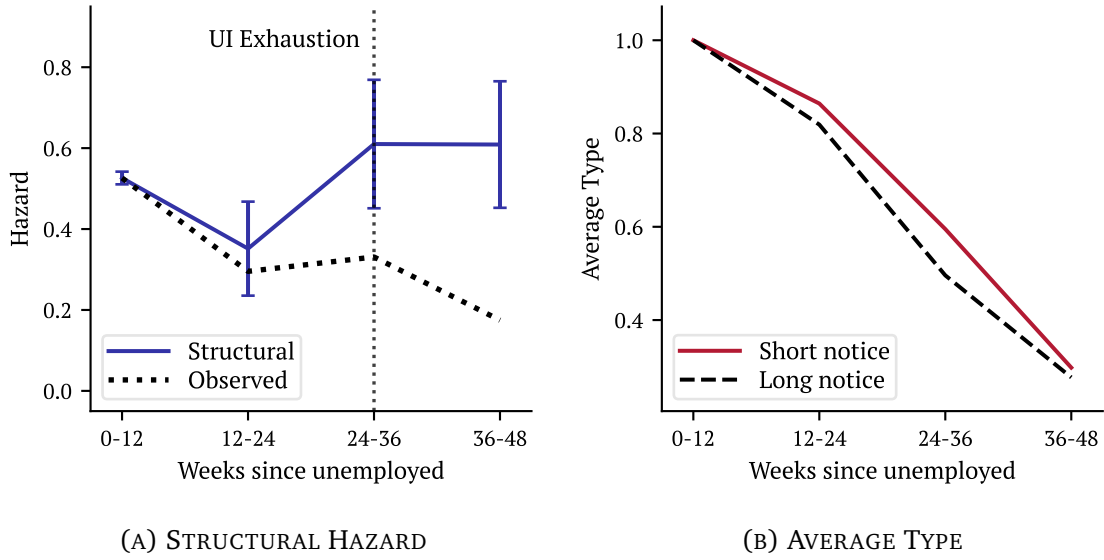
Note: Solid line in panel A presents estimates for structural hazards as implied by the estimated parameters in panel A of Table 3. The dotted line in panel A presents the observed exit rate from the data, averaged across workers with short and long notice. Panel B presents the implied average type at each duration for those with short and long notice. Error bars represent 90% confidence intervals.

FIGURE 3: CALIBRATION OF THE SEARCH MODEL

(A) OFFER ARRIVAL RATE
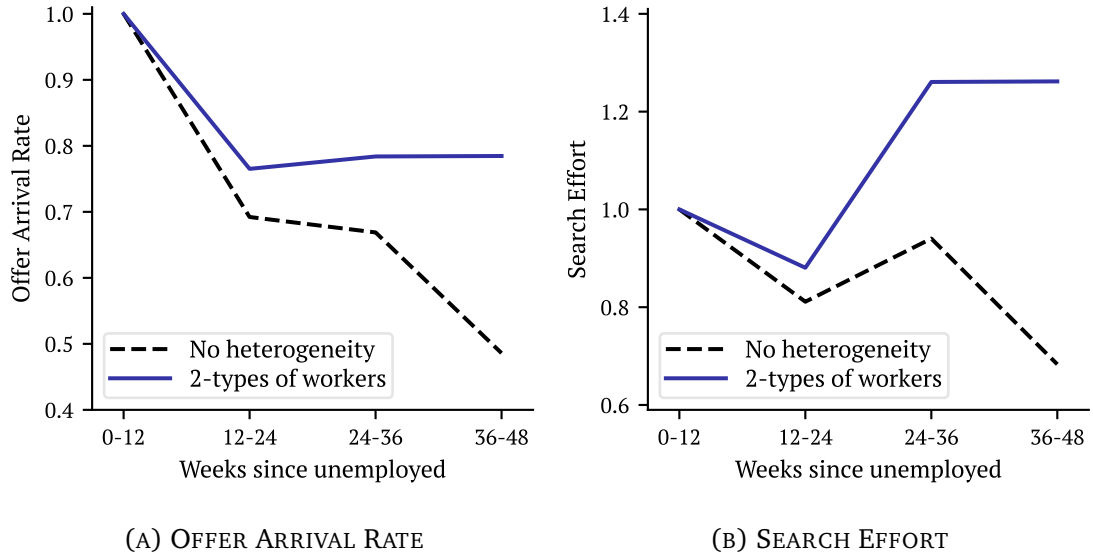
(B) SEARCH EFFORT

Notes: The figure presents the search effort and offer arrival rate from the calibration of the search model, assuming no heterogeneity (dashed line) and assuming two types of workers (solid line). The search effort is averaged over two types of workers.

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FIGURE 4: SEARCH MODEL CALIBRATION: FIT

(A) OBSERVED HAZARD   (B) STRUCTURAL HAZARD
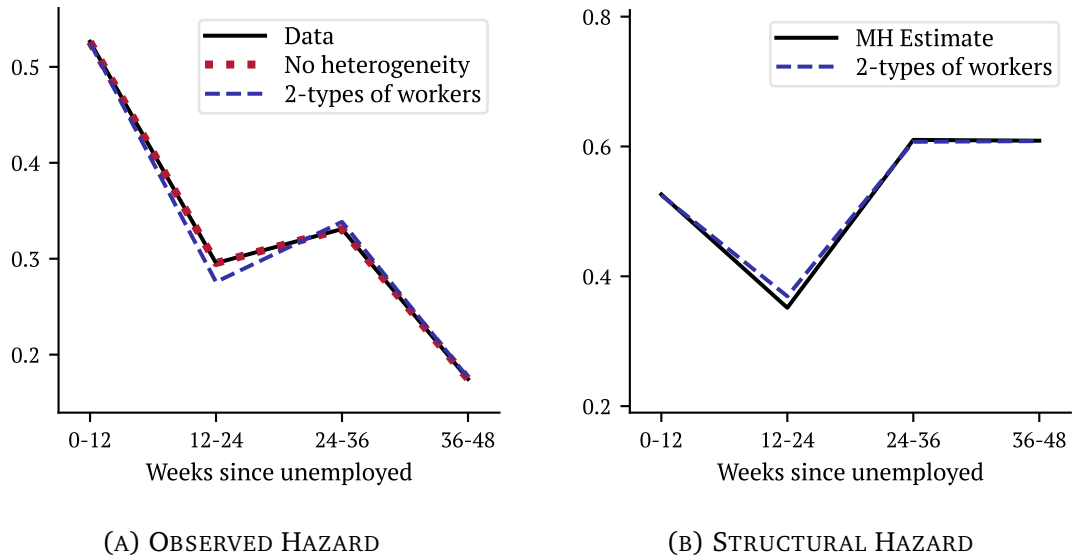
Note: The figure displays the fit of the search model for the two calibration exercises described in the text. Panel A shows the observed exit rate in the data (solid-line) alongside the corresponding fitted values obtained from calibrating the search model without heterogeneity (dotted-line) and with two types of workers (dashed-line). Panel B displays the estimated structural hazard from the Mixed Hazard (MH) model (solid-line) and the fitted structural hazard from calibrating the search model with two types of workers (dashed-line).

	Sample (1)	DWS (2)	CPS (3)
Age	43.04	39.63	41.75
Female	0.45	0.42	0.53
Married	0.61	0.57	0.57
Black	0.10	0.10	0.10
High School	0.30	0.51	0.66
Some College	0.30	0.31	0.27
College Degree	0.40	0.18	0.07
Employed	0.80	0.65	0.58
Unemployed	0.18	0.21	0.04
NILF	0.02	0.14	0.37
Observations	4175	94407	459537

Note: All samples are restricted to individuals between the ages of 21 to 64and pertain to years 1996-2020. Column (1) includes individuals from the DWS who worked full-time for at least six months and were provided health insurance at their lost job, did not expect to be recalled, and received a layoff notice of 1-2 months or greater than 2 months. Columns (2) and (3) include all individuals in the DWS and the monthly CPS, respectively.

ONLINE APPENDIX

DURATION DEPENDENCE AND HETEROGENEITY: LEARNING FROM EARLY NOTICE OF LAYOFF
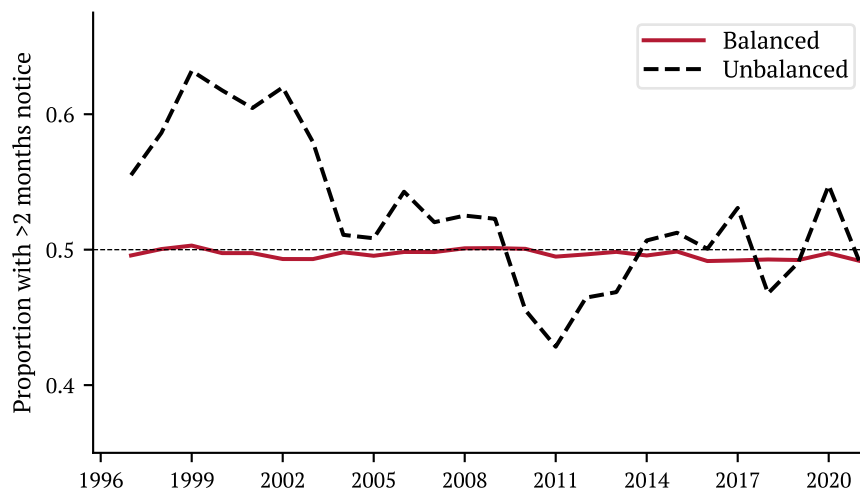
DIV BHAGIA[†]

[†]California State University, Fullerton; dbhagia@fullerton.edu

FIGURE B.1: ASSESSING OVERLAP OF PROPENSITY SCORE DISTRIBUTIONS
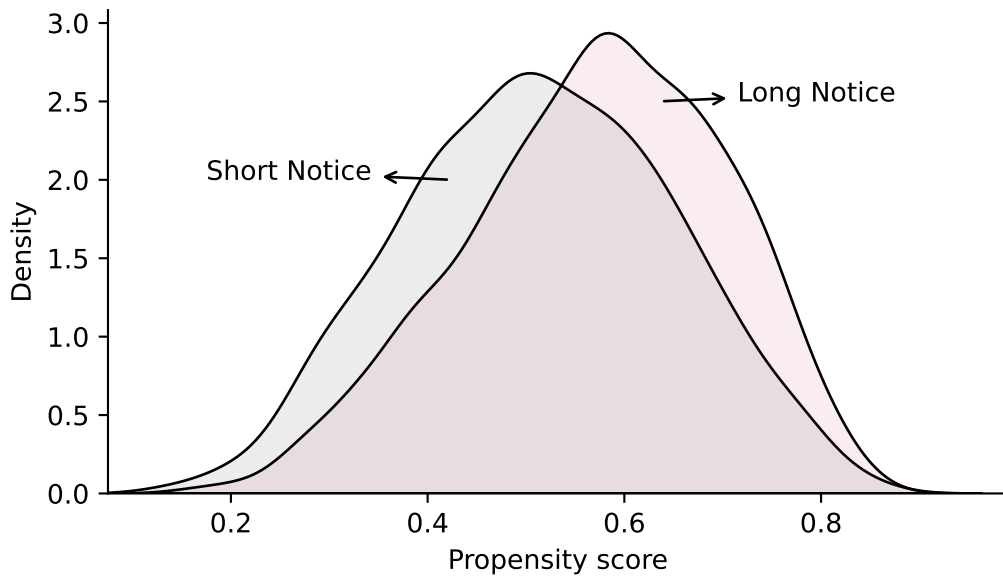
Note: The figure presents the density of estimated propensity scores for individuals with short and long notice separately.
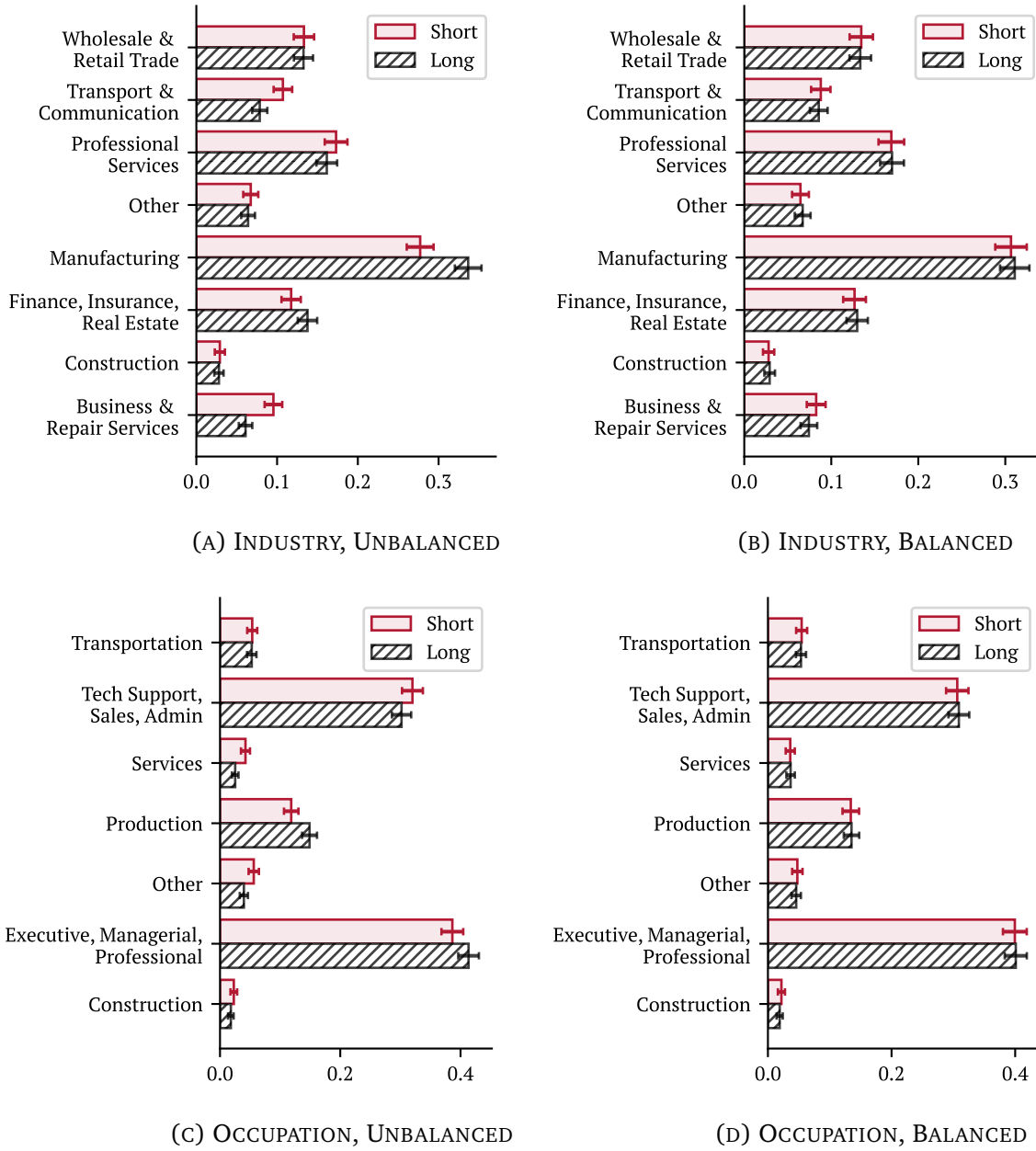
FIGURE B.2: LENGTH OF NOTICE OVER TIME

Note: The figure plots a 3-year moving average of the proportion of individuals who received a notice of more than 2 months amongst all individuals in the sample who were displaced in a given year.

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FIGURE B.3: INDUSTRY AND OCCUPATION OF THE LOST JOB

(A) INDUSTRY, UNBALANCED

(B) INDUSTRY, BALANCED

(C) OCCUPATION, UNBALANCED

(D) OCCUPATION, BALANCED

Note: The figure presents the proportions of individuals whose displaced jobs were in specific industries (panels A and B) and occupations (panels C and D) among long-notice and short-notice workers in both the unbalanced and balanced samples. The error bars represent the 90% confidence intervals.

TABLE B.2: EARNINGS AT THE SUBSEQUENT JOB

| | Weekly Log Earnings | | | |
	(1)	(2)	(3)	(4)
> 2 month notice	0.091**	0.066**	0.097**	0.063**
	(0.037)	(0.032)	(0.038)	(0.032)
Controls	No	Yes	No	Yes
Weights	No	No	Yes	Yes
Observations	2657	2657	2657	2657

Note: The table shows results from linear regressions of log weekly wages at the subsequent job on an indicator for receiving a notice of more than 2 months. The sample used is similar to the main analytical sample, but it excludes individuals who had not yet found employment at the time of the survey, had multiple jobs between their previous and current job, or had incomplete earnings information for other reasons. Robust standard errors are reported in the parenthesis.

TABLE B.3: UNEMPLOYMENT INSURANCE TAKE-UP

| Duration	Observations	Recieved UI Benefits
0 weeks	820	0.06
0-4 weeks	959	0.30
4-8 weeks	457	0.61
8-12 weeks	363	0.70
> 12 weeks	1562	0.82

Notes: This table reports the percentage of individuals in the baseline sample who reported receiving UI benefits by the duration of unemployment.

FIGURE B.4: TIMING OF BENEFIT EXHAUSTION
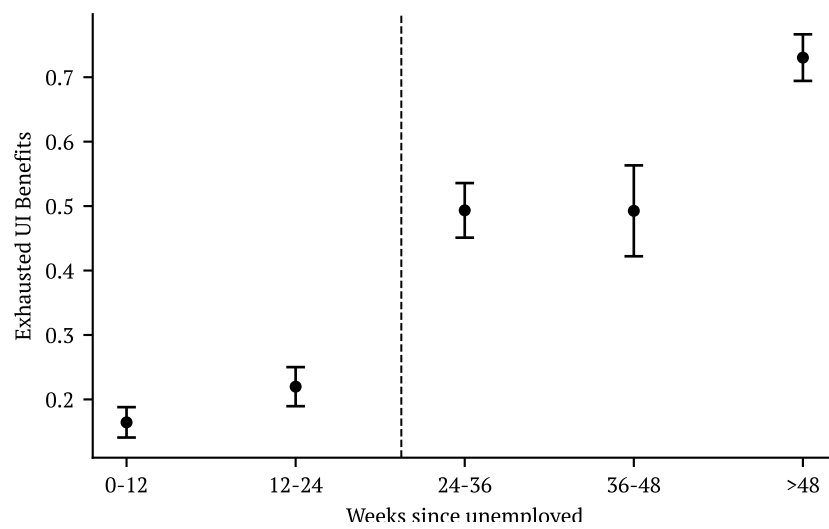
Note: The figure presents the proportion of individuals who report having exhausted their UI benefits by the duration of unemployment. The sample is restricted to individuals in the main analytical sample who reported receiving UI benefits, and duration is binned in 12-week intervals.

FIGURE B.5: SURVIVAL AND EXIT RATES WITH ALTERNATIVE BINS

(A) SURVIVAL RATE

(B) EXIT RATE

(C) SURVIVAL RATE

(D) EXIT RATE
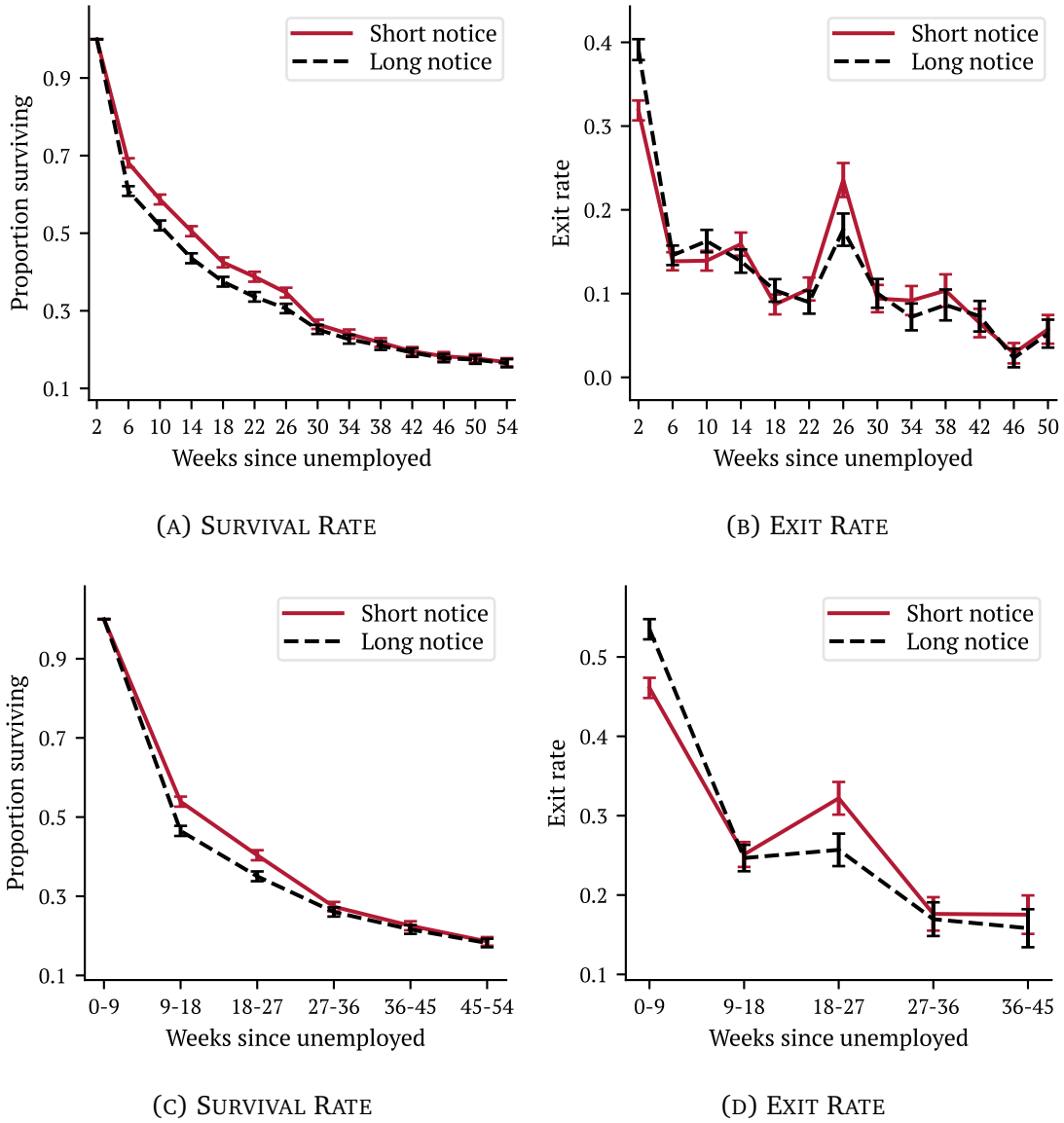
Note: Unemployment duration is binned in 4-week intervals for panels A and B, while it is binned in 9-week intervals for panels C and D. Panel A and C present the proportion of individuals who are unemployed at the beginning of each interval. Panel B and D present the proportion of individuals exiting unemployment in each interval amongst those who were still unemployed at the beginning of the interval. Error bars represent 90% confidence intervals.

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FIGURE B.6: NON-PARAMETRIC ESTIMATES
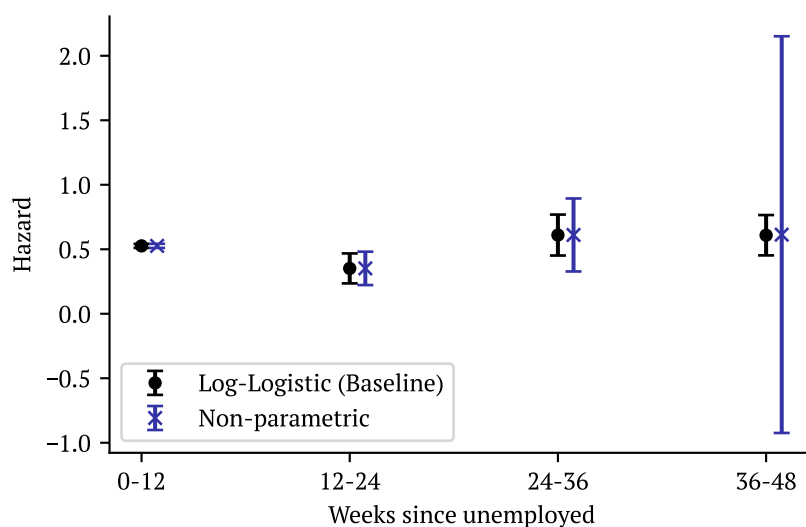
Note: The figure compares non-parametric estimates of the structural hazard from the Mixed Hazard model with baseline estimates that assume a log-logistic functional form for the structural hazard. Error bars represent 90% confidence intervals.

FIGURE B.7: ESTIMATES WITH UNEMPLOYMENT DURATION BINNED IN 9-WEEK INTERVALS
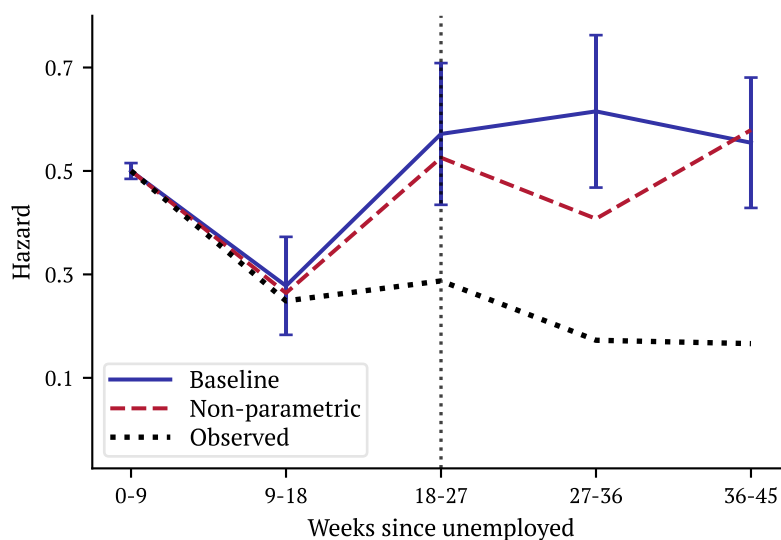
Note: The figure presents estimates from the Mixed Hazard model using data with unemployment duration binned in 9-week intervals. The solid line represents estimates for the structural hazard assuming the Log-Logistic functional form. The dashed line represents non-parametric estimates, while the dotted line represents the observed exit rate from the data.

FIGURE B.8: DATA AND ESTIMATES USING THE UNWEIGHTED SAMPLE

(A) EXIT RATE
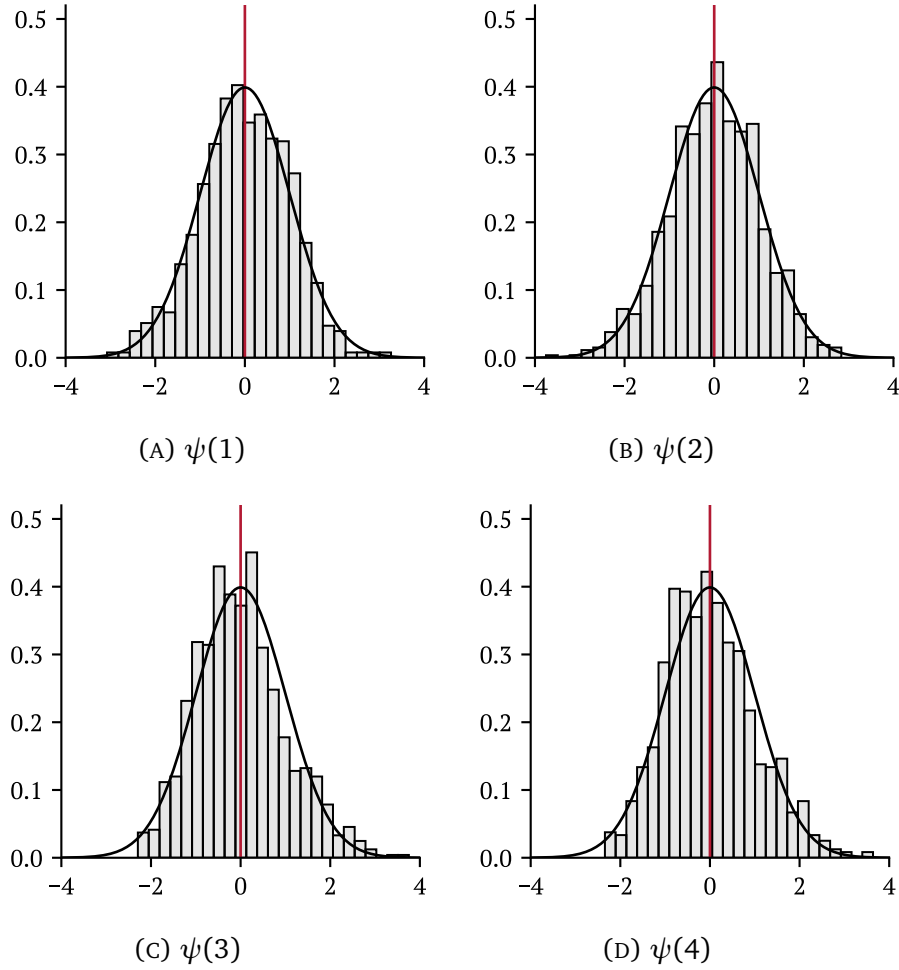
(B) ESTIMATED STRUCTURAL HAZARD
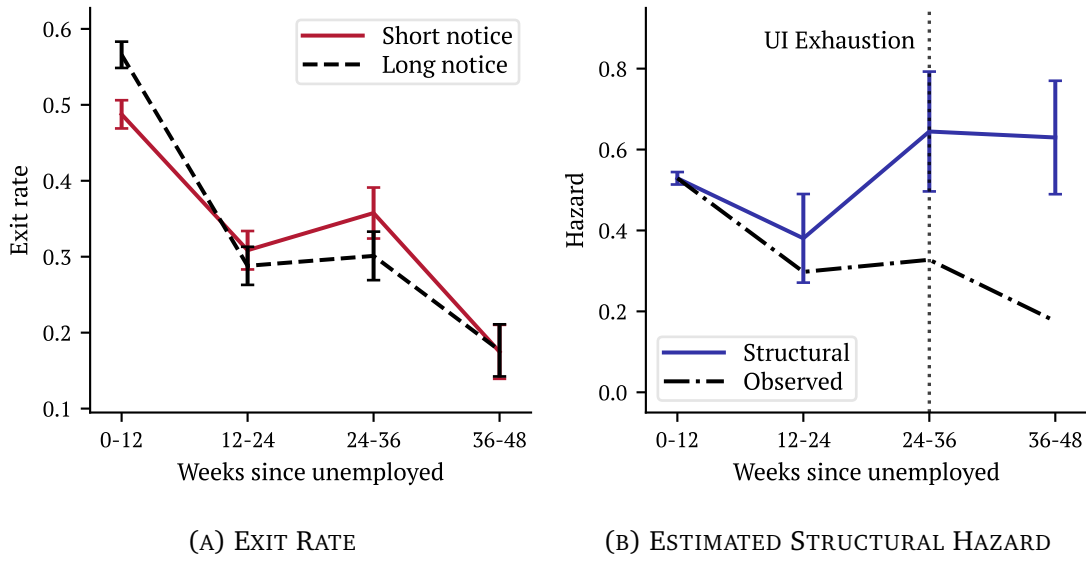
Note: The figure presents data and estimates for the unweighted analytical sample. Panel A presents the exit rate from the data separately for long and short-notice workers. The solid line in panel B shows the estimated structural hazard from the Mixed Hazard model, while the dotted line represents the average exit rate for short and long-notice workers in the data.

FIGURE B.9: SIMULATION: AVERAGE ESTIMATE
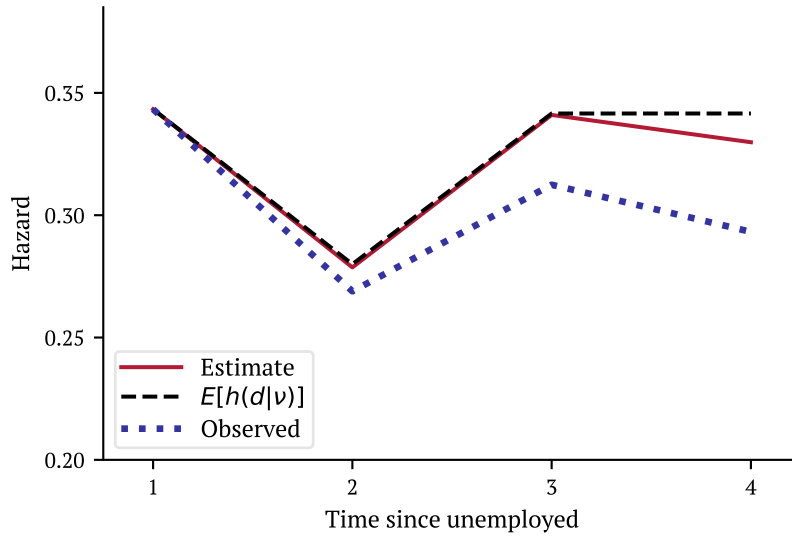
Note: The solid line presents the average estimate from 1000 simulations of the search model. The dashed line presents the structural duration dependence $\mathbb{E}[h(d|v)]$ implied by the model. While the dotted line presents the observed structural duration dependence $\mathbb{E}[h(d|v)|D \geq d]$ implied by the model.

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FIGURE B.10: ESTIMATES USING SIMULATED DATA FROM THE SEARCH MODEL

(A) $\psi(1)$

(B) $\psi(2)$

(C) $\psi(3)$

(D) $\psi(4)$

Note: The figure presents the normalized distribution of structural duration dependence estimated on simulated data from the search model. The vertical lines represent the mean of the distribution for each structural hazard. Standard normal density is overlaid for reference.

FIGURE B.11: ALLOW AVERAGE TYPE TO VARY
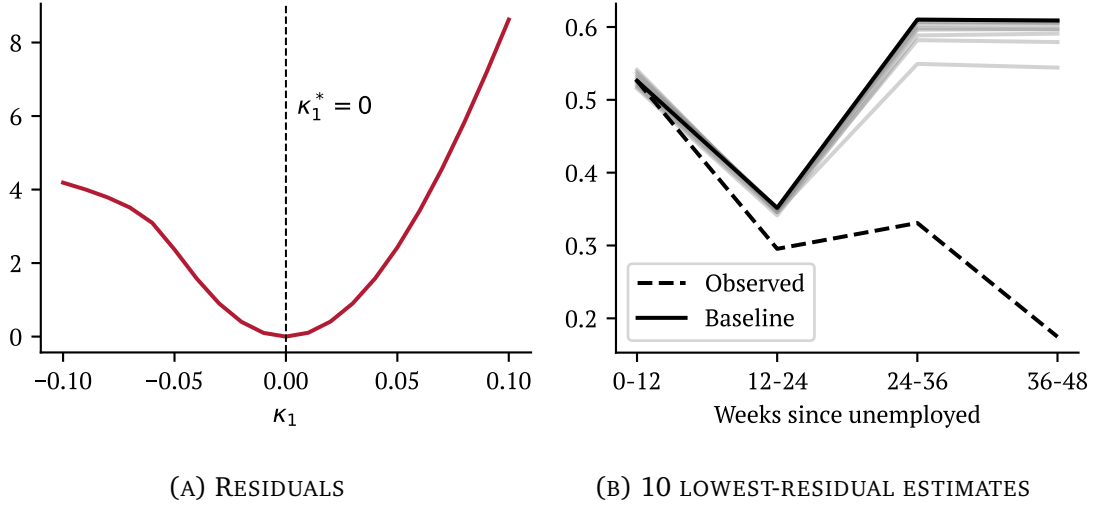
(A) RESIDUALS

(B) 10 LOWEST-RESIDUAL ESTIMATES

Note: The figure presents results from the estimation of a more generalized Mixed Hazard model, where the mean of the heterogeneity distribution for individuals with different lengths of notice is allowed to vary according to the parameter κ_1. Panel A presents the residuals from GMM estimation for different values of κ_1. Panel B presents the estimates of structural hazard for different values of κ_1.
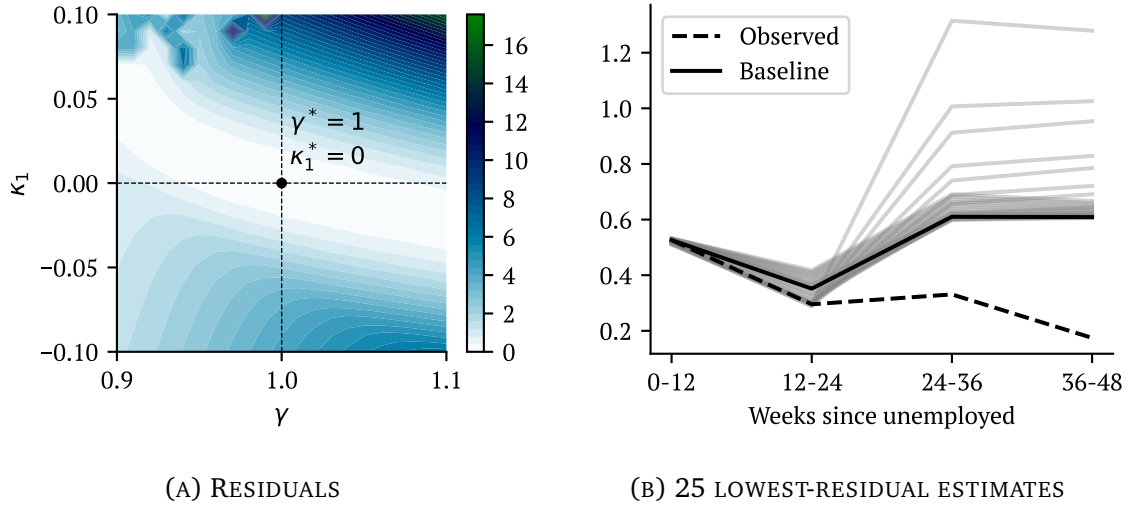
FIGURE B.12: ALLOW STRUCTURAL HAZARDS AFTER THE FIRST PERIOD TO VARY
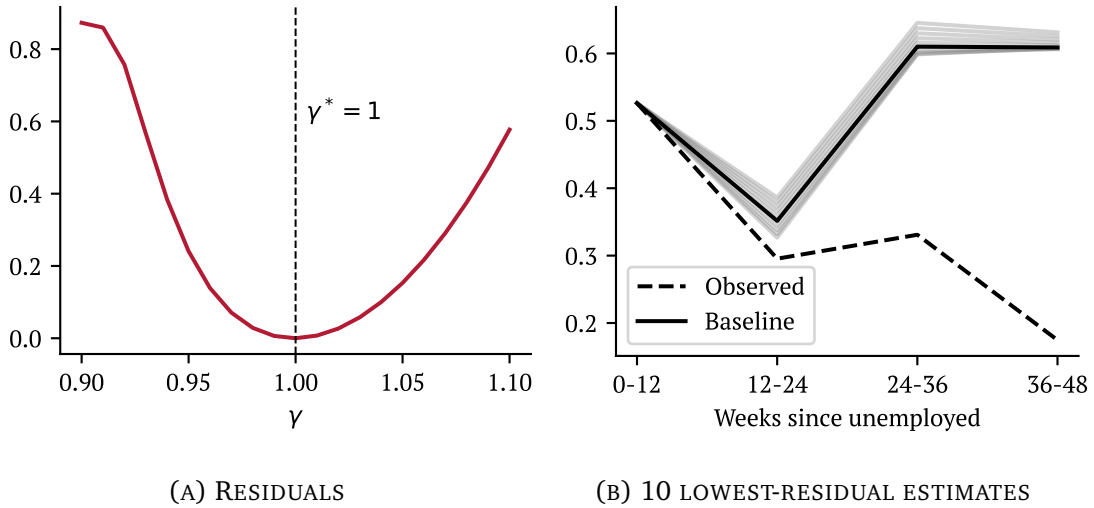
(A) RESIDUALS

(B) 10 LOWEST-RESIDUAL ESTIMATES

Note: The figure presents results from the estimation of a more generalized Mixed Hazard model, where the structural hazard after the initial period for individuals with different lengths of notice is allowed to vary according to the parameter γ. Panel A presents the residuals from GMM estimation for different values of γ. Panel B presents the estimates of structural hazard for different values of γ.

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(A) RESIDUALS

(B) 25 LOWEST-RESIDUAL ESTIMATES

Note: The figure presents results from the estimation of a more generalized Mixed Hazard model. The mean of the heterogeneity distribution for individuals with different lengths of notice is allowed to vary according to the parameter κ_1. The structural hazard after the initial period for individuals with different lengths of notice is allowed to vary according to the parameter γ. Panel A presents the residuals from GMM estimation for different values of κ_1 and γ. Panel B presents the estimates of structural hazard for the case where $\kappa_1 = 0$ and $\gamma = 1$ (solid line) and for the case when κ_1 and γ take values that minimize the residual in Panel A (dashed line).